



**CONTRACT DOCUMENTS AND
SPECIFICATIONS
FOR**

INDIAN RIVER COUNTY FIRE STATION 7

BID NO. 2024041

PROJECT NO. IRC-1911

FM NO. N/A

**PREPARED FOR
THE BOARD OF COUNTY COMMISSIONERS
INDIAN RIVER COUNTY, FLORIDA**

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SECTION – 00100 Advertisement for Bids

BOARD OF COUNTY COMMISSIONERS

1801 27th Street
Vero Beach, Florida 32960



**ADVERTISEMENT FOR BIDS
INDIAN RIVER COUNTY**

Sealed bids will be received by Indian River County until **2:00 P.M. on Wednesday, June 26, 2024**. Each bid shall be submitted in a sealed envelope and shall bear the name and address of the bidder on the outside and the words **“INDIAN RIVER COUNTY FIRE STATION 7”** and **Bid No. 2024041**. Bids should be addressed to Purchasing Division, Room B1-301, 1800 27th Street, Vero Beach, Florida 32960. All bids will be opened publicly and read aloud at 2:00 P.M. All bids received after 2:00 P.M., on the day specified above, will not be accepted or considered.

**INDIAN RIVER COUNTY PROJECT NO. IRC-1911
INDIAN RIVER COUNTY BID NO. 2024041**

PROJECT DESCRIPTION: *The proposed project includes the construction of a 9,035 square foot new Fire Station/EMS building located at 9700 26th PL Fellsmere, FL. The space will be split between dorm, office, facility and equipment storage, as well as a three bay apparatus room. The building will consist of a single-story concrete block structure with a standing seam metal roof over self-sealing underlayment. Civil site work will include the construction of a paved road along 98th Avenue: and construction of concrete driveway and parking lot. Proposed work will also include installation of drainage structures, construction of drainage swales, utility pipework for forcemains and watermains, and the construction of a lift station.*

All material and equipment furnished and all work performed shall be in strict accordance with the plans, specifications, and contract documents pertaining thereto. Detailed specifications are available at: www.demandstar.com or at https://indianriver.gov/services/management_budget/purchasing/index.php under “Current Solicitations”.

All bidders shall submit one (1) original and one (1) copy of the Bid Proposal forms provided within the specifications. Please note that the questionnaire must be filled out completely including the financial statement. BID SECURITY must accompany each Bid, and must be in the form of an AIA Document A310 Bid Bond, properly executed by the Bidder and by a qualified surety, or a certified check or a cashier’s check, drawn on any bank authorized to do business in

Advertisement for Bids - 00100 - 1

the State of Florida. Bid Security must be in the sum of not less than **Five Percent (5%)** of the total amount of the bid, made payable to Indian River County Board of County Commissioners. In the event the Contract is awarded to the Bidder, Bidder will enter in a Contract with the County and furnish the required 100% Public Construction Bond and certificates of insurance within the timeframe set by the County. If Bidder fails to do so, the Bid Security shall be retained by the County as liquidated damages and not as penalty.

The County reserves the right to delay awarding of the Contract for a period of **ninety (90)** days after the bid opening, to waive informalities in any bid, or reject any or all bids in whole or in part with or without cause/or to accept the bid that, in its judgement, will serve the best interest of Indian River County, Florida. The County will not reimburse any Bidder for bid preparation costs.

A **MANDATORY** Pre-Bid Conference will be held on **Tuesday, June 11, 2024 at 10:00 A.M.**, in the first-floor conference room B1-501 of the Indian River County Administration Building located at 1800 27th Street, Vero Beach, Florida, 32960. **ATTENDANCE AT THIS CONFERENCE IS REQUIRED.** No bidder arriving after the meeting has begun will be allowed to sign in.

INDIAN RIVER COUNTY

By: Jennifer Hyde
Purchasing Manager

For Publication in the Indian River Press Journal
Date: 05/26/2024 and 06/02/2024

For: Indian River Press Journal

Please furnish tear sheet and Affidavit of Publication to:

INDIAN RIVER COUNTY
PURCHASING DIVISION
1800 27th Street
Building "B"
Vero Beach, FL 32960

**** END OF SECTION ****

SECTION 00200 – Instructions to Bidders

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SECTION 00200 – Instructions to Bidders

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SECTION 00200 – Instructions to Bidders**ARTICLE 1 - DEFINED TERMS**

1.01 Terms used in these Instructions to Bidders will have the meanings indicated in the General Conditions and Supplementary Conditions. Additional terms used in these Instructions to Bidders have the meanings indicated below which are applicable to both the singular and plural thereof:

- A. Bidder--The individual or entity who submits a Bid directly to OWNER.
- B. Issuing Office--The office from which the Bidding Documents are to be issued and where the bidding procedures are to be administered.
- C. Successful Bidder--The lowest responsible Bidder submitting a responsive Bid to whom OWNER (on the basis of OWNER's evaluation as hereinafter provided) makes an award.
- D. ENGINEER – References County Engineer or their designee.

ARTICLE 2 - COPIES OF BIDDING DOCUMENTS

- 2.01 Complete sets of the Bidding Documents in the number and for the deposit sum, if any, stated in the Advertisement for Bids or Invitation to Bid may be obtained from the Issuing Office.
- 2.02 Complete sets of Bidding Documents must be used in preparing Bids; neither OWNER nor ENGINEER assumes any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.
- 2.03 OWNER and ENGINEER in making copies of Bidding Documents available on the above terms do so only for the purpose of obtaining Bids for the Work and do not confer a license or grant for any other use.

ARTICLE 3 - QUALIFICATIONS OF BIDDERS

- 3.01 To demonstrate Bidder's qualifications to perform the Work, within five days of OWNER's request Bidder shall submit written evidence such as financial data, previous experience, present commitments, and such other data as may be called for below.
 - A. Bidder must have at least five years' experience in the construction of similar projects of this size and larger.
 - B. Bidder must have successfully constructed, as prime CONTRACTOR, at least three projects similar in scope to this project.
 - C. Bidder must have good recommendations from at least three clients similar to the OWNER.
 - D. The Bidder's superintendent and assistants must be qualified and experienced in similar projects in all categories.
 - E. Bidder must be able to provide evidence of authority to conduct business in the jurisdiction in which the project is located.

- 3.02 Each bid must contain evidence of Bidder's qualification to do business in the state where the Project is located or covenant to obtain such qualification prior to award of the contract.
- 3.03 The OWNER reserves the right to reject bids from Bidders that are unable to meet the listed required qualifications.
- 3.04 Bidder must be registered with and use, at their sole expense, the Department of Homeland Security's E-Verify system (www.e-verify.gov) to confirm the employment eligibility of all newly hired employees, as required by Section 448.095, F.S.. Owner, contractor, and subcontractors may not enter into a contract unless each party to the contract registers with and uses the E-Verify system. Contractor is also responsible for obtaining an affidavit from all subcontractors, as required in Section 448.095(5)(b), F.S., stating the subcontractor does not employ, contract with, or subcontract with an unauthorized alien. This requirement applies to any provider of services or goods.
- 3.05 Bidder must hold a current registration as a General Contractor in the State of Florida.
- 3.06 **Conflict of Interest:** Any entity submitting a bid or proposal or entering into a contract with the County shall disclose any relationship that may exist between the contracting entity and a County Commissioner or a County Employee. The relationship with a County Commissioner or a County Employee that must be disclosed is as follows: *father, mother, son, daughter, brother, sister, uncle, aunt, first cousin, nephew, niece, husband, wife, father-in-law, mother-in-law, daughter-in-law, son-in-law, brother-in-law, sister-in-law, stepfather, stepmother, stepson, stepdaughter, stepbrother, stepsister, half-brother, half-sister, grandparent, or grandchild*. The term "affiliate" includes those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in the management of the entity. The disclosure of relationships shall be a sworn statement made on a County approved form. Failure to submit the form may be cause for rejection of the bid or proposal.
- 3.07 **Public Entity Crimes:** Pursuant to Florida Statutes Section 287.133(2)(a), all Bidders are hereby notified that a person or affiliate who has been placed on the convicted vendor list following a conviction for a public entity crime may not submit a bid, proposal, or reply on a contract to provide any goods or services to a public entity (defined as the State of Florida, any of its departments or agencies, or any political subdivision); may not submit a bid, proposal, or reply on a contract with a public entity for the construction or repair of a public building or public work; may not submit bids, proposals, or replies on leases of real property to a public entity; may not be awarded or perform work as a contractor, supplier, subcontractor, or consultant under a contract with any public entity; and may not transact business with any public entity in excess of the threshold amount provided in Florida Statutes Section 287.017 for CATEGORY TWO [currently \$35,000] for a period of 36 months from the date of being placed on the convicted vendor list. A "public entity crime" means a violation of any state or federal law by a person with respect to and directly related to the transaction of business with any public entity or with an agency or political subdivision of any other state or with the United States, including, but not limited to, any bid, proposal, reply, or contract for goods or services, any lease for real property, or any contract for the construction or repair of a public building or public work, involving antitrust, fraud, theft, bribery, collusion, racketeering, conspiracy, or material misrepresentation.
- 3.08 **Records/Audit:** The Bidder shall maintain books, records and documents pertinent to performance under this Invitation and any resulting Agreement in accordance with generally accepted accounting principles consistently applied. The County and the Florida Office of the Inspector General shall have inspection and audit rights to such records for audit purposes during the term of the contract and for three years following the termination of obligations hereunder. Records which relate to any litigation, appeals or settlements of

claims arising from performance under this work or purchase shall be made available until a final disposition has been made of such litigation, appeals, or claims.

ARTICLE 4 - EXAMINATION OF BIDDING DOCUMENTS, OTHER RELATED DATA, AND SITE

4.01 Subsurface and Physical Conditions

A. The Supplementary Conditions identify:

1. Those reports of explorations and tests of subsurface conditions at or contiguous to the Site that Engineer has used in preparing the Bidding Documents.

2. Those drawings of physical conditions in or relating to existing surface and subsurface structures at or contiguous to the Site (except Underground Facilities) that ENGINEER has used in preparing the Bidding Documents.

B. Copies of reports and drawings referenced in paragraph 4.01.A will be made available by OWNER to any Bidder on request. Those reports and drawings are not part of the Contract Documents, but the "technical data" contained therein upon which Bidder is entitled to rely as provided in paragraph 4.02 of the General Conditions has been identified and established in paragraph 4.02 of the Supplementary Conditions. Bidder is responsible for any interpretation or conclusion Bidder draws from any "technical data" or any other data, interpretations, opinions or information contained in such reports or shown or indicated in such drawings.

4.02 Underground Facilities

A. Information and data shown or indicated in the Bidding Documents with respect to existing Underground Facilities at or contiguous to the Site is based upon information and data furnished to OWNER and ENGINEER by OWNERS of such Underground Facilities, including OWNER, or others.

4.03 Hazardous Environmental Condition

A. The Supplementary Conditions identify those reports and drawings relating to a Hazardous Environmental Condition identified at the Site, if any, that ENGINEER has used in preparing the Bidding Documents.

B. Copies of reports and drawings referenced in paragraph 4.03.A will be made available by OWNER to any Bidder on request. Those reports and drawings are not part of the Contract Documents, but the "technical data" contained therein upon which Bidder is entitled to rely as provided in paragraph 4.06 of the General Conditions. Bidder is responsible for any interpretation or conclusion Bidder draws from any "technical data" or any other data, interpretations, opinions, or information contained in such reports or shown or indicated in such drawings.

4.04 Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with respect to subsurface conditions, other physical conditions and Underground Facilities, and possible changes in the Bidding Documents due to differing or unanticipated conditions appear in paragraphs 4.02, 4.03, and 4.04 of the General Conditions. Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with respect to a Hazardous Environmental Condition at the Site, if any, and possible changes in the Contract Documents due to any Hazardous Environmental Condition uncovered or revealed at the Site which

was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work appear in paragraph 4.06 of the General Conditions.

4.05 Upon a request directed to the Purchasing Division (purchasing@indianriver.gov) or (772) 226-1416), OWNER will provide Bidder access to the Site to conduct such examinations, investigations, explorations, tests, and studies as Bidder deems necessary for submission of a Bid. Bidder shall fill all holes and clean up and restore the Site to its former condition upon completion of such explorations, investigations, tests, and studies.

4.06 "This paragraph has been deleted intentionally"

4.07 It is the responsibility of each Bidder before submitting a Bid to:

A. examine and carefully study the Bidding Documents, including any Addenda and the other related data identified in the Bidding Documents;

B. VISIT THE SITE AND BECOME FAMILIAR WITH AND SATISFY BIDDER AS TO THE GENERAL, LOCAL, AND SITE CONDITIONS THAT MAY AFFECT COST, PROGRESS, AND PERFORMANCE OF THE WORK;

C. become familiar with and satisfy Bidder as to all federal, state, and local Laws and Regulations that may affect cost, progress, or performance of the Work;

D. carefully study all reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities) which have been identified in the Supplementary Conditions as provided in paragraph 4.02 of the General Conditions, and carefully study all reports and drawings of a Hazardous Environmental Condition, if any, at the Site which have been identified in the Supplementary Conditions as provided in paragraph 4.06 of the General Conditions;

E. obtain and carefully study (or assume responsibility for doing so) all additional or supplementary examinations, investigations, explorations, tests, studies, and data concerning conditions (overhead, surface, subsurface, and Underground Facilities) at or contiguous to the Site which may affect cost, progress, or performance of the Work or which relate to any aspect of the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, including any specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents, and safety precautions and programs incident thereto;

F. agree at the time of submitting its Bid that no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of its Bid for performance of the Work at the price bid and within the times and in accordance with the other terms and conditions of the Bidding Documents;

G. become aware of the general nature of the work to be performed by OWNER and others at the Site that relates to the Work as indicated in the Bidding Documents;

H. correlate the information known to Bidder, information and observations obtained from visits to the Site, reports and drawings identified in the Bidding Documents, and all additional examinations, investigations, explorations, tests, studies, and data with the Bidding Documents;

I. promptly give ENGINEER written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder discovers in the Bidding Documents and confirm that the written resolution thereof by ENGINEER is acceptable to Bidder; and

J. determine that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work.

4.08 The submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article 4, that without exception the Bid is premised upon performing and furnishing the Work required by the Bidding Documents and applying any specific means, methods, techniques, sequences, and procedures of construction that may be shown or indicated or expressly required by the Bidding Documents, that Bidder has given ENGINEER written notice of all conflicts, errors, ambiguities, and discrepancies that Bidder has discovered in the Bidding Documents and the written resolutions thereof by ENGINEER are acceptable to Bidder, and that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performing and furnishing the Work.

ARTICLE 5 - PRE-BID CONFERENCE

5.01 The date, time, and location for the **MANDATORY** Pre-Bid conference is specified in the Advertisement for Bids. Representatives of OWNER and ENGINEER will be present to discuss the Project. Bidders are **REQUIRED** to attend and participate in the conference. ENGINEER will transmit to all prospective Bidders of record such Addenda as ENGINEER considers necessary in response to questions arising at the conference. Oral statements may not be relied upon and will not be binding or legally effective.

ARTICLE 6 - SITE AND OTHER AREAS

6.01 The Site is identified in the Bidding Documents. All additional lands and access thereto required for temporary construction facilities, construction equipment, or storage of materials and equipment to be incorporated in the Work are to be obtained and paid for by CONTRACTOR. Easements for permanent structures or permanent changes in existing facilities are to be obtained and paid for by OWNER unless otherwise provided in the Bidding Documents.

ARTICLE 7 - INTERPRETATIONS AND ADDENDA

7.01 CONE OF SILENCE. Potential bidders and their agents shall not communicate in any way with the Board of County Commissioners, County Administrator or any County staff other than Purchasing personnel in reference or relation to this solicitation. This restriction shall be effective from the time of bid advertisement until the Board of County Commissioners meets to authorize award. Such communication may result in disqualification.

7.02 All questions about the meaning or intent of the Bidding Documents are to be submitted to PURCHASING (purchasing@indianriver.gov) to such questions will be issued by Addenda mailed or delivered to all parties through the Issuing Office as having received the Bidding Documents. Questions received less than ten days prior to the date for opening of Bids

may not be answered. Only questions answered by Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.

7.03 Addenda may be issued to clarify, correct, or change the Bidding Documents as deemed advisable by OWNER or ENGINEER.

ARTICLE 8 - BID SECURITY

8.01 Each Bid must be accompanied by Bid Security made payable to OWNER in the amount of five percent of the Bidder's maximum base bid price and in the form of a certified check; cashier's check; or an AIA Document A310 Bid Bond issued by a surety meeting the requirements of Paragraph 5.01 of the General Conditions. The Bid Bond shall be executed by such sureties as are named in the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. The Surety must be authorized to issue surety bonds in Florida. The Bidder shall require the attorney-in-fact who executes any Bond, to affix to each a current certified copy of their Power of Attorney, reflecting such person's authority as Power of Attorney in the State of Florida. Further, at the time of execution of the Contract, the Successful Bidder shall for all Bonds, provide a copy of the Surety's current valid Certificate of Authority issued by the United States Department of the Treasury under 31 United States Code sections 9304-9308. The Surety shall also meet the requirements of paragraphs 5.01 and 5.02 of the General Conditions.

8.02 The Bid security of the Successful Bidder will be retained until such Bidder has executed the Contract Documents, furnished the required contract security and met the other conditions of the Notice of Award, whereupon the Bid security will be returned. If the Successful Bidder fails to execute and deliver the Contract Documents and furnish the required contract security within 15 days after the Notice of Award, OWNER may annul the Notice of Award and the Bid security of that Bidder will be retained by the owner. The Bid Security of other Bidders whom OWNER believes to have a reasonable chance of receiving the award may be retained by OWNER until the earlier of seven days after the Effective Date of the Agreement or 91 days after the Bid opening, whereupon Bid Security furnished by such Bidders will be returned.

8.03 Bid Security of other Bidders whom OWNER believes do not have a reasonable chance of receiving the award will be returned within seven days after the Bid opening.

ARTICLE 9 - CONTRACT TIMES

9.01 The number of calendar days within which, or the dates by which, the Work is to be (a) Substantially Completed and (b) also completed and ready for final payment are set forth in the Agreement.

ARTICLE 10 - LIQUIDATED DAMAGES

10.01 Provisions for liquidated damages, if any, are set forth in the Agreement.

ARTICLE 11 - SUBSTITUTE AND "OR-EQUAL" ITEMS

11.01 The Contract, if awarded, will be on the basis of materials and equipment specified or described in the Bidding Documents without consideration of possible substitute or "or-equal" items. Whenever it is specified or described in the Bidding Documents that a substitute or "or-equal" item of material or equipment may be furnished or used by CONTRACTOR if acceptable to ENGINEER, application for such acceptance will not be considered by ENGINEER until after the Effective Date of the Agreement. The procedure for submission of any such application by CONTRACTOR and consideration by ENGINEER is set forth in the General Conditions and may be supplemented in the General Requirements.

ARTICLE 12 - SUBCONTRACTORS, SUPPLIERS, AND OTHERS

12.01 If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers, individuals, or entities to be submitted to OWNER in advance of a specified date prior to the Effective Date of the Agreement, the apparent Successful Bidder, and any other Bidder so requested, shall within five days after Bid opening, submit to OWNER a list of all such Subcontractors, Suppliers, individuals, or entities proposed for those portions of the Work for which such identification is required. Such list shall be accompanied by an experience statement with pertinent information regarding similar projects and other evidence of qualification for each such Subcontractor, Supplier, individual, or entity if requested by OWNER. If OWNER or ENGINEER, after due investigation, has reasonable objection to any proposed Subcontractor, Supplier, individual, or entity, OWNER may, before the Notice of Award is given, request apparent Successful Bidder to submit a substitute, without an increase in the Bid.

12.02 If apparent Successful Bidder declines to make any such substitution, OWNER may award the Contract to the next lowest Bidder that proposes to use acceptable Subcontractors, Suppliers, individuals, or entities. Declining to make requested substitutions will not constitute grounds for forfeiture of the Bid security of any Bidder. Any Subcontractor, Supplier, individual, or entity so listed and against which OWNER or ENGINEER makes no written objection prior to the giving of the Notice of Award will be deemed acceptable to OWNER and ENGINEER subject to revocation of such acceptance after the Effective Date of the Agreement as provided in paragraph 6.06 of the General Conditions.

12.03 CONTRACTOR shall not be required to employ any Subcontractor, Supplier, individual, or entity against whom CONTRACTOR has reasonable objection.

12.04 CONTRACTOR shall not purchase equipment for State or Local ownership under a Florida Department of Transportation LAP project.

ARTICLE 13 - PREPARATION OF BID

13.01 The Bid form is included with the Bidding Documents. Only the bid form provided by OWNER is acceptable (Bidders are not to recreate or modify the bid form). ***Bids not submitted on the bid form(s) shall be rejected, as will bids submitted on rewritten, recreated or modified bid forms.***

13.02 All blanks on the Bid form shall be completed by printing in ink or by typewriter and the Bid signed. A Bid price shall be indicated for each section, Bid item, alternative, adjustment unit price item, and unit price item listed therein, or the words "No Bid," "No Change," or "Not Applicable" entered.

13.03 A Bid by a corporation shall be executed in the corporate name by the president or a vice-president or other corporate officer accompanied by evidence of authority to sign. The corporate seal shall be affixed and attested by the secretary or an assistant secretary. The corporate address and state of incorporation shall be shown below the signature.

13.04 A Bid by a partnership shall be executed in the partnership name and signed by a partner (whose title must appear under the signature), accompanied by evidence of authority to sign. The official address of the partnership shall be shown below the signature.

13.05 A Bid by a limited liability company shall be executed in the name of the firm by a member and accompanied by evidence of authority to sign. The state of formation of the firm and the official address of the firm must be shown below the signature.

13.06 A Bid by an individual shall show the Bidder's name and official address.

13.07 A Bid by a joint venture shall be executed by each joint venturor in the manner indicated on the Bid form. The official address of the joint venture must be shown below the signature.

13.08 All names shall be typed or printed in ink below the signatures.

13.09 The Bid shall contain an acknowledgment of receipt of all Addenda, the numbers of which shall be filled in on the Bid form.

13.10 The address and telephone number for communications regarding the Bid shall be shown.

13.11 The Bid shall contain evidence of Bidder's authority and qualification to do business in the state where the Project is located or covenant to obtain such qualification prior to award of the Contract. Bidder's state contractor license number or county registration number for the state or county of the Project, if any, shall also be shown on the Bid form.

13.12 All supporting information requested in the Bid Form must be furnished. Do not leave any questions or requests unanswered.

13.13 In accordance with Florida Statutes Section 218.80, the "Public Bid Disclosure Act", Indian River County as OWNER is obligated to disclose all license, permit, impact, or inspection fees that are payable to Indian River County in connection with the construction of the Work by the accepted bidder. All permit, impact, or inspection fees payable to Indian River County in connection with the work on this County project will be paid by Indian River County, with the exception of re-inspection fees. The Bidder shall not include ANY PERMIT, IMPACT, NOR INSPECTION FEES payable to **Indian River County** in the bid.

13.14 CONTRACTOR shall furnish all labor, materials, equipment and incidentals necessary to perform additional work not covered on the Contract Drawings. The **FORCE ACCOUNT** is intended as a contingency for unforeseen work. Lump sum amount for **FORCE ACCOUNT** work is included in the bid schedule. The value of force account work will be determined in accordance with Article 12 of the General Conditions.

ARTICLE 14 - BASIS OF BID; EVALUATION OF BIDS

14.01 Unit Price

A. Bidders shall submit a Bid on a unit price basis for each item of Work listed in the Bid schedule. Omission of unit prices where required will result in disqualification of the bid.

B. The total of all estimated prices will be determined as the sum of the products of the estimated quantity of each item and the unit price Bid for the item. The final quantities and Contract Price will be determined in accordance with paragraph 11.03 of the General Conditions.

C. Discrepancies between the multiplication of units of Work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum. Discrepancies between words and figures will be resolved in favor of the words.

14.02 The Bid price shall include such amounts as the Bidder deems proper for overhead and profit on account of cash allowances, if any, named in the Contract Documents as provided in paragraph 11.02 of the General Conditions.

14.03 The Bidder's attention is called to the fact that any estimate of quantities of work to be done and materials to be furnished under the Specifications as shown on the Bid Schedule, or elsewhere, is approximate only and not guaranteed. The OWNER does not assume any responsibility that the final quantities shall remain in strict accordance with the estimated quantities, nor shall the Bidder plead misunderstanding or deception because of such estimate of quantities or of the character, location of the work, or other conditions pertaining thereto.

14.04 Per section 287.05701, Florida Statutes, as amended, OWNER may not request documentation of, or consider a Bidder's social, political, or ideological interests when determining if the Bidder is responsible, and may not give preference to a Bidder based on the Bidder's social, political, or ideological interests.

ARTICLE 15 - SUBMITTAL OF BID

15.01 The Bid form is to be completed and submitted with the Bid security and the following data:

- A. Sworn Statement under Section 105.08, Indian River County Code, on Disclosure of Relationships.
- B. Sworn Statement under the Florida Trench Safety Act.
- C. Qualifications Questionnaire.
- D. List of Subcontractors.
- E. Certification Regarding Prohibition Against Contracting with Scrutinized Companies

15.02 A Bid shall be submitted no later than the date and time prescribed and at the place indicated in the advertisement or invitation to Bid and shall be enclosed in an opaque sealed envelope plainly marked with the Project Title and Bid Number (and, if applicable, the designated portion of the Project for which the Bid is submitted), Bid Number, the name and address of Bidder, and shall be accompanied by the Bid security and other required documents. If mail or other delivery system sends a Bid, the sealed envelope containing the Bid shall be enclosed in a separate envelope plainly marked on the outside with the notation "BID ENCLOSED." A mailed Bid shall be addressed to Indian River County, Purchasing Division, 1800 27th Street, Vero Beach, Florida, 32960.

ARTICLE 16 - MODIFICATION AND WITHDRAWAL OF BID

16.01 A Bid may be modified or withdrawn by an appropriate document duly executed in the manner that a Bid must be executed and delivered to the place where Bids are to be submitted prior to the date and time for the opening of Bids.

16.02 If within 48 hours after Bids are opened any Bidder files a duly signed written notice with OWNER and promptly thereafter demonstrates to the reasonable satisfaction of OWNER that there was a material and substantial mistake in the preparation of its Bid, that Bidder may withdraw its Bid, and the Bid security will be returned. Thereafter, if the Work is rebid, that Bidder will be disqualified from further bidding on the Work.

ARTICLE 17 - OPENING OF BIDS

17.01 Bids will be opened at the time and place indicated in the advertisement or invitation to Bid and, unless obviously non-responsive, read aloud publicly. An abstract of the amounts of the base Bids and major alternates, if any, will be made available to Bidders after the opening of Bids.

ARTICLE 18 - BIDS TO REMAIN SUBJECT TO ACCEPTANCE

18.01 All Bids will remain subject to acceptance for the period of time stated in the Bid Form, but OWNER may, in its sole discretion, release any Bid and return the Bid security prior to the end of this period.

ARTICLE 19 - AWARD OF CONTRACT

19.01 OWNER reserves the right to reject any or all Bids, including without limitation, nonconforming, nonresponsive, unbalanced, or conditional Bids. OWNER further reserves the right to reject the Bid of any Bidder whom it finds, after reasonable inquiry and evaluation, to be non-responsible. OWNER may also reject the Bid of any Bidder if OWNER believes that it would not be in the best interest of the Project to make an award to that Bidder. OWNER also reserves the right to waive all technicalities and informalities not involving price, time, or changes in the Work and to negotiate contract terms with the Successful Bidder. The County will not reimburse any Bidder for bid preparation costs. Owner reserves the right to cancel the award of any Contract at any time before the execution of such Contract by all parties without any liability to the Owner. For and in consideration of the Owner considering Bids submitted, the Bidder, by submitting its Bid, expressly waives any claim to damages, of any kind whatsoever, in the event the Owner exercises its right to cancel the award in accordance herewith.

19.02 More than one Bid for the same Work from an individual or entity under the same or different names will not be considered. Reasonable grounds for believing that any Bidder has an interest in more than one Bid for the Work may be cause for disqualification of that Bidder and the rejection of all Bids in which that Bidder has an interest.

19.03 In evaluating Bids, OWNER will consider whether or not the Bids comply with the prescribed requirements, and such alternates, unit prices and other data, as may be requested in the Bid Form or prior to the Notice of Award.

19.04 In evaluating Bidders, OWNER will consider the qualifications of Bidders and may consider the qualifications and experience of Subcontractors, Suppliers, and other individuals or entities proposed for those portions of the Work for which the identity of Subcontractors, Suppliers, and other individuals or entities must be submitted as provided in the Supplementary Conditions.

19.05 OWNER may conduct such investigations as OWNER deems necessary to establish the responsibility, qualifications, and financial ability of Bidders, proposed Subcontractors, Suppliers, individuals, or entities to perform the Work in accordance with the Contract Documents.

19.06 If the Contract is to be awarded, OWNER will award the Contract to the Bidder whose Bid is in the best interests of the Project.

19.07 OWNER has no local ordinance or preferences, as set forth in FS 255.0991 (2) in place, therefore no preference prohibited by that section will be considered in the acceptance, review or award of this bid.

19.08 Bidders are hereby notified of the provisions of Section 287.05701, Florida Statutes, as amended, that the County will not request documentation of or consider a Bidder's social, political, or ideological interests when determining if the Bidder is responsible. Bidders are further notified that the County's governing body may not give preference to a Bidder based on the Bidder's social, political, or Ideological interests.

19.09 Any actual or prospective bidder or proposer who is aggrieved in connection with the bidding and/or selection process may protest to the OWNER's Purchasing Manager. The protest shall be submitted in writing to the Purchasing Manager within five (5) calendar days after the bidder or proposer knows or should have known of the facts giving rise to the protest.

19.10 The County will reject any bid that is unbalanced, if it is in the best interest of the County to do so. A bid will be considered unbalanced when, in the opinion of the Purchasing Manager, the bid allocates a disproportionate share of costs to the price of one or more bid items in order to reduce the costs to the price of another bid item or items, and if there is a reasonable possibility that the bid will not result in the lowest overall cost to the County.

19.11 CONTRACTOR certifies that it and its related entities as defined by Florida law are not on the Scrutinized Companies that Boycott Israel List, created pursuant to s. 215.4725 of the Florida Statutes, and are not engaged in a boycott of Israel. In addition, if this agreement is for goods or services of one million dollars or more, CONTRACTOR certifies that it and its related entities as defined above by Florida law are not on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, created pursuant to Section 215.473 of the Florida Statutes and are not engaged in business operations in Cuba or Syria.

OWNER may terminate this Contract if CONTRACTOR is found to have submitted a false certification as provided under section 287.135(5), Florida Statutes, been placed on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, or been engaged in business operations in Cuba or Syria, as defined by section 287.135, Florida Statutes.

OWNER may terminate this Contract if CONTRACTOR, including all wholly owned subsidiaries, majority-owned subsidiaries, and parent companies, that exist for the purpose of making profit, is

found to have been placed on the Scrutinized Companies that Boycott Israel List or is engaged in a boycott of Israel as set forth in section 215.4725, Florida Statutes.

Accordingly, firms responding to this solicitation shall return with their response an executed copy of the attached "Certification Regarding Prohibition Against Contracting With Scrutinized Companies." Failure to return this executed form with submitted bid/proposal/statement of qualifications will result in the response being deemed non-responsive and eliminated from consideration.

ARTICLE 20 - CONTRACT SECURITY AND INSURANCE

20.01 Article 5 of the General Conditions, as may be modified by the Supplementary Conditions, sets forth OWNER's requirements as to Public Construction Bond and insurance. When the Successful Bidder delivers the executed Agreement to OWNER, it must be accompanied by the required insurance certificate(s) and Bond, unless the Bond has been waived due to the total contract being less than \$100,000.

ARTICLE 21 - SIGNING OF AGREEMENT

21.01 When OWNER gives a Notice of Award to the Successful Bidder, it shall be accompanied by the required number of unsigned counterparts of the Agreement with the other Contract Documents which are identified in the Agreement as attached thereto. Within fifteen (15) days thereafter, Successful Bidder shall sign and deliver the required number of counterparts of the Agreement and attached documents to OWNER.

21.02 OWNER shall return one fully signed counterpart to Successful Bidder.

21.03 Should Bidder to whom the Contract has been awarded refuse or fail to complete the requirements of Article 21.01 above, the additional time in calendar days, required to correctly complete the documents will be deducted, in equal amount, from the Contract time. Or, the OWNER may elect to revoke the Award and the OWNER shall hold the Bid Bond for consequential damages incurred, and the Contract may be awarded as the OWNER desires.

*** * END OF SECTION * ***

SECTION 00300 – Bid Package Contents**THIS PACKAGE CONTAINS:**

<u>SECTION TITLE</u>	<u>SECTION NUMBER</u>
Bid Form	00310
Bid Bond	00430
Sworn Statement on Disclosure of Relationships	00452
Sworn Statement Under the Florida Trench Safety Act	00454
Qualifications Questionnaire	00456
List of Subcontractors	00458
Certification Regarding Prohibition Against Contracting with Scrutinized Companies	00460

SUBMIT ONE (1) ORIGINAL AND ONE (1) COPY OF THIS COMPLETE PACKAGE WITH YOUR BID

**** END OF SECTION ****

SECTION 00310 – Bid Form

PROJECT IDENTIFICATION:

Project Name: **INDIAN RIVER COUNTY FIRE STATION 7**

County Project Number: **IRC-1911**

Bid Number: **2024041**

Project Address: **9700 26th Place**
Fellsmere, FL 32966

Project Description: ***The proposed project includes the construction of a 9,035 square foot new Fire Station/EMS building located at 9700 26th PL Fellsmere, FL. The space will be split between dorm, office, facility and equipment storage, as well as a three bay apparatus room. The building will consist of a single-story concrete block structure with a standing seam metal roof over self-sealing underlayment. Civil site work will include the construction of a paved road along 98th Avenue: and construction of concrete driveway and parking lot. Proposed work will also include installation of drainage structures, construction of drainage swales, utility pipework for forcemains and watermains, and the construction of a lift station.***

THIS BID IS SUBMITTED TO: INDIAN RIVER COUNTY
 1800 27th Street
 VERO BEACH, FLORIDA 32960

1.01 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with OWNER in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

2.01 Bidder accepts all of the terms and conditions of the Advertisement or Invitation to Bid and Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. The Bid will remain subject to acceptance for 90 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of OWNER.

3.01 In submitting this Bid, Bidder represents, as set forth in the Agreement, that:

A. Bidder has examined and carefully studied the Bidding Documents, the other related data identified in the Bidding Documents, and the following Addenda, receipt of all which is hereby acknowledged.

<u>Addendum Date</u>	<u>Addendum Number</u>
_____	_____
_____	_____
_____	_____

B. Bidder has visited the Site and become familiar with and is satisfied as to the general, local and Site conditions that may affect cost, progress, and performance of the Work.

C. Bidder is familiar with and is satisfied as to all federal, state and local Laws and Regulations that may affect cost, progress and performance of the Work.

D. Bidder has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities) which have been identified in the Supplementary Conditions as provided in paragraph 4.02 of the General Conditions, and (2) reports and drawings of a Hazardous Environmental Condition, if any, which have been identified in the Supplementary Conditions as provided in paragraph 4.06 of the General Conditions.

E. Bidder has obtained and carefully studied (or assumes responsibility for having done so) all additional or supplementary examinations, investigations, explorations, tests, studies and data concerning conditions (surface, subsurface and Underground Facilities) at or contiguous to the Site which may affect cost, progress, or performance of the Work or which relate to any aspect of the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, including applying the specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents to be employed by Bidder, and safety precautions and programs incident thereto.

F. Bidder does not consider that any further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price(s) bid and within the times and in accordance with the other terms and conditions of the Bidding Documents.

G. Bidder is aware of the general nature of work to be performed by OWNER and others at the Site that relates to the Work as indicated in the Bidding Documents.

H. Bidder has correlated the information known to Bidder, information and observations obtained from visits to the Site, reports and drawings identified in the Bidding Documents, and all additional examinations, investigations, explorations, tests, studies, and data with the Bidding Documents.

I. Bidder has given ENGINEER written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and the written resolution thereof by ENGINEER is acceptable to Bidder.

J. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work for which this Bid is submitted.

4.01 Bidder further represents that this Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any agreement or rules of any group, association, organization or corporation; Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid; Bidder has not solicited or induced any individual or entity to refrain from bidding; and Bidder has not sought by collusion to obtain for itself any advantage over any other Bidder or over OWNER.

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ITEMIZED BID SCHEDULE

PROJECT NAME: INDIAN RIVER COUNTY FIRE STATION 7

PROJECT NO. IRC-1911 BID NO. 2024041 FM NO. N/A

BIDDER'S Name:

Item No.	Description	Unit	Quantity	Unit Price	Amount
CIVIL/SITE WORK					
101-1	MOBILIZATION/DEMOBILIZATION	LS	1		
102-1	MAINTENANCE OF TRAFFIC	LS	1		
104-1	PREVENTION, CONTROL & ABATEMENT OF EROSION AND WATER POLLUTION	LS	1		
104-10-3	SEDIMENT BARRIER, SILT FENCE TYPE 3	LF	7,682		
104-15	SOIL TRACKING PREVENTION DEVICE	EA	1		
104-18	INLET PROTECTION SYSTEM	EA	4		
110-1-1	CLEARING AND GRUBBING	AC	4.88		
110-4-10	REMOVAL OF EXISTING CONCRETE (SIDEWALKS)	SY	226		
110-23	TREES TO BE REMOVED (29 PINES, 21 PALMS 6"-28")	EA	50		
120-1	REGULAR EXCAVATION	CY	2,637		
120-6	EMBANKMENT	CY	3,343		
160-4A	TYPE B STABILIZATION (SIDEWALK AND PADS) 6" THICK	SY	518		
160-4B	TYPE B STABILIZATION (PARKING LOT), 8" THICK	SY	778		
160-4C	TYPE B STABILIZATION (ROADWAYS AND DUMPSTER PAD) 12" THICK	SY	10,267		
285-709	OPTIONAL BASE GROUP 09	SY	6,625		
334-1-13	SUPERPAVE ASPHALTIC CONCRETE TYPE C, 2" THICK	TN	728		
337-7-82	ASPHALTIC CONCRETE FRICTION COURSE, TRAFFIC C, FC-9.5, PG76-22, 1" THICK	TN	364		
350-4A	REINFORCED CEMENT CONCRETE PAVEMENT, (DRIVEWAY), 5" THICK	SY	777		
350-4B	REINFORCED CEMENT CONCRETE PAVEMENT, (SIDEWALK & PADS), 6" THICK	SY	89		
350-4C	REINFORCED CEMENT CONCRETE PAVEMENT, (DRIVEWAY), 8" THICK	SY	3,717		
425-1-521	INLET, DITCH BOTTOM, TYPE C, < 10'	EA	1		
425-1-561	INLET, DITCH BOTTOM, TYPE F, < 10'	EA	3		
430-175-118	PIPE CULVERT OPTIONAL MATERIAL, ROUND, 18" S/CD (RCP)	LF	190		
430-175-218	PIPE CULVERT OPTIONAL MATERIAL, ELLIPTICAL, 18" S/CD (RCP)	LF	491		
430-982-625A	MITERED END SECTION, ELLIPTICAL, S/CD, 14"X23"	EA	5		
430-982-625	MITERED END SECTION, ELLIPTICAL, S/CD, 18"	EA	4		
430-984-625	MITERED END SECTION, ELLIPTICAL, S/SD, 14"X23"	EA	2		
519-78	BOLLARDS	EA	12		
520-1-10	CONCRETE CURB & GUTTER, TYPE F	LF	132		
520-2-4	CONCRETE CURB & GUTTER, TYPE D	LF	345		
522-2	CONCRETE SIDEWALK AND DRIVEWAYS (FIBER REINFORCED) (6" THICK)(3000PSI)	SY	424		
527-2	DETECTABLE WARNINGS (SAFETY YELLOW)	SF	20		
542-70	BUMPER GUARD, CONCRETE	EA	10		
550-10-222	FENCE, TYPE B, BLACK VINYL-COATED, 6FT	LF	1,618		
550-60-211	FENCE GATE, TYPE B, BLACK VINYL-COATED, 0'-6'-0" OPENING	EA	1		
550-60-236	FENCE GATE, TYPE B, SLIDING/CANTILEVER, 24'-30' OPENING	EA	1		
550-60-237	FENCE GATE, TYPE B, SLIDING/CANTILEVER, >30' OPENING	EA	1		

ITEMIZED BID SCHEDULE

PROJECT NAME: INDIAN RIVER COUNTY FIRE STATION 7

PROJECT NO. IRC-1911 BID NO. 2024041 FM NO. N/A

BIDDER'S Name:

Item No.	Description	Unit	Quantity	Unit Price	Amount
570-1-2	PERFORMANCE TURF, SOD, MATCH EXISTING	SY	16,350		
580-4	LANDSCAPE-TREES, EP HOLLY, PRIVET AND CAPE MERTLE, 30 GAL	EA	53		
580-4-343	LANDSCAPE-PALMS, SABAL PALMETTO, 9'-12' CLEAR TRUNK	EA	57		
580-5-24	LANDSCAPE - TREES, ALL OAKS, AND DAHOON HOLLY, 45 GAL	EA	46		
580-7-499	LANDSCAPE - ORNAMENTAL GRASS, PAMPAS GRASS	EA	36		
580-7-697	LANDSCAPE - SMALL SHRUB, DWARF SCEFFLERA, 3'0" HEIGHT	EA	684		
580-7-698	LANDSCAPE - SMALL SHRUB, WALTER'S VIBURNUM, 3'0" HEIGHT	EA	142		
590-70	LANDSCAPE-IRRIGATION SYSTEM (INCL. WELL)	LS	1		
700-1-11	SINGLE SIGN POST, F&I GROUND MOUNT, UP TO 12 SF	EA	16		
700-1-107	SINGLE SIGN POST, F&I GROUND MOUNT, SHEETING AREA FOR BACK-TO BACK SIGNS	EA	2		
700-3-101	SINGLE PANEL, F&I, GROUND MOUNT,UP TO 12 SF	EA	4		
710-90	PAINTED PAVEMENT MARKINGS (ALL STRIPING ONSITE)	LS	1		
711-11-121	THERMOPLASTIC, PAVEMENT MARKINGS, STANDARD SOLID WHITE, 6"	LF	3,285		
711-11-123	THERMOPLASTIC, PAVEMENT MARKINGS, STANDARD SOLID WHITE, 12"	LF	225		
711-11-125	THERMOPLASTIC, PAVEMENT MARKINGS, STANDARD SOLID WHITE, 24"	LF	125		
711-11-160	THERMOPLASTIC, PAVEMENT MARKINGS, BIKE LANE	EA	5		
711-11-170	THERMOPLASTIC, PAVEMENT MARKINGS, ARROW	EA	2		
711-11-221	THERMOPLASTIC, PAVEMENT MARKINGS STANDARD, SOLID YELLOW, 6"	LF	2,235		
715-6-100	LIGHT POLE COMPLETE (LUMINAIRE, POLE, FOUNDATION)	EA	12		
1050-31-202	UTILITY PIPE F&I, PVC PIPE, 2" FM	LF	24		
1050-31-202A	UTILITY PIPE, F&I, PE PIPE, 2" WS	LF	128		
1050-31-202B	UTILITY PIPE, F&I, PVC PIPE, 2" SANITARY SEWER FORCE MAIN	LF	62		
1050-31-204A	UTILITY PIPE F&I, PVC PIPE, 4" WM	LF	46		
1050-31-204D	UTILITY PIPE F&I, PVC PIPE, 4" FM	LF	305		
1050-31-204B	UTILITY PIPE, F&I, PVC PIPE, 4" GRAVITY SANITARY SEWER	LF	241		
1050-31-204C	UTILITY PIPE, F&I, HDPE PIPE, 4" FM	LF	3,080		
1050-31-206	UTILITY PIPE, F&I, PVC PIPE, 6" WM	LF	176		
1050-31-208A	UTILITY PIPE, F&I, PVC PIPE, 8" WM	LF	1,322		
1050-31-208B	UTILITY PIPE, F&I, HDPE PIPE, 8" WM	LF	482		
1055-31-108	UTILITY FITTING, F&I, PVC ELBOWS, 8"	EA	4		
1055-31-208	UTILITY FITTING, F&I, PVC TEE, 8"	EA	1		
1055-31-508	UTILITY FITTING, F&I, PVC CAP, 8"	EA	1		
1055-31-808	UTILITY FITTING, F&I, PVC CROSS, 8"	EA	1		
1055-41-108	UTILITY FITTING, F&I, PE ELBOWS, 8"	EA	2		
1060-11-211	UTILITY STRUCTURE, BELOW GROUND, F&I (500 GAL OWS), 0'-6- DEPTH	EA	2		
1060-21-11	UTILITY STRUCTURE, SANITARY CLEANOUT, 4"	EA	1		
1080-11-214	UTILITY FIXTURE, F&I, FDC, 4"	EA	1		
1080-21-102	UTILITY FIXTURE, F&I, METERBOX, 2"	EA	1		

ITEMIZED BID SCHEDULE

PROJECT NAME: INDIAN RIVER COUNTY FIRE STATION 7

PROJECT NO. IRC-1911 BID NO. 2024041 FM NO. N/A

BIDDER'S Name:

Item No.	Description	Unit	Quantity	Unit Price	Amount
1080-22-102	UTILITY FIXTURE, F&I, BACKFLOW ASSEMBLY, 2"	EA	1		
1080-22-106	UTILITY FIXTURE, F&I, DDCV, 6"	EA	1		
1080-23-106A	UTILITY FIXTURE, F&I, TAPPING SADDLE, 4"X6"	EA	1		
1080-23-106B	UTILITY FIXTURE, F&I, TAPPING SADDLE, 6"X2"	EA	1		
1080-24-102A	UTILITY FIXTURE, F&I, VALVE ASSEMBLY, GATE VALVE, 2"	EA	1		
1080-24-102B	UTILITY FIXTURE, F&I, VALVE ASSEMBLY, CHECK VALVE, 2"	EA	1		
1080-24-102C	UTILITY FIXTURE, F&I, VALVE ASSEMBLY, CURB STOP, 2"	EA	1		
1080-24-104	UTILITY FIXTURE, F&I, VALVE ASSEMBLY, GATE VALVE, 4"	EA	3		
1080-24-106A	UTILITY FIXTURE, F&I, VALVE ASSEMBLY, GATE VALVE, 6"	EA	1		
1080-24-106B	UTILITY FIXTURE, F&I, POST INDICATOR VALVE (PIV), 6"	EA	1		
1080-24-108	UTILITY FIXTURE, F&I, VALVE ASSEMBLY, GATE VALVE, 8"	EA	5		
1080-25-102	UTILITY FIXTURE, F&I, BLOWOFF, 2"	EA	1		
1080-26-104A	UTILITY FIXTURE, F&I, AIR RELIEF VALVE, IN GROUND, 4"	EA	2		
1080-32-102	UTILITY FIXTURE, F&I, SAMPLE POINT, 2"	EA	1		
1080-32-108	UTILITY FIXTURE, F&I, SAMPLE POINT, 8"	EA	2		
1501-1	LIFT STATION, SANITARY SEWER, PRIVATE, 6' DIA WET WELL	EA	1		
1644-111-08	FIRE HYDRANT ASSEMBLY (INC.G.V.)	EA	4		
CIVIL/SITWORK SUBTOTAL					
BUILDING					
DIVISION 3	CONCRETE - SEE ENGINEERING DRAWINGS AND SPECIFICATIONS	LS	1		
DIVISION 4	MASONRY -- SEE ENGINEERING DRAWINGS AND SPECIFICATIONS	LS	1		
DIVISION 5	METALS- SEE ENGINEERING DRAWINGS AND SPECIFICATIONS	LS	1		
DIVISION 6	WOOD, PLASTICS, AND COMPOSITES- SEE ENGINEERING DRAWINGS AND SPECIFICATIONS	LS	1		
DIVISION 7	THERMAL AND MOISTURE PROTECTION- SEE ENGINEERING DRAWINGS AND SPECIFICATIONS	LS	1		
DIVISION 8	OPENINGS- SEE ENGINEERING DRAWINGS AND SPECIFICATIONS	LS	1		
DIVISION 9	FINISHES- SEE ENGINEERING DRAWINGS AND SPECIFICATIONS	LS	1		
DIVISION 10	SPECIALTIES- SEE ENGINEERING DRAWINGS AND SPECIFICATIONS	LS	1		
DIVISION 11	EQUIPMENT- SEE ENGINEERING DRAWINGS AND SPECIFICATIONS	LS	1		
DIVISION 12	FURNISHINGS- SEE ENGINEERING DRAWINGS AND SPECIFICATIONS	LS	1		
DIVISION 13	SPECIAL CONSTRUCTION- SEE ENGINEERING DRAWINGS AND SPECIFICATIONS	LS	1		
DIVISION 15	MECHANICAL/PLUMBING- SEE ENGINEERING DRAWINGS AND SPECIFICATIONS	LS	1		
DIVISION 16	ELECTRICAL- SEE ENGINEERING DRAWINGS AND SPECIFICATIONS	LS	1		
BUILDING SUBTOTAL					
999-1	ASBUILT SURVEYING AND RECORD DRAWING PREPARATION (BY REGISTERED SURVEYOR)	LS	1.0		
				SUB-TOTAL =	
999-25A				FORCE ACCOUNT =	\$570,000.00
TOTAL PROJECT BID AMOUNT (INCLUDING FORCE ACCOUNTS) =					

LS=Lump Sum AC=Acre EA=Each CY=Cubic Yard SY=Square Yard TN=Ton LF=Linear Foot AS=Assembly

NOTE: IF THERE IS A DISCREPANCY BETWEEN THE PLANS (SUMMARY OF PAY ITEMS) AND THE ITEMIZED BID SCHEDULE, THE BID SCHEDULE WILL BE UTILIZED FOR BIDDING PURPOSES.

TOTAL PROJECT BID AMOUNT IN WORDS

5.01 Bidder shall complete the Work in accordance with the Contract Documents for the price(s) contained in the Bid Schedule:

- A. The Discrepancies between the multiplication of units of Work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum. Discrepancies between words and figures will be resolved in favor of the words.
- B. The Owner reserves the right to omit or add to the construction of any portion or portions of the work heretofore enumerated or shown on the plans. Furthermore, the Owner reserves the right to omit in its entirety any one or more items of the Contract without forfeiture of Contract or claims for loss of anticipated profits or any claims by the Contractor on account of such omissions.
- C. Bidder acknowledges that estimated quantities are not guaranteed, and are solely for the purpose of comparison of Bids, and final payment for all Unit Price Bid items will be based on actual quantities provided. The quantities actually required to complete the contract and work may be less or more than so estimated, and, if so, no action for damages or for loss of profits shall accrue to the Contractor by reason thereof.
- D. Unit Prices have been computed in accordance with paragraph 11.03.B of the General Conditions.

6.01 Bidder agrees that the Work will be substantially completed and ready for final payment in accordance with paragraph 14.07.B of the General Conditions on or before the dates or within the number of calendar days indicated in the Agreement.

6.02 Bidder accepts the provisions of the Agreement as to liquidated damages in the event of failure to complete the Work within the times specified, which shall be stated in the Agreement.

7.01 The following documents are attached to and made a condition of this Bid:

- A. Itemized Bid Schedule;
- B. Required Bid security in the form of _____;
- C. Sworn Statement under Section 105.08, Indian River Code, on Disclosure of Relationships;
- D. Sworn Statement Under the Florida Trench Safety Act;
- E. Qualifications Questionnaire;
- F. List of Subcontractors;
- G. Certification Regarding Prohibition Against Contracting with Scrutinized Companies

8.01 The terms used in this Bid with initial capital letters have the meanings indicated in the Instructions to Bidders, the General Conditions, and the Supplementary Conditions.

SUBMITTED on _____, 20__.

State Contractor License No. _____

If Bidder is:

An Individual

Name (typed or printed): _____

By: _____ (SEAL)
(Individual's signature)

Doing business as: _____

Business address: _____

Phone No.: _____ FAX No.: _____

Email: _____

A Partnership

Partnership Name: _____ (SEAL)

By: _____
(Signature of general partner -- attach evidence of authority to sign)

Name (typed or printed): _____

Business address: _____

Phone No.: _____ FAX No.: _____

Email: _____

A Corporation

Corporation Name: _____ (SEAL)

State of Incorporation: _____

Type (General Business, Professional, Service, Limited Liability): _____

By: _____
(Signature -- attach evidence of authority to sign)

Name (typed or printed): _____

Title: _____

(CORPORATE SEAL)

Attest _____
(Signature of Corporate Secretary)

Business address: _____

Phone No.: _____ FAX No.: _____

Email: _____

Date of Qualification to do business is _____.

A Joint Venture

Joint Venture Name: _____

(SEAL)

By: _____
(Signature of joint venture partner -- attach evidence of authority to sign)

Name (typed or printed): _____

Title: _____

Business address: _____

Phone No.: _____ FAX No.: _____

Email: _____

Joint Venture Name: _____

(SEAL)

By: _____
(Signature -- attach evidence of authority to sign)

Name (typed or printed): _____

Title: _____

Business address: _____

Phone No.: _____ FAX No.: _____

Email: _____

Phone and FAX Number, and Address for receipt of official communications:

(Each joint venturor must sign. The manner of signing for each individual, partnership, and corporation that is a party to the joint venture should be in the manner indicated above.)

**** END OF SECTION ****

SECTION 00430 – Bid Bond
AIA DOCUMENT A310 BID BOND

The Contractor shall use the document form entitled “AIA Document A310 Bid Bond.”

END OF SECTION

SECTION 00452 – Sworn Statement on Disclosure of Relationships

SWORN STATEMENT UNDER SECTION 105.08, INDIAN RIVER COUNTY CODE, ON DISCLOSURE OF RELATIONSHIPS

THIS FORM MUST BE SIGNED IN THE PRESENCE OF A NOTARY PUBLIC OR OTHER OFFICER AUTHORIZED TO ADMINISTER OATHS.

1. This sworn statement MUST be submitted with Bid, Proposal or Contract No. 2024041

for INDIAN RIVER COUNTY FIRE STATION 7

2. This sworn statement is submitted by: _____

(Name of entity submitting Statement)

whose business address is:

3. My name is _____

(Please print name of individual signing)

and my relationship to the entity named above is _____

4. I understand that an “affiliate” as defined in Section 105.08, Indian River County Code, means:

The term “affiliate” includes those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in the management of the entity.

5. I understand that the relationship with a County Commissioner or County employee that must be disclosed as follows:

Father, mother, son, daughter, brother, sister, uncle, aunt, first cousin, nephew, niece, husband, wife, father-in-law, mother-in-law, daughter-in-law, son-in-law, brother-in-law, sister-in-law, stepfather, stepmother, stepson, stepdaughter, stepbrother, stepsister, half brother, half sister, grandparent, or grandchild.

6. Based on information and belief, the statement, which I have marked below, is true in relation to the entity submitting this sworn statement. [Please indicate which statement applies.]

_____ Neither the entity submitting this sworn statement, nor any officers, directors, executives, partners, shareholders, employees, members, or agents who are active in management of the entity, have any relationships as defined in section 105.08, Indian River County Code, with any County Commissioner or County employee.

_____The entity submitting this sworn statement, or one or more of the officers, directors, executives, partners, shareholders, employees, members, or agents, who are active in management of the entity have the following relationships with a County Commissioner or County employee:

Name of Affiliate or entity	Name of County Commissioner or employee	Relationship
_____	_____	_____
_____	_____	_____
_____	_____	_____

(Signature)

(Date)

STATE OF _____

COUNTY OF _____

Sworn to (or affirmed) and subscribed before me by means of physical presence or online notarization, this _____ day of _____, 20____, by _____
(name of person making statement).

(Signature of Notary Public - State of Florida)
(Print, Type, or Stamp Commissioned Name of Notary Public)

who is personally known to me or who has produced
_____ as identification.

**** END OF SECTION ****

SECTION 00454 – Sworn Statement Under the Florida Trench Safety Act

THIS FORM MUST BE SIGNED BY THE BIDDER WHO WILL BE RESPONSIBLE FOR THE EXCAVATION WORK ("BIDDER"), OR ITS AUTHORIZED REPRESENTATIVE, IN THE PRESENCE OF A NOTARY PUBLIC AUTHORIZED TO ADMINISTER OATHS.

1. This Sworn Statement is submitted with Project No. IRC-1911 for INDIAN RIVER COUNTY FIRE STATION 7

2. This Sworn Statement is submitted by _____
(Legal Name of Entity Submitting Sworn Statement), hereinafter "BIDDER". The BIDDER's address is _____
BIDDER's Federal Employer Identification Number (FEIN) is _____.

3. My name is _____ and my relationship to the BIDDER is _____
(Print Name of Individual Signing) (Position or Title)

I certify, through my signature at the end of this Sworn Statement, that I am an authorized representative of the BIDDER.

4. The Trench Safety Standards that will be in effect during the construction of this Project are contained within the Trench Safety Act, Section 553.60 et.seq. Florida Statutes and refer to the applicable Florida Statute(s) and/or OSHA Regulation(s) and include the "effective date" in the citation(s). Reference to and compliance with the applicable Florida Statute(s) and OSHA Regulation(s) is the complete and sole responsibility of the BIDDER. Such reference will not be checked by OWNER or ENGINEER and they shall have no responsibility to review or check the BIDDER's compliance with the Trench Safety Standards.

5. The BIDDER assures the OWNER that it will comply with the applicable Trench Safety Standards.

6. The BIDDER has allocated and included in its bid the total amount of \$ _____, based on the linear feet of trench to be excavated over five (5) feet deep, for compliance with the applicable Trench Safety Standards, and intends to comply with said standards by instituting the following specific method(s) of compliance on this Project: _____

_____.

The determination of the appropriate method(s) of compliance is the complete and sole responsibility of the BIDDER. Such methods will not be checked by the OWNER or ENGINEER for accuracy, completeness, or any other purpose. The OWNER and ENGINEER shall have no responsibility to review or check the BIDDER's compliance with the Trench Safety Standards.

7. The BIDDER has allocated and included in its bid the total amount of \$ _____ based on the square feet of shoring to be used for compliance with shoring safety requirements and intends to comply with said shoring requirements by instituting the following specific method(s) of compliance on this Project: _____

_____.

The determination of the appropriate method(s) of compliance is the complete and sole responsibility of the BIDDER. Such methods will not be checked by the OWNER or ENGINEER for accuracy, completeness or any other purpose. The OWNER and ENGINEER shall have no responsibility to review or check the BIDDER's compliance with the Trench Safety Standards.

- 8. The BIDDER, in submitting this bid, represents that it has obtained and considered all available geotechnical information, has utilized said geotechnical information and that, based on such information and the BIDDER's own information, the BIDDER has sufficient knowledge of the Project's surface and subsurface site conditions and characteristics to assure BIDDER's compliance with the applicable Trench Safety Standards in designing the trench safety system(s) for the Project.

BIDDER: _____

By: _____

Position or Title: _____

Date: _____

STATE OF _____

COUNTY OF _____

Sworn to (or affirmed) and subscribed before me by means of physical presence or online notarization, this _____ day of _____, 20____, by _____

(name of person making statement).

(Signature of Notary Public - State of Florida)
(Print, Type, or Stamp Commissioned Name of Notary Public)

who is personally known to me or who has produced _____ as identification.

**** END OF SECTION ****

SECTION 00456 – Qualifications Questionnaire

NOTICE: THE OWNER RETAINS THE DISCRETION TO REJECT THE BIDS OF NON-RESPONSIBLE BIDDERS.

Documentation Submitted with Project No: IRC-1911

Project Name: INDIAN RIVER COUNTY FIRE STATION 7

1. Bidder's Name / Address: _____

2. Bidder's Telephone & FAX Numbers: _____

3. Licensing and Corporate Status:
 - a. Is Contractor License current? _____
 - b. Bidder's Contractor License No: _____
[Attach a copy of Contractor's License to the bid]
 - c. Attach documentation from the State of Florida Division of Corporations that indicates the business entity's status is active and that lists the names and titles of all officers.

4. Number of years the firm has performed business as a Contractor in construction work of the type involved in this contract: _____

5. What is the last project OF THIS NATURE that the firm has completed?

6. Has the firm ever failed to complete work awarded to you? _____

[If your answer is "yes", then attach a separate page to this questionnaire that explains the circumstances and list the project name, Owner, and the Owner's telephone number for each project in which the firm failed to complete the work.]

7. Has the firm ever been assessed liquidated damages? _____

[If your answer is "yes", then attach a separate page to this questionnaire that explains the circumstances and list the project name, Owner, and the Owner's telephone number for each project in which liquidated damages have been assessed.]

8. Has the firm ever been charged by OSHA for violating any OSHA regulations? _____

[If your answer is "yes", then attach a separate page to this questionnaire that explains the circumstances and list the project name, Owner, and the Owner's telephone number for each project in which OSHA violations were alleged.]

9. Has the firm implemented a drug-free workplace program in compliance with Florida Statute 287.087? _____

(In the case of a tie, preference will be given to businesses with drug-free workplace programs)

10. Has the firm ever been charged with noncompliance of any public policy or rules?

[If your answer is “yes”, then attach a separate page to this questionnaire that explains the circumstances and list the project name, Owner, and the Owner’s telephone number for each project.]

11. Attach to this questionnaire, a notarized financial statement and other information that documents the firm’s financial strength and history.

12. Has the firm ever defaulted on any of its projects? _____

[If your answer is “yes”, then attach a separate page to this questionnaire that explains the circumstances and list the project name, Owner, and the Owner’s telephone number for each project in which a default occurred.]

13. Attach a separate page to this questionnaire that summarizes the firm’s current workload and that demonstrates its ability to meet the project schedule.

14. Name of person who inspected the site of the proposed work for the firm:

Name: _____ Date of Inspections: _____

15. Name of on-site Project Foreman: _____

Number of years of experience with similar projects as a Project Foreman: _____

16. Name of Project Manager: _____

Number of years of experience with similar projects as a Project Manager: _____

17. State your total bonding capacity: _____

18. State your bonding capacity per job: _____

19. Please provide name, address, telephone number, and contact person of your bonding company:

[The remainder of this page was left blank intentionally]

19. Complete the following table for SIMILAR projects:

Name of Project	Date Completed	Owner	Contact Person: Name/ Email Address/Phone	Original Contract Amount	Final Contract Amount

SECTION 00458 – List of Subcontractors

The Bidder **MUST** list below the name and address of each Subcontractor who will perform work under this Contract in excess of one-half percent of the total bid price, and shall also list the portion of the work which will be done by such Subcontractor. After the opening of Bids, additions, changes or substitutions will not be allowed unless approved by Indian River County after a request for such a change has been submitted in writing by the Contractor, which shall include reasons for such request. Subcontractors must be properly licensed and hold a valid Certificate of Competency.

Documentation Submitted with Project No. IRC-1911 for INDIAN RIVER COUNTY FIRE STATION 7

	Work to be Performed	Subcontractor's Name/Address	Portion of Work (%)
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			

Note: Attach additional sheets if required.

**** END OF SECTION ****

SECTION 00460 – CERTIFICATION REGARDING PROHIBITION AGAINST CONTRACTING WITH SCRUTINIZED COMPANIES

I hereby certify that neither the undersigned entity, nor any of its wholly owned subsidiaries, majority-owned subsidiaries, parent companies, or affiliates of such entities or business associations, that exists for the purpose of making profit have been placed on the Scrutinized Companies that Boycott Israel List created pursuant to s. 215.4725 of the Florida Statutes, or are engaged in a boycott of Israel.

In addition, if this solicitation is for a contract for goods or services of one million dollars or more, I hereby certify that neither the undersigned entity, nor any of its wholly owned subsidiaries, majority-owned subsidiaries, parent companies, or affiliates of such entities or business associations, that exists for the purpose of making profit are on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, created pursuant to s. 215.473 of the Florida Statutes, or are engaged in business operations in Cuba or Syria as defined in said statute.

I understand and agree that the County may immediately terminate any contract resulting from this solicitation upon written notice if the undersigned entity (or any of those related entities of respondent as defined above by Florida law) are found to have submitted a false certification or any of the following occur with respect to the company or a related entity: (i) it has been placed on the Scrutinized Companies that Boycott Israel List, or is engaged in a boycott of Israel, or (ii) for any contract for goods or services of one million dollars or more, it has been placed on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, or it is found to have been engaged in business operations in Cuba or Syria.

Name of Respondent: _____

By: _____
(Authorized Signature)

Title: _____

Date: _____

BOARD OF COUNTY COMMISSIONERS



Month xx, 2022

via Email

Company

Attn:

Address

Address

Email address

NOTICE OF AWARD

Reference: Indian River County Bid No. 2024041
Project Name: INDIAN RIVER COUNTY FIRE STATION 7

Dear Mr./Ms. :

It is my pleasure to inform you that on [DATE] the Board of County Commissioners awarded the above-referenced project to your company. The following documents are required before the applicable County department can issue a "Notice to Proceed" letter.

1. Public Construction Bond (unrecorded) in the amount of **100%** of the award amount (**\$.....**).
2. Two Signed Copies of Enclosed Agreement.
3. Certificate of Insurance indicating coverage required by Article 5 of the General Conditions (section 00700 of the bid documents) and Supplemental Conditions (Section 00800 of the bid documents). Certificate(s) **must name Indian River County as additional insured** and must provide for a 30-day Notice of Cancellation.
4. W-9.

The Public Construction Bond must be executed in accordance with section 255.05(1)(a), Florida Statutes. Please submit the Bond, W-9, the Certificate(s) of Insurance and two fully-executed copies of the enclosed agreement to this office at the address provided below no later than [Due **DATE (15 days from award)**]. Failure to comply with the established deadline for submittal of required documents may be grounds for cancellation of award.

Thank you for your prompt attention and if you have any questions, please do not hesitate to contact our office.

Sincerely,

Jennifer Hyde, NIGP-CPP, CPPO
Purchasing Manager

cc: Project Manager

Office of Management and Budget • Purchasing Division
1800 27th Street, Vero Beach, Florida 32960•(772) 226-1416
E-mail: purchasing@indianriver.gov

Notice of Award - 00510-1

SECTION 00520 Agreement (Public Works)

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[The Remainder of THIS Page WAS LEFT BLANK INTENTIONALLY]

SECTION 00520 Agreement (Public Works)

THIS AGREEMENT is by and between INDIAN RIVER COUNTY, a Political Subdivision of the State of Florida organized and existing under the Laws of the State of Florida, (hereinafter called OWNER)

and _____
(hereinafter called CONTRACTOR).

OWNER and CONTRACTOR, in consideration of the mutual covenants hereinafter set forth, agree as follows:

ARTICLE 1 - WORK

1.01 CONTRACTOR shall complete all Work as specified or indicated in the Contract Documents. The Work is generally described as follows:

The proposed project includes the construction of a 9,035 square foot new Fire Station/EMS building located at 9700 26th PL Fellsmere, FL. The space will be split between dorm, office, facility and equipment storage, as well as a three bay apparatus room. The building will consist of a single-story concrete block structure with a standing seam metal roof over self-sealing underlayment. Civil site work will include the construction of a paved road along 98th Avenue; and construction of concrete driveway and parking lot. Proposed work will also include installation of drainage structures, construction of drainage swales, utility pipework for forcemains and watermains, and the construction of a lift station.

ARTICLE 2 - THE PROJECT

2.01 The Project for which the Work under the Contract Documents may be the whole or only a part is generally described as follows:

Project Name: **INDIAN RIVER COUNTY FIRE STATION 7**
County Project Number: **IRC-1911**
FM Number: **N/A**
Bid Number: **2024041**
Project Address: **9700 26th PL, Fellsmere, FL 32966**

ARTICLE 3 - ENGINEER

3.01 The Indian River County Public Works Department is hereinafter called the ENGINEER and will act as OWNER's representative, assume all duties and responsibilities, and have the rights and authority assigned to ENGINEER in the Contract Documents in connection with the completion of the Work in accordance with the Contract Documents.

ARTICLE 4 - CONTRACT TIMES

4.01 *Time of the Essence*

- A. All time limits for Milestones, if any, Substantial Completion, and completion and readiness for final payment as stated in the Contract Documents are of the essence of the Contract.

4.02 *Days to Achieve Substantial Completion, Final Completion and Final Payment*

- A. The Work will be substantially completed on or before the **400th** calendar day after the date when the Contract Times commence to run as provided in paragraph 2.03 of the General Conditions, and completed and ready for final payment in accordance with paragraph 14.07 of the General Conditions on or before the **430th** calendar day after the date when the Contract Times commence to run.

4.03 *Liquidated Damages*

- A. CONTRACTOR and OWNER recognize that time is of the essence of this Agreement and that OWNER will suffer financial loss if the Work is not completed within the times specified in paragraph 4.02 above, plus any extensions thereof allowed in accordance with Article 12 of the General Conditions. Liquidated damages will commence for this portion of work. The parties also recognize the delays, expense, and difficulties involved in proving in a legal proceeding the actual loss suffered by OWNER if the Work is not completed on time. Accordingly, instead of requiring any such proof, OWNER and CONTRACTOR agree that as liquidated damages for delay (but not as a penalty), CONTRACTOR shall pay OWNER **\$3,813.00** for each calendar day that expires after the time specified in paragraph 4.02 for Substantial Completion until the Work is substantially complete. After Substantial Completion, if CONTRACTOR shall neglect, refuse, or fail to complete the remaining Work within the Contract Time or any proper extension thereof granted by OWNER, CONTRACTOR shall pay OWNER **\$3,813.00** for each calendar day that expires after the time specified in paragraph 4.02 for completion and readiness for final payment until the Work is completed and ready for final payment.

ARTICLE 5 - CONTRACT PRICE

5.01 OWNER shall pay CONTRACTOR for completion of the Work in accordance with the Contract Documents, an amount in current funds equal to the sum of the amounts determined pursuant to paragraph 5.01.A and summarized in paragraph 5.01.B, below:

- A. For all Work, at the prices stated in CONTRACTOR's Bid, attached hereto as an exhibit.
- B. THE CONTRACT SUM subject to additions and deductions provided in the Contract:

Numerical Amount: \$ _____

Written Amount: _____

ARTICLE 6 - PAYMENT PROCEDURES

6.01 *Submittal and Processing of Payments*

- A. CONTRACTOR shall submit Applications for Payment in accordance with Article 14 of the General Conditions. Applications for Payment will be processed by ENGINEER as provided in the General Conditions and the Contract Documents.

6.02 *Progress Payments.*

- A. The OWNER shall make progress payments to the CONTRACTOR on the basis of the approved partial payment request as recommended by ENGINEER in accordance with the provisions of the Local Government Prompt Payment Act, Florida Statutes section 218.70 et. seq. The OWNER shall retain five percent (5%) of the payment amounts due to the CONTRACTOR until substantial completion of all work to be performed by CONTRACTOR under the Contract Documents.
- B. For construction projects less than \$10 million, at the time the OWNER is in receipt of the Certificate of Substantial Completion, the OWNER shall have 30 calendar days to provide a list to the CONTRACTOR of items to be completed and the estimated cost to complete each item on the list. OWNER and CONTRACTOR agree that the CONTRACTOR'S itemized bid shall serve as the basis for determining the cost of each item on the list. For projects in excess of \$10 million, OWNER shall have up to 45 calendar days following receipt of Certificate of Substantial Completion of the project to provide CONTRACTOR with said list.
- C. Payment of Retainage - Within 20 business days following the creation of the list, OWNER shall pay CONTRACTOR the remaining contract balance including all retainage previously withheld by OWNER except for an amount equal to 150% of the estimated cost to complete all of the items on the list. Upon completion of all items on the list, the CONTRACTOR may submit a payment request for the amount of the 150% retainage held by the OWNER. If a good faith dispute exists as to whether one or more of the items have been finished, the OWNER may continue to withhold the 150% of the total cost to complete such items. The OWNER shall provide CONTRACTOR written reasons for disputing completion of the list.

6.03 *Pay Requests.*

- A. Each request for a progress payment shall be submitted on the application provided by OWNER and the application for payment shall contain the CONTRACTOR'S certification. All progress payments will be on the basis of progress of the work measured by the schedule of values established, or in the case of unit price work based on the number of units completed.

6.04 *Paragraphs 6.02 and 6.03*

do not apply to construction services work purchased by the County as OWNER which are paid for, in whole or in part, with federal funds and are subject to federal grantor laws and regulations or requirements that are contrary to any provision of the Local Government Prompt Payment Act. In such event, payment and retainage provisions shall be governed by the applicable grant requirements and guidelines.

6.05 *Acceptance of Final Payment as Release.*

- A. The acceptance by the CONTRACTOR of final payment shall be and shall operate as a release to the OWNER from all claims and all liability to the CONTRACTOR other than claims in stated amounts as may be specifically excepted by the

CONTRACTOR for all things done or furnished in connection with the work under this Contract and for every act and neglect of the OWNER and others relating to or arising out of the work. Any payment, however, final or otherwise, shall not release the CONTRACTOR or its sureties from any obligations under the Contract Documents or the Public Construction Bond.

ARTICLE 7 - INDEMNIFICATION

7.01 CONTRACTOR shall indemnify OWNER, ENGINEER, and others in accordance with paragraph 6.20 (*Indemnification*) of the General Conditions to the Construction Contract.

ARTICLE 8 - CONTRACTOR'S REPRESENTATIONS

8.01 In order to induce OWNER to enter into this Agreement CONTRACTOR makes the following representations:

- A. CONTRACTOR has examined and carefully studied the Contract Documents and the other related data identified in the Bidding Documents.
- B. CONTRACTOR has visited the Site and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
- C. CONTRACTOR is familiar with and is satisfied as to all federal, state, and local Laws and Regulations that may affect cost, progress, and performance of the Work.
- D. CONTRACTOR has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities) which have been identified in the Supplementary Conditions as provided in paragraph 4.02 of the General Conditions and (2) reports and drawings of a Hazardous Environmental Condition, if any, at the Site which have been identified in the Supplementary Conditions as provided in paragraph 4.06 of the General Conditions.
- E. CONTRACTOR has obtained and carefully studied (or assumes responsibility for having done so) all additional or supplementary examinations, investigations, explorations, tests, studies, and data concerning conditions (surface, subsurface, and Underground Facilities) at or contiguous to the Site which may affect cost, progress, or performance of the Work or which relate to any aspect of the means, methods, techniques, sequences, and procedures of construction to be employed by CONTRACTOR, including applying the specific means, methods, techniques, sequences, and procedures of construction, if any, expressly required by the Contract Documents to be employed by CONTRACTOR, and safety precautions and programs incident thereto
- F. CONTRACTOR does not consider that any further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract Documents.
- G. CONTRACTOR is aware of the general nature of work to be performed by OWNER and others at the Site that relates to the Work as indicated in the Contract Documents.

- H. CONTRACTOR has correlated the information known to CONTRACTOR, information and observations obtained from visits to the Site, reports and drawings identified in the Contract Documents, and all additional examinations, investigations, explorations, tests, studies, and data with the Contract Documents.
- I. CONTRACTOR has given ENGINEER written notice of all conflicts, errors, ambiguities, or discrepancies that CONTRACTOR has discovered in the Contract Documents, and the written resolution thereof by ENGINEER is acceptable to CONTRACTOR.
- J. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.
- K. CONTRACTOR is registered with and will use the Department of un Security's E-Verify system (www.e-verify.gov) to confirm the employment eligibility of all newly hired employees for the duration of this agreement, as required by Section 448.095, F.S. CONTRACTOR is also responsible for obtaining an affidavit from all subcontractors, as required in Section 448.095(5)(b), F.S., stating the subcontractor does not employ, contract with, or subcontract with an unauthorized alien.

ARTICLE 9 - CONTRACT DOCUMENTS

9.01 *Contents*

- A. The Contract Documents consist of the following:
 - 1. This Agreement (pages 00520-1 to 00520-10, inclusive);
 - 2. Notice to Proceed (page 00550-1);
 - 3. Public Construction Bond (pages 00610-1 to 00610-3, inclusive);
 - 4. Sample Certificate of Liability Insurance (page 00620-1);
 - 5. Contractor's Application for Payment (pages 00622-1 to 00622-6 inclusive);
 - 6. Certificate of Substantial Completion (pages 00630-1 to 00630-2, inclusive);
 - 7. Contractor's Final Certification of the Work (pages 00632-1 to 00632-2, inclusive);
 - 8. Professional Surveyor & Mapper's Certification as to Elevations and Locations of the Work (page 00634-1);
 - 9. General Conditions (pages 00700-1 to 00700-38, inclusive);
 - 10. Supplementary Conditions (pages 00800-1 to 00800-13, inclusive);
 - 11. Specifications as listed in Division 1 (General Requirements) and Division 2 (Technical Provisions);
 - 12. Drawings consisting of a cover sheet (COVER), and sheets numbered ABB, ACC, A-1 to A-14; I-1; LS-1; S-1.1, S-1.2, S-1.3, S-2.1, S-2.2, S-2.3, S-2.4, S-2.5, S-2.6, S-2.7, S-2.8, S-2.9, S-2.10, S-3.1, S-3.2, S-3.3, S-3.4, S-4.1, S-4.2, S-4.3, S-5.1, S-5.2, S-5.3, S-5.4, S-5.5, S-6.1; M-0, M-1, M-1A, M-2.1, M-2.2, M-5.1, M-5.2; E-0, E-1, E-1A, E-2, E-

3, E-4, E-5, E-6, E-7; P-0 to P-7; C1 to C21, EX1, inclusive, with each sheet bearing the following general title: STATION # 7;

13. Addenda (if applicable _____);
14. Appendices to this Agreement (enumerated as follows):
 - Appendix A – Permits
 - Appendix B – Indian River County Fertilizer Ordinances
 - Appendix C – Indian River County Traffic Engineering Special Conditions for Right of Way Construction
 - Appendix D – Subsurface Soil Exploration and Geotechnical Engineering Evaluation
15. CONTRACTOR'S BID (pages 00310-1 to 00310-6, inclusive);
16. Bid Bond (page 00430-1);
17. Sworn Statement Under Section 105.08, Indian River County Code, on Disclosure of Relationships (pages 00452-1 to 00452-2, inclusive);
18. Sworn Statement Under the Florida Trench Safety Act (pages 00454-1 to 00454-2, inclusive);
19. Qualifications Questionnaire (page 00456-1 to 00456-2, inclusive);
20. List of Subcontractors (page 00458-1);
21. Certification Regarding Prohibition Against Contracting with Scrutinized Companies (page 00460-1);
22. The following which may be delivered or issued on or after the Effective Date of the Agreement and are not attached hereto:
 - a) Written Amendments;
 - b) Work Change Directives;
 - c) Change Order(s);

ARTICLE 10 - MISCELLANEOUS

10.01 *Terms*

- A. Terms used in this Agreement will have the meanings indicated in the General Conditions.

10.02 *Assignment of Contract*

- A. No assignment by a party hereto of any rights under or interests in the Contract will be binding on another party hereto without the written consent of the party sought to be bound; and, specifically but without limitation, moneys that may become due and moneys that are due may not be assigned without such consent (except to the extent that the effect of this

restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

10.03 *Successors and Assigns*

- A. OWNER and CONTRACTOR each binds itself, its partners, successors, assigns, and legal representatives to the other party hereto, its partners, successors, assigns, and legal representatives in respect to all covenants, agreements, and obligations contained in the Contract Documents.

10.04 *Severability*

- A. Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon OWNER and CONTRACTOR, who agree that the Contract Documents shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

10.05 *Venue*

- A. This Contract shall be governed by the laws of the State of Florida. Venue for any lawsuit brought by either party against the other party or otherwise arising out of this Contract shall be in Indian River County, Florida, or, in the event of a federal jurisdiction, in the United States District Court for the Southern District of Florida.

10.06 *Public Records Compliance*

- A. Indian River County is a public agency subject to Chapter 119, Florida Statutes. The CONTRACTOR shall comply with Florida's Public Records Law. Specifically, the CONTRACTOR shall:

- (1) Keep and maintain public records required by the County to perform the service.
- (2) Upon request from the County's Custodian of Public Records, provide the County with a copy of the requested records or allow the records to be inspected or copied within a reasonable time at a cost that does not exceed the cost provided in Chapter 119 or as otherwise provided by law.
- (3) Ensure that public records that are exempt or confidential and exempt from public records disclosure requirements are not disclosed except as authorized by law for the duration of the contract term and following completion of the contract if the contractor does not transfer the records to the County.
- (4) Upon completion of the contract, transfer, at no cost, to the County all public records in possession of the CONTRACTOR or keep and maintain public records required by the County to perform the service. If the CONTRACTOR transfers all public records to the County upon completion of the contract, the CONTRACTOR shall destroy any duplicate public records that are exempt or confidential and exempt from public records disclosure requirements. If the CONTRACTOR keeps and maintains public records upon completion of the contract, the CONTRACTOR shall meet all applicable requirements for retaining public records. All records stored electronically must be provided to the County, upon request from the Custodian of

Public Records, in a format that is compatible with the information technology systems of the County.

B. IF THE CONTRACTOR HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO THE CONTRACTOR'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS CONTRACT, CONTACT THE CUSTODIAN OF PUBLIC RECORDS AT:

(772) 226-1424

publicrecords@indianriver.gov

Indian River County Office of the County Attorney

1801 27th Street

Vero Beach, FL 32960

C. Failure of the Contractor to comply with these requirements shall be a material breach of this Agreement.

[The remainder of this page was left blank intentionally]

IN WITNESS WHEREOF, OWNER and CONTRACTOR have signed this Agreement in duplicate. One counterpart each has been delivered to OWNER and CONTRACTOR. All portions of the Contract Documents have been signed or identified by OWNER and CONTRACTOR or on their behalf.

This Agreement will be effective on _____ day _____ of 20____ (the date the Contract is approved by the Indian River County Board of County Commissioners, which is the Effective Date of the Agreement).

OWNER:

CONTRACTOR:

INDIAN RIVER COUNTY _____

By: _____
Susan Adams, Chairman

By: _____
(Contractor)

By: _____
John A. Titkanich, Jr., County Administrator

(CORPORATE SEAL)

Attest _____

APPROVED AS TO FORM AND LEGAL SUFFICIENCY:

By: _____
William K. Debraal, County Attorney

Address for giving notices:

Ryan L. Butler, Clerk of Court and Comptroller

License No. _____
(Where applicable)

Attest: _____
Deputy Clerk

Agent for service of process: _____

(SEAL)

Designated Representative:
Name: Kirstin Leiendecker, P.E.
Title: Acting Public Works Director
1801 27th Street
Vero Beach, Florida 32960
(772) 226-1327
Facsimile: (772) 226-1371

Designated Representative:
Name: _____
Title: _____
Address: _____

Phone: _____
Facsimile: _____

(If CONTRACTOR is a corporation or a partnership, attach evidence of authority to sign.)

**** END OF SECTION ****

SECTION 00550 – Notice to Proceed

Dated

TO:

(BIDDER)

ADDRESS:

Contract For:

INDIAN RIVER COUNTY FIRE STATION 7

(Insert name of Contract as it appears in the Contract Documents)

Project No: **IRC-1911**

FM No: **N/A**

IRC Bid No. **2024041**

You are notified that the Contract Times under the above contract will commence to run on _____. By that date, you are to start performing your obligations under the Contract Documents. The contract has allocated **400** calendar days for Substantial Completion of this project and **430** calendar days for Final Completion. In accordance with Article 4 of the Agreement the date of Substantial Completion is _____ and the date of readiness for final payment is _____.

CONTRACTOR shall not commence work under this Contract until he has obtained all insurance required under Article 5 and such insurance has been delivered to the OWNER and approved by the OWNER, nor shall the CONTRACTOR allow any Subcontractor to commence work on his subcontract until all similar insurance required of the Subcontractor has been so obtained and approved. All such insurance shall remain in effect until final payment and at all times thereafter when CONTRACTOR may be correcting, removing or replacing *defective* Work in accordance with Article 13.

Also, before you may start any Work at the Site, you must:
(add other requirements, if applicable)

INDIAN RIVER COUNTY

(OWNER)

By: _____
(AUTHORIZED SIGNATURE)

(TITLE)

SECTION 00610 - Public Construction Bond

INSTRUCTION FOR PUBLIC CONSTRUCTION BOND

The front or cover page to the required public construction payment and performance bond shall contain the information required by Fla. Stat. 255.05(1)(a), and be substantially in the format shown on the first page following this instruction.

The Public Construction Bond shall be in the form suggested by Fla. Stat. 255.05(3) as shown on the second page following this instruction.

A Power of Attorney from a surety insurer authorized to do business in Florida, authorizing the signature of the Attorney in Fact who executes the Public Construction Bond shall accompany that Bond.

**Public Work
F.S. Chapter 255.05 (1)(a)
Cover Page**

THIS BOND IS GIVEN TO COMPLY WITH SECTION 255.05 OR SECTION 713.23 FLORIDA STATUTES, AND ANY ACTION INSTITUTED BY A CLAIMANT UNDER THIS BOND FOR PAYMENT MUST BE IN ACCORDANCE WITH THE NOTICE AND TIME LIMITATION PROVISIONS IN SECTION 255.05(2) OR SECTION 713.23 FLORIDA STATUTES.

BOND NO: _____

CONTRACTOR NAME: _____

CONTRACTOR ADDRESS: _____

CONTRACTOR PHONE NO: _____

SURETY COMPANY NAME: _____

SURETY PRINCIPAL
BUSINESS ADDRESS: _____

SURETY PHONE NO: _____

OWNER NAME: _____

OWNER ADDRESS: _____

OWNER PHONE NO: _____

OBLIGEE NAME: _____
**(If contracting entity is different from
the owner, the contracting public entity)**

OBLIGEE ADDRESS: _____

OBLIGEE PHONE NO: _____

BOND AMOUNT: _____

CONTRACT NO: _____
(If applicable)

DESCRIPTION OF WORK: _____

PROJECT LOCATION: _____

LEGAL DESCRIPTION: _____
(If applicable)

FRONT PAGE

All other bond page(s) are deemed subsequent to this page regardless of any page number(s) that may be printed thereon.

PUBLIC CONSTRUCTION BOND

Bond No. _____
(enter bond number)

BY THIS BOND, We _____, as Principal and _____, a corporation, as Surety, are bound to _____, herein called Owner, in the sum of \$_____, for payment of which we bind ourselves, our heirs, personal representatives, successors, and assigns, jointly and severally.

THE CONDITION OF THIS BOND is that if Principal:

1. Performs the contract dated _____, _____, between Principal and Owner for construction of _____, the contract being made a part of this bond by reference, at the times and in the manner prescribed in the contract; and
2. Promptly makes payments to all claimants, as defined in Section [255.05](#)(1), Florida Statutes, supplying Principal with labor, materials, or supplies, used directly or indirectly by Principal in the prosecution of the work provided for in the contract; and
3. Pays Owner all losses, damages, expenses, costs, and attorney's fees, including appellate proceedings, that Owner sustains because of a default by Principal under the contract; and
4. Performs the guarantee of all work and materials furnished under the contract for the time specified in the contract, then this bond is void; otherwise it remains in full force.

Any action instituted by a claimant under this bond for payment must be in accordance with the notice and time limitation provisions in Section [255.05](#)(2), Florida Statutes.

Any changes in or under the contract documents and compliance or noncompliance with any formalities connected with the contract or the changes does not affect Surety's obligation under this bond.

DATED ON _____,

(Name of Principal)

By _____
(As Attorney in Fact)

(Name of Surety)

SECTION 620 – Sample Certificate of Liability Insurance

CERTIFICATE OF LIABILITY INSURANCE	
PRODUCER	THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.
	COMPANIES AFFORDING COVERAGE
INSURED	COMPANY A -
	COMPANY B -
	COMPANY C -
	COMPANY D -
	COMPANY E -

COVERAGES

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED NOTWITHSTANDING ANY REQUIREMENT TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN THE INSURANCE ACCORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.							
INSR LTR	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/D/YY)	LIMITS		
A	GENERAL LIABILITY <input type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS MADE - <input type="checkbox"/> OCCUR <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>				EACH OCCURRENCE	\$ 1,000,000	
					FIRE DAMAGE (Any One Fire)	\$ 50,000	
					MED. EXP. (Any One Person)	\$ 5,000	
					PERSONAL & ADV INJURY	\$ 1,000,000	
					GENERAL AGGREGATE	\$ 1,000,000	
					PRODUCTS – COMP/OP AGG.	\$ 1,000,000	
						\$	
A	AUTOMOBILE LIABILITY <input type="checkbox"/> ANY AUTO <input type="checkbox"/> ALL OWNED AUTOS <input type="checkbox"/> SCHEDULED AUTOS <input type="checkbox"/> HIRED AUTOS <input type="checkbox"/> NON-OWNED AUTOS <input type="checkbox"/> <input type="checkbox"/>				COMBINED SINGLE LIMIT (Ea. Occurrence)	\$ 1,000,000	
					BODILY INJURY (Per Person)	\$	
					BODILY INJURY (Per Accident)	\$	
					PROPERTY DAMAGE	\$	
	GARAGE LIABILITY <input type="checkbox"/> <input type="checkbox"/>				AUTO ONLY – EA ACCIDENT	\$	
					OTHER THAN	EA ACC	\$
						AUTO ONLY	AGG
A	EXCESS LIABILITY <input type="checkbox"/> CLAIMS MADE <input type="checkbox"/> DEDUCTIBLE <input type="checkbox"/> RETENTION \$				EACH OCCURRENCE		
					AGGREGATE	\$	
						\$	
						\$	
A	WORKER'S COMPENSATION AND EMPLOYER'S LIABILITY THE PROPRIETOR/PARTNERS/ EXECUTIVE OFFICERS ARE: <input type="checkbox"/> INCL <input type="checkbox"/> EXCL				<input type="checkbox"/> WC STATUTORY LIMITS		
					E.L. EACH ACCIDENT	\$ 100,000	
					E.L. DISEASE – EA	\$ 500,000	
					E.L. DISEASE-POLICY LIMIT	\$ 100,000	
	OTHER: BUILDER'S RISK				FULL REPLACEMENT COST OF THE WORK		
DESCRIPTION OF OPERATIONS/LOCATIONS VEHICLES/SPECIAL ITEMS							
CERTIFICATE HOLDER		ADDITIONAL INSURED; INSURER LETTER:		CANCELLATION			
ADDITIONAL INSURED: INDIAN RIVER COUNTY 1801 27 TH STREET, VERO BEACH, FL 32960-3388				SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING COMPANY WILL ENDEAVOR TO MAIL 30 DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT. FAILURE TO MAIL SUCH NOTICE SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE COMPANY, ITS AGENTS OR REPRESENTATIVES.			
				AUTHORIZED REPRESENTATIVE			

**SECTION 00622 – Contractor’s Application for Payment
INDIAN RIVER COUNTY FIRE STATION 7**

Application for Payment No. _____
For Work Accomplished through the period of _____ through _____

To: Indian River County (OWNER)
From: _____ (CONTRACTOR)

Project No.: IRC-1911
FM No.: N/A
Bid No.: 2024041

1) Attach detailed schedule and copies of all paid invoices.

1.	Original Contract Price:	\$	_____
2.	Net change by Change Orders and Written Amendments (+ or -):	\$	_____
3.	Current Contract Price (1 plus 2):	\$	_____
4.	Total completed and stored to date:	\$	_____
5.	Retainage (per Agreement):		
	<u>5%</u> of completed Work:		
	_____ % of retainage:	\$	_____
	Total Retainage:	\$	_____
6.	Total completed and stored to date less retainage (4 minus 5):	\$	_____
7.	Less previous Application for Payments:	\$	_____
8.	DUE THIS APPLICATION (6 MINUS 7):	\$	_____

CONTRACTOR'S CERTIFICATION:

UNDER PENALTY OF PERJURY, the undersigned CONTRACTOR certifies that (1) the labor and materials listed on this request for payment have been used in the construction of this Work; (2) payment received from the last pay request has been used to make payments to all subcontractors, laborers, materialmen and suppliers except as listed on Attachment A, below; (3) title of all Work, materials and equipment incorporated in said Work or otherwise listed in or covered by this Application for Payment will pass to OWNER at time of payment free and clear of all Liens, security interests and encumbrances (except such as are covered by a Bond acceptable to OWNER indemnifying OWNER against any such Lien, security interest or encumbrance); (4) all Work covered by this Application for Payment is in accordance with the Contract Documents and not defective; and (5) If this Periodic Estimate is for a Final Payment to project or improvement, I further certify that all persons doing work upon or furnishing materials or supplies for this project or improvement under this foregoing contract have been paid in full, and that all taxes imposed by Chapter 212 Florida Statutes, (Sales and Use Tax Act, as Amended) have been paid and discharged, and that I have no claims against the OWNER.

Attached to or submitted with this form are:

1. Signed release of lien forms (partial or final as applicable) from all subcontractors, laborers, materialmen and suppliers except as listed on Attachment A, together with an explanation as to why any release of lien form is not included;

2. Updated Construction Schedule per [Specification Section 01310](#).

Dated _____

By: _____
(CONTRACTOR – must be signed by
an Officer of the Corporation)

Print Name and Title

STATE OF _____

COUNTY OF _____

Sworn to (or affirmed) and subscribed before me by means of physical presence or online
notarization, this _____ day of _____ 20_____, by _____
(name of person making statement).

(Signature of Notary Public - State of Florida)
(Print, Type, or Stamp Commissioned Name of Notary Public)

who is personally known to me or who has produced
_____ as identification.

Please remit payment to:

Contractor's Name: _____

Address: _____

[The remainder of this page was left blank intentionally]

SURETY'S CONSENT OF PAYMENT TO CONTRACTOR:

The Surety, _____

_____, a corporation, in accordance with Public Construction Bond Number _____, hereby consents to payment by the OWNER to the CONTRACTOR, for the amounts specified in this CONTRACTOR'S APPLICATION FOR PAYMENT.

TO BE EXECUTED BY CORPORATE SURETY:

Attest:

Secretary

Corporate Surety

Business Address

BY: _____

Print Name: _____

Title: _____

(Affix Corporate SEAL)

STATE OF _____

COUNTY OF _____

Sworn to (or affirmed) and subscribed before me by means of physical presence or online notarization, this ____ day of _____ 20____, by _____ (name of person making statement).

(Signature of Notary Public - State of Florida)
(Print, Type, or Stamp Commissioned Name of Notary Public)

who is personally known to me or who has produced _____ as identification.

[The remainder of this page was left blank intentionally]

CERTIFICATION OF INDIAN RIVER COUNTY PROJECT MANAGER:

I certify that I have reviewed the above and foregoing Periodic Estimate for Partial Payment; that to the best of my knowledge and belief it appears to be a reasonably accurate statement of the work performed and/or material supplied by the Contractor. I am not certifying as to whether or not the Contractor has paid all subcontractors, laborers, materialmen and suppliers because I am not in a position to accurately determine that issue.

Dated _____

SIGNATURE

CERTIFICATION OF INDIAN RIVER COUNTY INSPECTOR:

I have checked the estimate against the Contractor's Schedule of Amounts for Contract Payments and the notes and reports of my inspections of the project. To the best of my knowledge, this statement of work performed and/or materials supplied appears to be reasonably accurate, that the Contractor appears to be observing the requirements of the Contract with respect to construction, and that the Contractor should be paid the amount requested above, unless otherwise noted by me. I am not certifying as to whether or not the Contractor has paid all subcontractors, laborers, materialmen and suppliers because I am not in a position to accurately determine that issue.

Dated _____

SIGNATURE

[The Remainder of This Page Was Left Blank Intentionally]

ATTACHMENT A

- 1. List of all subcontractors, laborers, materialmen and suppliers who have not been paid from the payment received from the last Pay Request and the reason why they were not paid (attach additional pages as necessary):**

- 2. List of all subcontractors, laborers, materialmen and suppliers for which a signed release of lien form (partial or final as applicable) is not included with this Pay Request, together with an explanation as to why the release of lien form is not included (attach additional pages as necessary):**

SECTION 00630 – Certificate of Substantial Completion

Date of Issuance: _____, 20____

OWNER: Indian River County
CONTRACTOR: _____
CONTRACT FOR: INDIAN RIVER COUNTY FIRE STATION 7
Project No.: IRC-1911
FM No.: N/A

Project Description: ***The proposed project includes the construction of a 9,035 square foot new Fire Station/EMS building located at 9700 26th PL Fellsmere, FL. The space will be split between dorm, office, facility and equipment storage, as well as a three bay apparatus room. The building will consist of a single-story concrete block structure with a standing seam metal roof over self-sealing underlayment. Civil site work will include the construction of a paved road along 98th Avenue: and construction of concrete driveway and parking lot. Proposed work will also include installation of drainage structures, construction of drainage swales, utility pipework for forcemains and watermains, and the construction of a lift station.***

OWNER's Bid No. 2024041

This Certificate of Substantial Completion applies to all Work under the Contract Documents or to the following specified parts thereof:

To:

OWNER

And To:

CONTRACTOR

The Work to which this Certificate applies has been inspected by authorized representatives of OWNER, CONTRACTOR and ENGINEER, and that Work is hereby declared to be substantially complete in accordance with the Contract Documents on

DATE OF SUBSTANTIAL COMPLETION

A tentative list of items to be completed or corrected is attached hereto. This list may not be all-inclusive, and the failure to include an item in it does not alter the responsibility of CONTRACTOR to complete all the Work in accordance with the Contract Documents. The items in the tentative list shall be completed or corrected by CONTRACTOR within 30 calendar days of the above date of Substantial Completion.

The responsibilities between OWNER and CONTRACTOR for security, operation, safety, maintenance, heat, utilities, insurance and warranties and guarantees shall be as follows:

OWNER:

CONTRACTOR:

The following documents are attached to and made a part of this Certificate:

[For items to be attached see definition of Substantial Completion as supplemented and other specifically noted conditions precedent to achieving Substantial Completion as required by Contract Documents.]

This certificate does not constitute an acceptance of Work not in accordance with the Contract Documents nor is it a release of CONTRACTOR's obligation to complete the Work in accordance with the Contract Documents.

Executed by ENGINEER on: _____ (Date).

ENGINEER: _____

By: _____
(Authorized Signature)

CONTRACTOR accepts this Certificate of Substantial Completion on _____ (date).

CONTRACTOR: _____

By: _____
(Authorized Signature)

OWNER accepts this Certificate of Substantial Completion on _____ (date).

OWNER: INDIAN RIVER COUNTY _____

By: _____
(Authorized Signature)

*** * END OF SECTION * ***

**SECTION 00632 - CONTRACTOR'S FINAL CERTIFICATION OF
THE WORK**
(TO ACCOMPANY CONTRACTOR'S FINAL APPLICATION FOR PAYMENT)

PROJECT NAME: **INDIAN RIVER COUNTY FIRE STATION 7**
PROJECT NO: **IRC-1911**

STATE OF _____
COUNTY OF _____

Personally before me the undersigned officer, authorized by the laws of said state to administer oaths, comes _____, who on oath says: That he is the CONTRACTOR with whom Indian River County, Florida, a political subdivision of said state, did on the _____ day of _____, 20____, enter into a contract for the performance of certain work, more particularly described as follows:

The proposed project includes the construction of a 9,035 square foot new Fire Station/EMS building located at 9700 26th PL Fellsmere, FL. The space will be split between dorm, office, facility and equipment storage, as well as a three bay apparatus room. The building will consist of a single-story concrete block structure with a standing seam metal roof over self-sealing underlayment. Civil site work will include the construction of a paved road along 98th Avenue: and construction of concrete driveway and parking lot. Proposed work will also include installation of drainage structures, construction of drainage swales, utility pipework for forcemains and watermains, and the construction of a lift station.

UNDER PENALTY OF PERJURY, affiant further says that said construction has been completed and the Contract therefore fully performed and final payment is now due and that all liens of all firms and individuals contracting directly with or directly employed by such CONTRACTOR have been paid in full EXCEPT:

Name	Description/Amount
_____	_____
_____	_____

who have not been paid and who are due the amount set forth.

Affiant further says that:

1. CONTRACTOR has reviewed the Contract Documents.
2. CONTRACTOR has reviewed the Work for compliance with the Contract Documents.
3. CONTRACTOR has completed the Work in accordance with the Contract Documents.

4. All equipment and systems have been tested in the presence of the ENGINEER or his representative and are fully operational with no defects or deficiencies except as listed below.

5. The Work is complete and ready for final acceptance by the OWNER.
6. CONTRACTOR hereby certifies that it has no claims against the OWNER.

(Corporate Seal)

(Contractor)

By: _____

STATE OF _____

COUNTY OF _____

Sworn to (or affirmed) and subscribed before me by means of physical presence or online notarization, this _____ day OF _____ of 20____, by _____

(name of person making statement).

(Signature of Notary Public - State of Florida)
(Print, Type, or Stamp Commissioned Name of Notary Public)

who is personally known to me or who has produced _____ as identification.

+ + END OF SECTION + +

SECTION 00634 - PROFESSIONAL SURVEYOR AND MAPPER'S CERTIFICATION AS TO ELEVATIONS AND LOCATIONS OF THE WORK

(TO BE COMPLETED BY A FLORIDA PROFESSIONAL SURVEYOR AND MAPPER RETAINED BY THE CONTRACTOR AND TO ACCOMPANY CONTRACTOR'S FINAL APPLICATION FOR PAYMENT)

I CERTIFY that I am a Florida Professional Surveyor and Mapper retained by:

(Insert name of CONTRACTOR)

Who is the CONTRACTOR for the following Project:

PROJECT NAME: INDIAN RIVER COUNTY FIRE STATION 7

PROJECT # IRC-1911

I FURTHER CERTIFY that I have personally performed the survey work for the preparation of Record Drawings for the CONTRACTOR for this project or that such work was performed under my direct control and supervision.

I FURTHER CERTIFY that all constructed elevations and locations of the Work are in conformance with the Contract Documents, except for discrepancies listed below.

[Attach additional sheets as necessary]

(SURVEYOR'S SEAL)

CERTIFIED BY: _____

Printed Name: _____

Florida Professional Surveyor and Mapper Registration Number: _____

Date Signed and Sealed by Professional Surveyor and Mapper: _____

Company Name: _____

Company Address: _____

Telephone Number: _____

STANDARD
GENERAL CONDITIONS
OF THE
CONSTRUCTION CONTRACT

Prepared by

ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE

and

Issued and Published Jointly By

PROFESSIONAL ENGINEERS IN PRIVATE PRACTICE
a practice division of the
NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS

AMERICAN CONSULTING ENGINEERS COUNCIL

AMERICAN SOCIETY OF CIVIL ENGINEERS

This document has been approved and endorsed by

The Associated General Contractors of America

Construction Specifications Institute

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National Society of Professional Engineers
1420 King Street, Alexandria, VA 22314

American Consulting Engineers Council
1015 15th Street N.W., Washington, DC 20005

American Society of Civil Engineers
345 East 47th Street, New York, NY 10017

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GENERAL CONDITIONS

ARTICLE 1 - DEFINITIONS AND TERMINOLOGY

1.01 *Defined Terms*

A. Wherever used in the Contract Documents and printed with initial or all capital letters, the terms listed below will have the meanings indicated which are applicable to both the singular and plural thereof.

1. *Addenda*--Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the Contract Documents.

2. *Agreement*--The written instrument which is evidence of the agreement between OWNER and CONTRACTOR covering the Work.

3. *Application for Payment*--The form acceptable to ENGINEER which is to be used by CONTRACTOR during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.

4. *Asbestos*--Any material that contains more than one percent asbestos and is friable or is releasing asbestos fibers into the air above current action levels established by the United States Occupational Safety and Health Administration.

5. *Bid*--The offer or proposal of a bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

6. *Bidding Documents*--The Bidding Requirements and the proposed Contract Documents (including all Addenda issued prior to receipt of Bids).

7. *Bidding Requirements*--The Advertisement or Invitation to Bid, Instructions to Bidders, Bid security form, if any, and the Bid form with any supplements.

8. *Bonds*--Performance and payment bonds and other instruments of security.

9. *Change Order*--A document recommended by ENGINEER which is signed by CONTRACTOR and OWNER and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, issued on or after the Effective Date of the Agreement.

10. *Claim*--A demand or assertion by OWNER or CONTRACTOR seeking an adjustment of Contract Price or Contract Times, or both, or other relief with respect to the terms of the Contract. A

demand for money or services by a third party is not a Claim.

11. *Contract*--The entire and integrated written agreement between the OWNER and CONTRACTOR concerning the Work. The Contract supersedes prior negotiations, representations, or agreements, whether written or oral.

12. *Contract Documents*--The Contract Documents establish the rights and obligations of the parties and include the Agreement, Addenda (which pertain to the Contract Documents), CONTRACTOR's Bid (including documentation accompanying the Bid and any post Bid documentation submitted prior to the Notice of Award) when attached as an exhibit to the Agreement, the Notice to Proceed, the Bonds, these General Conditions, the Supplementary Conditions, the Specifications and the Drawings as the same are more specifically identified in the Agreement, together with all Written Amendments, Change Orders, Work Change Directives, Field Orders, and ENGINEER's written interpretations and clarifications issued on or after the Effective Date of the Agreement. Approved Shop Drawings and the reports and drawings of subsurface and physical conditions are not Contract Documents. Only printed or hard copies of the items listed in this paragraph are Contract Documents. Files in electronic media format of text, data, graphics, and the like that may be furnished by OWNER to CONTRACTOR are not Contract Documents.

13. *Contract Price*--The moneys payable by OWNER to CONTRACTOR for completion of the Work in accordance with the Contract Documents as stated in the Agreement (subject to the provisions of paragraph 11.03 in the case of Unit Price Work).

14. *Contract Times*--The number of days or the dates stated in the Agreement to: (i) achieve Substantial Completion; and (ii) complete the Work so that it is ready for final payment as evidenced by ENGINEER's written recommendation of final payment.

15. *CONTRACTOR*--The individual or entity with whom OWNER has entered into the Agreement.

16. *Cost of the Work*--See paragraph 11.01.A for definition.

17. *Drawings*--That part of the Contract Documents prepared or approved by ENGINEER which graphically shows the scope, extent, and character of the Work to be performed by CONTRACTOR. Shop Drawings and other CONTRACTOR submittals are not Drawings as so defined.

18. *Effective Date of the Agreement*--The date indicated in the Agreement on which it becomes effective, but if no such date is indicated, it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.

19. *ENGINEER*--The individual or entity named as such in the Agreement.

20. *ENGINEER's Consultant*--An individual or entity having a contract with ENGINEER to furnish services as ENGINEER's independent professional associate or consultant with respect to the Project and who is identified as such in the Supplementary Conditions.

~~21. *Field Order*--A written order issued by ENGINEER which requires minor changes in the Work but which does not involve a change in the Contract Price or the Contract Times.~~

22. *General Requirements*--Sections of Division 1 of the Specifications. The General Requirements pertain to all sections of the Specifications.

23. *Hazardous Environmental Condition*--The presence at the Site of Asbestos, PCBs, Petroleum, Hazardous Waste, or Radioactive Material in such quantities or circumstances that may present a substantial danger to persons or property exposed thereto in connection with the Work.

24. *Hazardous Waste*--The term Hazardous Waste shall have the meaning provided in Section 1004 of the Solid Waste Disposal Act (42 USC Section 6903) as amended from time to time.

25. *Laws and Regulations; Laws or Regulations*--Any and all applicable laws, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.

26. *Liens*--Charges, security interests, or encumbrances upon Project funds, real property, or personal property.

27. *Milestone*--A principal event specified in the Contract Documents relating to an intermediate completion date or time prior to Substantial Completion of all the Work.

28. *Notice of Award*--The written notice by OWNER to the apparent successful bidder stating that upon timely compliance by the apparent successful bidder with the conditions precedent listed therein, OWNER will sign and deliver the Agreement.

29. *Notice to Proceed*--A written notice given by OWNER to CONTRACTOR fixing the date on which

the Contract Times will commence to run and on which CONTRACTOR shall start to perform the Work under the Contract Documents.

30. *OWNER*--The individual, entity, public body, or authority with whom CONTRACTOR has entered into the Agreement and for whom the Work is to be performed.

31. *Partial Utilization*--Use by OWNER of a substantially completed part of the Work for the purpose for which it is intended (or a related purpose) prior to Substantial Completion of all the Work.

32. *PCBs*--Polychlorinated biphenyls.

33. *Petroleum*--Petroleum, including crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute), such as oil, petroleum, fuel oil, oil sludge, oil refuse, gasoline, kerosene, and oil mixed with other non-Hazardous Waste and crude oils.

34. *Project*--The total construction of which the Work to be performed under the Contract Documents may be the whole, or a part as may be indicated elsewhere in the Contract Documents.

35. *Project Manual*--The bound documentary information prepared for bidding and constructing the Work. A listing of the contents of the Project Manual, which may be bound in one or more volumes, is contained in the table(s) of contents.

36. *Radioactive Material*--Source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954 (42 USC Section 2011 et seq.) as amended from time to time.

37. *Resident Project Representative*--The authorized representative of ENGINEER who may be assigned to the Site or any part thereof.

38. *Samples*--Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portion of the Work will be judged.

39. *Shop Drawings*--All drawings, diagrams, illustrations, schedules, and other data or information which are specifically prepared or assembled by or for CONTRACTOR and submitted by CONTRACTOR to illustrate some portion of the Work.

40. *Site*--Lands or areas indicated in the Contract Documents as being furnished by OWNER upon which the Work is to be performed, including rights-of-way and easements for access thereto, and

such other lands furnished by OWNER which are designated for the use of CONTRACTOR.

41. *Specifications*--That part of the Contract Documents consisting of written technical descriptions of materials, equipment, systems, standards, and workmanship as applied to the Work and certain administrative details applicable thereto.

42. *Subcontractor*--An individual or entity having a direct contract with CONTRACTOR or with any other Subcontractor for the performance of a part of the Work at the Site.

43. *Substantial Completion*--The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of ENGINEER, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms "substantially complete" and "substantially completed" as applied to all or part of the Work refer to Substantial Completion thereof.

44. *Supplementary Conditions*--That part of the Contract Documents which amends or supplements these General Conditions.

45. *Supplier*--A manufacturer, fabricator, supplier, distributor, materialman, or vendor having a direct contract with CONTRACTOR or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by CONTRACTOR or any Subcontractor.

46. *Underground Facilities*--All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.

47. *Unit Price Work*--Work to be paid for on the basis of unit prices.

48. *Work*--The entire completed 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.

49. *Work Change Directive*--A written statement to CONTRACTOR issued on or after the

Effective Date of the Agreement and signed by OWNER and recommended by ENGINEER ordering an addition, deletion, or revision in the Work, or responding to differing or unforeseen subsurface or physical conditions under which the Work is to be performed or to emergencies. A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the change ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order following negotiations by the parties as to its effect, if any, on the Contract Price or Contract Times.

50. *Written Amendment*--A written statement modifying the Contract Documents, signed by OWNER and CONTRACTOR on or after the Effective Date of the Agreement and normally dealing with the nonengineering or nontechnical rather than strictly construction-related aspects of the Contract Documents.

1.02 Terminology

A. Intent of Certain Terms or Adjectives

1. Whenever in the Contract Documents the terms "as allowed," "as approved," or terms of like effect or import are used, or the adjectives "reasonable," "suitable," "acceptable," "proper," "satisfactory," or adjectives of like effect or import are used to describe an action or determination of ENGINEER as to the Work, it is intended that such action or determination will be solely to evaluate, in general, the completed Work for compliance with the requirements of and information in the Contract Documents and conformance with the design concept of the completed Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective shall not be effective to assign to ENGINEER any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of paragraph 9.10 or any other provision of the Contract Documents.

B. Day

1. The word "day" shall constitute a calendar day of 24 hours measured from midnight to the next midnight.

C. Defective

1. The word "defective," when modifying the word "Work," refers to Work that is unsatisfactory, faulty, or deficient in that it does not conform to the Contract Documents or does not meet the requirements of any inspection,

reference standard, test, or approval referred to in the Contract Documents, or has been damaged prior to ENGINEER's recommendation of final payment (unless responsibility for the protection thereof has been assumed by OWNER at Substantial Completion in accordance with paragraph 14.04 or 14.05).

D. *Furnish, Install, Perform, Provide*

~~1. The word "furnish," when used in connection with services, materials, or equipment, shall mean to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.~~

~~2. The word "install," when used in connection with services, materials, or equipment, shall mean to put into use or place in final position said services, materials, or equipment complete and ready for intended use.~~

~~3. The words "perform" or "provide," when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use.~~

4. When "furnish," "install," "perform," or "provide" is not used in connection with services, materials, or equipment in a context clearly requiring an obligation of CONTRACTOR, "provide" is implied.

E. Unless stated otherwise in the Contract Documents, words or phrases which have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

ARTICLE 2 - PRELIMINARY MATTERS

2.01 *Delivery of Bonds*

A. When CONTRACTOR delivers the executed Agreements to OWNER, CONTRACTOR shall also deliver to OWNER such Bonds as CONTRACTOR may be required to furnish.

2.02 *Copies of Documents*

A. OWNER shall furnish to CONTRACTOR up to ten copies of the Contract Documents. Additional copies will be furnished upon request at the cost of reproduction.

2.03 *Commencement of Contract Times; Notice to Proceed*

A. The Contract Times will commence to run on the thirtieth day after the Effective Date of the Agreement or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 30 days after the Effective Date of the Agreement. In no event will the Contract Times commence to run later than the ninetieth day after the day of Bid opening or the thirtieth day after the Effective Date of the Agreement, whichever date is earlier.

2.04 *Starting the Work*

A. CONTRACTOR shall start to perform the Work on the date when the Contract Times commence to run. No Work shall be done at the Site prior to the date on which the Contract Times commence to run.

2.05 *Before Starting Construction*

A. *CONTRACTOR's Review of Contract Documents:* Before undertaking each part of the Work, CONTRACTOR shall carefully study and compare the Contract Documents and check and verify pertinent figures therein and all applicable field measurements. CONTRACTOR shall promptly report in writing to ENGINEER any conflict, error, ambiguity, or discrepancy which CONTRACTOR may discover and shall obtain a written interpretation or clarification from ENGINEER before proceeding with any Work affected thereby; however, CONTRACTOR shall not be liable to OWNER or ENGINEER for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless CONTRACTOR knew or reasonably should have known thereof.

B. *Preliminary Schedules:* Within ten days after the Effective Date of the Agreement (unless otherwise specified in the General Requirements), CONTRACTOR shall submit to ENGINEER for its timely review:

1. a preliminary progress schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract Documents;

2. a preliminary schedule of Shop Drawing and Sample submittals which will list each required submittal and the times for submitting, reviewing, and processing such submittal; and

3. a preliminary schedule of values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the

Work into component parts in sufficient detail to serve as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

~~C. *Evidence of Insurance:* Before any Work at the Site is started, CONTRACTOR and OWNER shall each deliver to the other, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance which either of them or any additional insured may reasonably request) which CONTRACTOR and OWNER respectively are required to purchase and maintain in accordance with Article 5.~~

2.06 *Preconstruction Conference*

~~A. Within 20 days after the Contract Times start to run, but before any Work at the Site is started, a conference attended by CONTRACTOR, ENGINEER, and others as appropriate will be held to establish a working understanding among the parties as to the Work and to discuss the schedules referred to in paragraph 2.05.B, procedures for handling Shop Drawings and other submittals, processing Applications for Payment, and maintaining required records.~~

2.07 *Initial Acceptance of Schedules*

A. Unless otherwise provided in the Contract Documents, at least ten days before submission of the first Application for Payment a conference attended by CONTRACTOR, ENGINEER, and others as appropriate will be held to review for acceptability to ENGINEER as provided below the schedules submitted in accordance with paragraph 2.05.B. CONTRACTOR shall have an additional ten days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to CONTRACTOR until acceptable schedules are submitted to ENGINEER.

1. The progress schedule will be acceptable to ENGINEER if it provides an orderly progression of the Work to completion within any specified Milestones and the Contract Times. Such acceptance will not impose on ENGINEER responsibility for the progress schedule, for sequencing, scheduling, or progress of the Work nor interfere with or relieve CONTRACTOR from CONTRACTOR's full responsibility therefor.

2. CONTRACTOR's schedule of Shop Drawing and Sample submittals will be acceptable to ENGINEER if it provides a workable arrangement for reviewing and processing the required submittals.

3. CONTRACTOR's schedule of values will be acceptable to ENGINEER as to form and substance if it provides a reasonable allocation of the Contract Price to component parts of the Work.

ARTICLE 3 - CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE

3.01 *Intent*

A. The Contract Documents are complementary; what is called for by one is as binding as if called for by all.

B. It is the intent of the Contract Documents to describe a functionally complete Project (or part thereof) to be constructed in accordance with the Contract Documents. Any labor, documentation, services, materials, or equipment that may reasonably be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the intended result will be provided whether or not specifically called for at no additional cost to OWNER.

C. Clarifications and interpretations of the Contract Documents shall be issued by ENGINEER as provided in Article 9.

3.02 *Reference Standards*

A. *Standards, Specifications, Codes, Laws, and Regulations*

1. Reference to standards, specifications, manuals, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, shall mean the standard, specification, manual, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Agreement if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.

2. No provision of any such standard, specification, manual or code, or any instruction of a Supplier shall be effective to change the duties or responsibilities of OWNER, CONTRACTOR, or ENGINEER, or any of their subcontractors, consultants, agents, or employees from those set forth in the Contract Documents, nor shall any such provision or instruction be effective to assign to OWNER, ENGINEER, or any of ENGINEER's Consultants, agents, or employees any duty or authority to supervise or direct the performance

of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the Contract Documents.

3.03 Reporting and Resolving Discrepancies

A. Reporting Discrepancies

1. If, during the performance of the Work, CONTRACTOR discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents or between the Contract Documents and any provision of any Law or Regulation applicable to the performance of the Work or of any standard, specification, manual or code, or of any instruction of any Supplier, CONTRACTOR shall report it to ENGINEER in writing at once. CONTRACTOR shall not proceed with the Work affected thereby (except in an emergency as required by paragraph 6.16.A) until an amendment or supplement to the Contract Documents has been issued by one of the methods indicated in paragraph 3.04; provided, however, that CONTRACTOR shall not be liable to OWNER or ENGINEER for failure to report any such conflict, error, ambiguity, or discrepancy unless CONTRACTOR knew or reasonably should have known thereof.

B. Resolving Discrepancies

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the Contract Documents shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between the provisions of the Contract Documents and:

a. the provisions of any standard, specification, manual, code, or instruction (whether or not specifically incorporated by reference in the Contract Documents); or

b. the provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

3.04 Amending and Supplementing Contract Documents

A. The Contract Documents may be amended to provide for additions, deletions, and revisions in the Work or to modify the terms and conditions thereof in one or more of the following ways: (i) a Written Amendment; (ii) a Change Order; or (iii) a Work Change Directive.

B. The requirements of the Contract Documents may be supplemented, and minor variations and deviations in the Work may be authorized, by one or more of the following ways: ~~(i) a Field Order~~; (ii) ENGINEER's approval of a Shop Drawing or Sample; or (iii) ENGINEER's written interpretation or clarification.

3.05 Reuse of Documents

A. CONTRACTOR and any Subcontractor or Supplier or other individual or entity performing or furnishing any of the Work under a direct or indirect contract with OWNER: (i) shall not have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of ENGINEER or ENGINEER's Consultant, including electronic media editions; and (ii) shall not reuse any of such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of OWNER and ENGINEER and specific written verification or adaption by ENGINEER. This prohibition will survive final payment, completion, and acceptance of the Work, or termination or completion of the Contract. Nothing herein shall preclude CONTRACTOR from retaining copies of the Contract Documents for record purposes.

ARTICLE 4 - AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; REFERENCE POINTS

4.01 Availability of Lands

A. OWNER shall furnish the Site. OWNER shall notify CONTRACTOR of any encumbrances or restrictions not of general application but specifically related to use of the Site with which CONTRACTOR must comply in performing the Work. OWNER will obtain in a timely manner and pay for easements for permanent structures or permanent changes in existing facilities. If CONTRACTOR and OWNER are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, as a result of any delay in OWNER's furnishing the Site, CONTRACTOR may make a Claim therefor as provided in paragraph 10.05.

B. Upon reasonable written request, OWNER shall furnish CONTRACTOR with a current statement of record legal title and legal description of the lands upon which the Work is to be performed and OWNER's interest therein as necessary for giving notice of or filing a mechanic's or construction lien against such lands in accordance with applicable Laws and Regulations.

C. CONTRACTOR shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

4.02 *Subsurface and Physical Conditions*

A. *Reports and Drawings:* The Supplementary Conditions identify:

1. those reports of explorations and tests of subsurface conditions at or contiguous to the Site that ENGINEER has used in preparing the Contract Documents; and

2. those drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities) that ENGINEER has used in preparing the Contract Documents.

B. *Limited Reliance by CONTRACTOR on Technical Data Authorized:* CONTRACTOR may rely upon the general accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," CONTRACTOR may not rely upon or make any Claim against OWNER, ENGINEER, or any of ENGINEER's Consultants with respect to:

1. the completeness of such reports and drawings for CONTRACTOR's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by CONTRACTOR, and safety precautions and programs incident thereto; or

2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or

3. any CONTRACTOR interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions, or information.

4.03 *Differing Subsurface or Physical Conditions*

A. *Notice:* If CONTRACTOR believes that any subsurface or physical condition at or contiguous to the Site that is uncovered or revealed either:

1. is of such a nature as to establish that any "technical data" on which CONTRACTOR is entitled to rely as provided in paragraph 4.02 is materially inaccurate; or

2. is of such a nature as to require a change in the Contract Documents; or

3. differs materially from that shown or indicated in the Contract Documents; or

4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

then CONTRACTOR shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency as required by paragraph 6.16.A), notify OWNER and ENGINEER in writing about such condition. CONTRACTOR shall not further disturb such condition or perform any Work in connection therewith (except as aforesaid) until receipt of written order to do so.

B. *ENGINEER's Review:* After receipt of written notice as required by paragraph 4.03.A, ENGINEER will promptly review the pertinent condition, determine the necessity of OWNER's obtaining additional exploration or tests with respect thereto, and advise OWNER in writing (with a copy to CONTRACTOR) of ENGINEER's findings and conclusions.

C. *Possible Price and Times Adjustments*

1. The Contract Price or the Contract Times, or both, will be equitably adjusted to the extent that the existence of such differing subsurface or physical condition causes an increase or decrease in CONTRACTOR's cost of, or time required for, performance of the Work; subject, however, to the following:

a. such condition must meet any one or more of the categories described in paragraph 4.03.A; and

b. with respect to Work that is paid for on a Unit Price Basis, any adjustment in Contract Price will be subject to the provisions of paragraphs 9.08 and 11.03.

2. CONTRACTOR shall not be entitled to any adjustment in the Contract Price or Contract Times if:

a. CONTRACTOR knew of the existence of such conditions at the time CONTRACTOR made a final commitment to OWNER in respect of Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract; or

b. the existence of such condition could reasonably have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas required by the Bidding Requirements or Contract Documents to be conducted by or for CONTRACTOR prior to CONTRACTOR's making such final commitment; or

c. CONTRACTOR failed to give the written notice within the time and as required by paragraph 4.03.A.

3. If OWNER and CONTRACTOR are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, a Claim may be made therefor as provided in paragraph 10.05. However, OWNER, ENGINEER, and ENGINEER's Consultants shall not be liable to CONTRACTOR for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by CONTRACTOR on or in connection with any other project or anticipated project.

4.04 *Underground Facilities*

A. *Shown or Indicated*: The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the Site is based on information and data furnished to OWNER or ENGINEER by the owners of such Underground Facilities, including OWNER, or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:

1. OWNER and ENGINEER shall not be responsible for the accuracy or completeness of any such information or data; and

2. the cost of all of the following will be included in the Contract Price, and CONTRACTOR shall have full responsibility for:

a. reviewing and checking all such information and data,

b. locating all Underground Facilities shown or indicated in the Contract Documents,

c. coordination of the Work with the owners of such Underground Facilities, including OWNER, during construction, and

d. the safety and protection of all such Underground Facilities and repairing any damage thereto resulting from the Work.

B. *Not Shown or Indicated*

1. If an Underground Facility is uncovered or revealed at or contiguous to the Site which was not shown or indicated, or not shown or indicated with reasonable accuracy in the Contract Documents, CONTRACTOR shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by paragraph 6.16.A), identify the owner of such Underground Facility and give written notice to that owner and to OWNER and ENGINEER. ENGINEER will promptly review the Underground Facility and determine the extent, if any, to which a change is required in the Contract Documents to reflect and document the consequences of the existence or location of the Underground Facility. During such time, CONTRACTOR shall be responsible for the safety and protection of such Underground Facility.

2. If ENGINEER concludes that a change in the Contract Documents is required, a Work Change Directive or a Change Order will be issued to reflect and document such consequences. An equitable adjustment shall be made in the Contract Price or Contract Times, or both, to the extent that they are attributable to the existence or location of any Underground Facility that was not shown or indicated or not shown or indicated with reasonable accuracy in the Contract Documents and that CONTRACTOR did not know of and could not reasonably have been expected to be aware of or to have anticipated. If OWNER and CONTRACTOR are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment in Contract Price or Contract Times, OWNER or CONTRACTOR may make a Claim therefor as provided in paragraph 10.05.

4.05 *Reference Points*

A. OWNER shall provide engineering surveys to establish reference points for construction which in ENGINEER's judgment are necessary to enable CONTRACTOR to proceed with the Work. CONTRACTOR shall be responsible for laying out the Work, shall protect and preserve the established reference points and property monuments, and shall make no changes or relocations without the prior written approval of OWNER. CONTRACTOR shall report to ENGINEER whenever any reference point or property monument

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 or property monuments by professionally qualified personnel.

4.06 Hazardous Environmental Condition at Site

A. *Reports and Drawings:* Reference is made to the Supplementary Conditions for the identification of those reports and drawings relating to a Hazardous Environmental Condition identified at the Site, if any, that have been utilized by the ENGINEER in the preparation of the Contract Documents.

B. *Limited Reliance by CONTRACTOR on Technical Data Authorized:* CONTRACTOR may rely upon the general accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," CONTRACTOR may not rely upon or make any Claim against OWNER, ENGINEER or any of ENGINEER's Consultants with respect to:

1. the completeness of such reports and drawings for CONTRACTOR's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by CONTRACTOR and safety precautions and programs incident thereto; or
2. other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings; or
3. any CONTRACTOR interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions or information.

C. CONTRACTOR shall not be responsible for any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work. CONTRACTOR shall be responsible for a Hazardous Environmental Condition created with any materials brought to the Site by CONTRACTOR, Subcontractors, Suppliers, or anyone else for whom CONTRACTOR is responsible.

D. If CONTRACTOR encounters a Hazardous Environmental Condition or if CONTRACTOR or anyone for whom CONTRACTOR is responsible creates a Hazardous Environmental Condition, CONTRACTOR shall immediately: (i) secure or otherwise isolate such condition; (ii) stop all Work in connection with such condition and in any area

affected thereby (except in an emergency as required by paragraph 6.16); and (iii) notify OWNER and ENGINEER (and promptly thereafter confirm such notice in writing). OWNER shall promptly consult with ENGINEER concerning the necessity for OWNER to retain a qualified expert to evaluate such condition or take corrective action, if any.

E. CONTRACTOR shall not be required to resume Work in connection with such condition or in any affected area until after OWNER has obtained any required permits related thereto and delivered to CONTRACTOR written notice: (i) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work; or (ii) specifying any special conditions under which such Work may be resumed safely. If OWNER and CONTRACTOR cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, or both, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by CONTRACTOR, either party may make a Claim therefor as provided in paragraph 10.05.

F. If after receipt of such written notice CONTRACTOR does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then OWNER may order the portion of the Work that is in the area affected by such condition to be deleted from the Work. If OWNER and CONTRACTOR cannot agree as to entitlement to or on the amount or extent, if any, of an adjustment in Contract Price or Contract Times as a result of deleting such portion of the Work, then either party may make a Claim therefor as provided in paragraph 10.05. OWNER may have such deleted portion of the Work performed by OWNER's own forces or others in accordance with Article 7.

G. To the fullest extent permitted by Laws and Regulations, OWNER shall indemnify and hold harmless CONTRACTOR, Subcontractors, ENGINEER, ENGINEER's Consultants and the officers, directors, partners, employees, agents, other consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition: (i) was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be included within the scope of the Work, and (ii) was not created by CONTRACTOR or by anyone for whom CONTRACTOR is responsible. Nothing in this paragraph 4.06.E shall obligate OWNER to indemnify any

individual or entity from and against the consequences of that individual's or entity's own negligence.

H. To the fullest extent permitted by Laws and Regulations, CONTRACTOR shall indemnify and hold harmless OWNER, ENGINEER, ENGINEER's Consultants, and the officers, directors, partners, employees, agents, other consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition created by CONTRACTOR or by anyone for whom CONTRACTOR is responsible. Nothing in this paragraph 4.06.F shall obligate CONTRACTOR to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

I. The provisions of paragraphs 4.02, 4.03, and 4.04 are not intended to apply to a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 5 - BONDS AND INSURANCE

5.01 *Performance, Payment, and Other Bonds*

~~A. CONTRACTOR shall furnish performance and payment Bonds, each in an amount at least equal to the Contract Price as security for the faithful performance and payment of all CONTRACTOR's obligations under the Contract Documents. These Bonds shall remain in effect at least until one year after the date when final payment becomes due, except as provided otherwise by Laws or Regulations or by the Contract Documents. CONTRACTOR shall also furnish such other Bonds as are required by the Contract Documents.~~

B. All Bonds shall be in the form prescribed by the Contract Documents except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. All Bonds signed by an agent must be accompanied by a certified copy of such agent's authority to act.

C. If the surety on any Bond furnished by CONTRACTOR is declared bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or it ceases to

meet the requirements of paragraph 5.01.B, CONTRACTOR shall within 20 days thereafter substitute another Bond and surety, both of which shall comply with the requirements of paragraphs 5.01.B and 5.02.

5.02 *Licensed Sureties and Insurers*

A. All Bonds and insurance required by the Contract Documents to be purchased and maintained by OWNER or CONTRACTOR shall be obtained from surety or insurance companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue Bonds or insurance policies for the limits and coverages so required. Such surety and insurance companies shall also meet such additional requirements and qualifications as may be provided in the Supplementary Conditions.

5.03 *Certificates of Insurance*

A. CONTRACTOR shall deliver to OWNER, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by OWNER or any other additional insured) which CONTRACTOR is required to purchase and maintain. ~~OWNER shall deliver to CONTRACTOR, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by CONTRACTOR or any other additional insured) which OWNER is required to purchase and maintain.~~

5.04 *CONTRACTOR's Liability Insurance*

A. CONTRACTOR shall purchase and maintain such liability and other insurance as is appropriate for the Work being performed and as will provide protection from claims set forth below which may arise out of or result from CONTRACTOR's performance of the Work and CONTRACTOR's other obligations under the Contract Documents, whether it is to be performed by CONTRACTOR, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable:

1. claims under workers' compensation, disability benefits, and other similar employee benefit acts;
2. claims for damages because of bodily injury, occupational sickness or disease, or death of CONTRACTOR's employees;
3. claims for damages because of bodily injury, sickness or disease, or death of any person other than CONTRACTOR's employees;

4. claims for damages insured by reasonably available personal injury liability coverage which are sustained: (i) by any person as a result of an offense directly or indirectly related to the employment of such person by CONTRACTOR, or (ii) by any other person for any other reason;

5. claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom; and

6. claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or use of any motor vehicle.

B. The policies of insurance so required by this paragraph 5.04 to be purchased and maintained shall:

1. with respect to insurance required by paragraphs 5.04.A.3 through 5.04.A.6 inclusive, include as additional insureds (subject to any customary exclusion in respect of professional liability) OWNER, ENGINEER, ENGINEER's Consultants, and any other individuals or entities identified in the Supplementary Conditions, all of whom shall be listed as additional insureds, and include coverage for the respective officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of all such additional insureds, and the insurance afforded to these additional insureds shall provide primary coverage for all claims covered thereby;

2. include at least the specific coverages and be written for not less than the limits of liability provided in the Supplementary Conditions or required by Laws or Regulations, whichever is greater;

3. include completed operations insurance;

4. include contractual liability insurance covering CONTRACTOR's indemnity obligations under paragraphs 6.07, 6.11, and 6.20;

5. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed or renewal refused until at least thirty days prior written notice has been given to OWNER and CONTRACTOR and to each other additional insured identified in the Supplementary Conditions to whom a certificate of insurance has been issued (and the certificates of insurance furnished by the CON-

TRACTOR pursuant to paragraph 5.03 will so provide);

6. remain in effect at least until final payment and at all times thereafter when CONTRACTOR may be correcting, removing, or replacing defective Work in accordance with paragraph 13.07; and

7. with respect to completed operations insurance, and any insurance coverage written on a claims-made basis, remain in effect for at least two years after final payment (and CONTRACTOR shall furnish OWNER and each other additional insured identified in the Supplementary Conditions, to whom a certificate of insurance has been issued, evidence satisfactory to OWNER and any such additional insured of continuation of such insurance at final payment and one year thereafter).

5.05 *OWNER's Liability Insurance*

~~—A. In addition to the insurance required to be provided by CONTRACTOR under paragraph 5.04, OWNER, at OWNER's option, may purchase and maintain at OWNER's expense OWNER's own liability insurance as will protect OWNER against claims which may arise from operations under the Contract Documents.~~

5.06 *Property Insurance*

~~A. Unless otherwise provided in the Supplementary Conditions, OWNER shall purchase and maintain property insurance upon the Work at the Site in the amount of the full replacement cost thereof (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). This insurance shall:~~

~~1. include the interests of OWNER, CONTRACTOR, Subcontractors, ENGINEER, ENGINEER's Consultants, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as an additional insured;~~

~~2. be written on a Builder's Risk "all-risk" or open peril or special causes of loss policy form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, false work, and materials and equipment in transit, and shall insure against at least the following perils or causes of loss: fire, lightning, extended coverage, theft, vandalism and malicious mischief, earthquake, collapse,~~

~~debris removal, demolition occasioned by enforcement of Laws and Regulations, water damage, and such other perils or causes of loss as may be specifically required by the Supplementary Conditions;~~

~~3. include expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects);~~

~~4. cover materials and equipment stored at the Site or at another location that was agreed to in writing by OWNER prior to being incorporated in the Work, provided that such materials and equipment have been included in an Application for Payment recommended by ENGINEER;~~

~~5. allow for partial utilization of the Work by OWNER;~~

~~6. include testing and startup; and~~

~~7. be maintained in effect until final payment is made unless otherwise agreed to in writing by OWNER, CONTRACTOR, and ENGINEER with 30 days written notice to each other additional insured to whom a certificate of insurance has been issued.~~

~~B. OWNER shall purchase and maintain such boiler and machinery insurance or additional property insurance as may be required by the Supplementary Conditions or Laws and Regulations which will include the interests of OWNER, CONTRACTOR, Subcontractors, ENGINEER, ENGINEER's Consultants, and any other individuals or entities identified in the Supplementary Conditions, each of whom is deemed to have an insurable interest and shall be listed as an insured or additional insured.~~

~~C. All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with paragraph 5.06 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least 30 days prior written notice has been given to OWNER and CONTRACTOR and to each other additional insured to whom a certificate of insurance has been issued and will contain waiver provisions in accordance with paragraph 5.07.~~

D. OWNER shall not be responsible for purchasing and maintaining any property insurance specified in this paragraph 5.06 to protect the interests of CONTRACTOR, Subcontractors, or others in the Work to the extent of any deductible amounts that are identified in the Supplementary Conditions. The risk of loss within such identified deductible amount will be

borne by CONTRACTOR, Subcontractors, or others suffering any such loss, and if any of them wishes property insurance coverage within the limits of such amounts, each may purchase and maintain it at the purchaser's own expense.

~~E. If CONTRACTOR requests in writing that other special insurance be included in the property insurance policies provided under paragraph 5.06, OWNER shall, if possible, include such insurance, and the cost thereof will be charged to CONTRACTOR by appropriate Change Order or Written Amendment. Prior to commencement of the Work at the Site, OWNER shall in writing advise CONTRACTOR whether or not such other insurance has been procured by OWNER.~~

5.07 Waiver of Rights

~~A. OWNER and CONTRACTOR intend that all policies purchased in accordance with paragraph 5.06 will protect OWNER, CONTRACTOR, Subcontractors, ENGINEER, ENGINEER's Consultants, and all other individuals or entities identified in the Supplementary Conditions to be listed as insureds or additional insureds (and the officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them) in such policies and will provide primary coverage for all losses and damages caused by the perils or causes of loss covered thereby. All such policies shall contain provisions to the effect that in the event of payment of any loss or damage the insurers will have no rights of recovery against any of the insureds or additional insureds thereunder. OWNER and CONTRACTOR waive all rights against each other and their respective officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them for all losses and damages caused by, arising out of or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Subcontractors, ENGINEER, ENGINEER's Consultants, and all other individuals or entities identified in the Supplementary Conditions to be listed as insureds or additional insureds (and the officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them) under such policies for losses and damages so caused. None of the above waivers shall extend to the rights that any party making such waiver may have to the proceeds of insurance held by OWNER as trustee or otherwise payable under any policy so issued.~~

~~B. OWNER waives all rights against CONTRACTOR, Subcontractors, ENGINEER, ENGINEER's Consultants, and the officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them for:~~

~~1.—loss due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to OWNER's property or the Work caused by, arising out of, or resulting from fire or other peril whether or not insured by OWNER; and~~

~~2.—loss or damage to the completed Project or part thereof caused by, arising out of, or resulting from fire or other insured peril or cause of loss covered by any property insurance maintained on the completed Project or part thereof by OWNER during partial utilization pursuant to paragraph 14.05, after Substantial Completion pursuant to paragraph 14.04, or after final payment pursuant to paragraph 14.07.~~

~~C. Any insurance policy maintained by OWNER covering any loss, damage or consequential loss referred to in paragraph 5.07.B shall contain provisions to the effect that in the event of payment of any such loss, damage, or consequential loss, the insurers will have no rights of recovery against CONTRACTOR, Subcontractors, ENGINEER, or ENGINEER's Consultants and the officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them.~~

5.08 *Receipt and Application of Insurance Proceeds*

~~A. Any insured loss under the policies of insurance required by paragraph 5.06 will be adjusted with OWNER and made payable to OWNER as fiduciary for the insureds, as their interests may appear, subject to the requirements of any applicable mortgage clause and of paragraph 5.08.B. OWNER shall deposit in a separate account any money so received and shall distribute it in accordance with such agreement as the parties in interest may reach. If no other special agreement is reached, the damaged Work shall be repaired or replaced, the moneys so received applied on account thereof, and the Work and the cost thereof covered by an appropriate Change Order or Written Amendment.~~

~~B. OWNER as fiduciary shall have power to adjust and settle any loss with the insurers unless one of the parties in interest shall object in writing within 15 days after the occurrence of loss to OWNER's exercise of this power. If such objection be made, OWNER as fiduciary shall make settlement with the insurers in accordance with such agreement as the parties in interest may reach. If no such agreement among the parties in interest is reached, OWNER as fiduciary shall adjust and settle the loss with the insurers and, if required in writing by any party in interest, OWNER as fiduciary shall give bond for the proper performance of such duties.~~

5.09 *Acceptance of Bonds and Insurance; Option to Replace*

~~A. If either OWNER or CONTRACTOR has any objection to the coverage afforded by or other provisions of the Bonds or insurance required to be purchased and maintained by the other party in accordance with Article 5 on the basis of non-conformance with the Contract Documents, the objecting party shall so notify the other party in writing within 10 days after receipt of the certificates (or other evidence requested) required by paragraph 2.05.C. OWNER and CONTRACTOR shall each provide to the other such additional information in respect of insurance provided as the other may reasonably request. If either party does not purchase or maintain all of the Bonds and insurance required of such party by the Contract Documents, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage. Without prejudice to any other right or remedy, the other party may elect to obtain equivalent Bonds or insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and a Change Order shall be issued to adjust the Contract Price accordingly.~~

5.10 *Partial Utilization, Acknowledgment of Property Insurer*

A. If OWNER finds it necessary to occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work as provided in paragraph 14.05, no such use or occupancy shall commence before the insurers providing the property insurance pursuant to paragraph 5.06 have acknowledged notice thereof and in writing effected any changes in coverage necessitated thereby. The insurers providing the property insurance shall consent by endorsement on the policy or policies, but the property insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy.

ARTICLE 6 - CONTRACTOR'S RESPONSIBILITIES

6.01 *Supervision and Superintendence*

A. CONTRACTOR shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. CONTRACTOR shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction, but CONTRACTOR shall not be responsible for the negligence of OWNER or ENGINEER in the design or specification of a specific means, method, technique, sequence, or procedure of

construction which is shown or indicated in and expressly required by the Contract Documents. CONTRACTOR shall be responsible to see that the completed Work complies accurately with the Contract Documents.

B. At all times during the progress of the Work, CONTRACTOR shall assign a competent resident superintendent thereto who shall not be replaced without written notice to OWNER and ENGINEER except under extraordinary circumstances. The superintendent will be CONTRACTOR's representative at the Site and shall have authority to act on behalf of CONTRACTOR. All communications given to or received from the superintendent shall be binding on CONTRACTOR.

6.02 Labor; Working Hours

A. CONTRACTOR shall provide competent, suitably qualified personnel to survey, lay out, and construct the Work as required by the Contract Documents. CONTRACTOR shall at all times maintain good discipline and order at the Site.

B. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site shall be performed during regular working hours, and CONTRACTOR will not permit overtime work or the performance of Work on Saturday, Sunday, or any legal holiday without OWNER's written consent (which will not be unreasonably withheld) given after prior written notice to ENGINEER.

6.03 Services, Materials, and Equipment

A. Unless otherwise specified in the General Requirements, CONTRACTOR shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start-up, and completion of the Work.

B. All materials and equipment incorporated into the Work shall be as specified or, if not specified, shall be of good quality and new, except as otherwise provided in the Contract Documents. All warranties and guarantees specifically called for by the Specifications shall expressly run to the benefit of OWNER. If required by ENGINEER, CONTRACTOR shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment. All materials and equipment shall be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier,

except as otherwise may be provided in the Contract Documents.

6.04 Progress Schedule

A. CONTRACTOR shall adhere to the progress schedule established in accordance with paragraph 2.07 as it may be adjusted from time to time as provided below.

1. CONTRACTOR shall submit to ENGINEER for acceptance (to the extent indicated in paragraph 2.07) proposed adjustments in the progress schedule that will not result in changing the Contract Times (or Milestones). Such adjustments will conform generally to the progress schedule then in effect and additionally will comply with any provisions of the General Requirements applicable thereto.

2. Proposed adjustments in the progress schedule that will change the Contract Times (or Milestones) shall be submitted in accordance with the requirements of Article 12. Such adjustments may only be made by a Change Order or Written Amendment in accordance with Article 12.

6.05 Substitutes and "Or-Equals"

A. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the specification or description is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or-equal" item or no substitution is permitted, other items of material or equipment or material or equipment of other Suppliers may be submitted to ENGINEER for review under the circumstances described below.

1. "Or-Equal" Items: If in ENGINEER's sole discretion an item of material or equipment proposed by CONTRACTOR is functionally equal to that named and sufficiently similar so that no change in related Work will be required, it may be considered by ENGINEER as an "or-equal" item, in which case review and approval of the proposed item may, in ENGINEER's sole discretion, be accomplished without compliance with some or all of the requirements for approval of proposed substitute items. For the purposes of this paragraph 6.05.A.1, a proposed item of material or equipment will be considered functionally equal to an item so named if:

a. in the exercise of reasonable judgment ENGINEER determines that: (i) it

is at least equal in quality, durability, appearance, strength, and design characteristics; (ii) it will reliably perform at least equally well the function imposed by the design concept of the completed Project as a functioning whole, and;

b. CONTRACTOR certifies that: (i) there is no increase in cost to the OWNER; and (ii) it will conform substantially, even with deviations, to the detailed requirements of the item named in the Contract Documents.

2. Substitute Items

a. If in ENGINEER's sole discretion an item of material or equipment proposed by CONTRACTOR does not qualify as an "or-equal" item under paragraph 6.05.A.1, it will be considered a proposed substitute item.

b. CONTRACTOR shall submit sufficient information as provided below to allow ENGINEER to determine that the item of material or equipment proposed is essentially equivalent to that named and an acceptable substitute therefor. Requests for review of proposed substitute items of material or equipment will not be accepted by ENGINEER from anyone other than CONTRACTOR.

c. The procedure for review by ENGINEER will be as set forth in paragraph 6.05.A.2.d, as supplemented in the General Requirements and as ENGINEER may decide is appropriate under the circumstances.

d. CONTRACTOR shall first make written application to ENGINEER for review of a proposed substitute item of material or equipment that CONTRACTOR seeks to furnish or use. The application shall certify that the proposed substitute item will perform adequately the functions and achieve the results called for by the general design, be similar in substance to that specified, and be suited to the same use as that specified. The application will state the extent, if any, to which the use of the proposed substitute item will prejudice CONTRACTOR's achievement of Substantial Completion on time, whether or not use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with OWNER for work on the Project) to adapt the design to the proposed substitute item and whether or not incorporation or use

of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty. All variations of the proposed substitute item from that specified will be identified in the application, and available engineering, sales, maintenance, repair, and replacement services will be indicated. The application will also contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including costs of redesign and claims of other contractors affected by any resulting change, all of which will be considered by ENGINEER in evaluating the proposed substitute item. ENGINEER may require CONTRACTOR to furnish additional data about the proposed substitute item.

B. *Substitute Construction Methods or Procedures:* If a specific means, method, technique, sequence, or procedure of construction is shown or indicated in and expressly required by the Contract Documents, CONTRACTOR may furnish or utilize a substitute means, method, technique, sequence, or procedure of construction approved by ENGINEER. CONTRACTOR shall submit sufficient information to allow ENGINEER, in ENGINEER's sole discretion, to determine that the substitute proposed is equivalent to that expressly called for by the Contract Documents. The procedure for review by ENGINEER will be similar to that provided in subparagraph 6.05.A.2.

C. *Engineer's Evaluation:* ENGINEER will be allowed a reasonable time within which to evaluate each proposal or submittal made pursuant to paragraphs 6.05.A and 6.05.B. ENGINEER will be the sole judge of acceptability. No "or-equal" or substitute will be ordered, installed or utilized until ENGINEER's review is complete, which will be evidenced by either a Change Order for a substitute or an approved Shop Drawing for an "or equal." ENGINEER will advise CONTRACTOR in writing of any negative determination.

D. *Special Guarantee:* OWNER may require CONTRACTOR to furnish at CONTRACTOR's expense a special performance guarantee or other surety with respect to any substitute.

E. *ENGINEER's Cost Reimbursement:* ENGINEER will record time required by ENGINEER and ENGINEER's Consultants in evaluating substitute proposed or submitted by CONTRACTOR pursuant to paragraphs 6.05.A.2 and 6.05.B and in making changes in the Contract Documents (or in the provisions of any other direct contract with OWNER for work on the Project) occasioned thereby. Whether or not ENGINEER approves a substitute item so proposed or submitted by CONTRACTOR, CONTRACTOR shall reimburse OWNER for the charges of

ENGINEER and ENGINEER's Consultants for evaluating each such proposed substitute.

F. *CONTRACTOR's Expense*: CONTRACTOR shall provide all data in support of any proposed substitute or "or-equal" at CONTRACTOR's expense.

6.06 Concerning Subcontractors, Suppliers, and Others

A. CONTRACTOR shall not employ any Subcontractor, Supplier, or other individual or entity (including those acceptable to OWNER as indicated in paragraph 6.06.B), whether initially or as a replacement, against whom OWNER may have reasonable objection. CONTRACTOR shall not be required to employ any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work against whom CONTRACTOR has reasonable objection.

B. If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers, or other individuals or entities to be submitted to OWNER in advance for acceptance by OWNER by a specified date prior to the Effective Date of the Agreement, and if CONTRACTOR has submitted a list thereof in accordance with the Supplementary Conditions, OWNER's acceptance (either in writing or by failing to make written objection thereto by the date indicated for acceptance or objection in the Bidding Documents or the Contract Documents) of any such Subcontractor, Supplier, or other individual or entity so identified may be revoked on the basis of reasonable objection after due investigation. CONTRACTOR shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity, and the Contract Price will be adjusted by the difference in the cost occasioned by such replacement, and an appropriate Change Order will be issued or Written Amendment signed. No acceptance by OWNER of any such Subcontractor, Supplier, or other individual or entity, whether initially or as a replacement, shall constitute a waiver of any right of OWNER or ENGINEER to reject defective Work.

C. CONTRACTOR shall be fully responsible to OWNER and ENGINEER for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as CONTRACTOR is responsible for CONTRACTOR's own acts and omissions. Nothing in the Contract Documents shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between OWNER or ENGINEER and any such Subcontractor, Supplier or other individual or entity, nor shall it create any obligation on the part of OWNER or ENGINEER to pay or to see to the payment of any moneys due any such Subcontractor, Supplier, or other individual or entity except as may otherwise be required by Laws and Regulations.

D. CONTRACTOR shall be solely responsible for scheduling and coordinating the Work of Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work under a direct or indirect contract with CONTRACTOR.

E. CONTRACTOR shall require all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work to communicate with ENGINEER through CONTRACTOR.

F. The divisions and sections of the Specifications and the identifications of any Drawings shall not control CONTRACTOR in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.

G. All Work performed for CONTRACTOR by a Subcontractor or Supplier will be pursuant to an appropriate agreement between CONTRACTOR and the Subcontractor or Supplier which specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of OWNER and ENGINEER. Whenever any such agreement is with a Subcontractor or Supplier who is listed as an additional insured on the property insurance provided in paragraph 5.06, the agreement between the CONTRACTOR and the Subcontractor or Supplier will contain provisions whereby the Subcontractor or Supplier waives all rights against OWNER, CONTRACTOR, ENGINEER, ENGINEER's Consultants, and all other individuals or entities identified in the Supplementary Conditions to be listed as insureds or additional insureds (and the officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them) for all losses and damages caused by, arising out of, relating to, or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work. If the insurers on any such policies require separate waiver forms to be signed by any Subcontractor or Supplier, CONTRACTOR will obtain the same.

6.07 *Patent Fees and Royalties*

A. CONTRACTOR shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if to the actual knowledge of OWNER or ENGINEER its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by OWNER in the Contract Documents. To the fullest extent permitted by Laws and Regulations,

CONTRACTOR shall indemnify and hold harmless OWNER, ENGINEER, ENGINEER's Consultants, and the officers, directors, partners, employees or agents, and other consultants of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

6.08 *Permits*

A. Unless otherwise provided in the Supplementary Conditions, CONTRACTOR shall obtain and pay for all construction permits and licenses. OWNER shall assist CONTRACTOR, when necessary, in obtaining such permits and licenses. CONTRACTOR shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of opening of Bids, or, if there are no Bids, on the Effective Date of the Agreement. CONTRACTOR shall pay all charges of utility owners for connections to the Work, and OWNER shall pay all charges of such utility owners for capital costs related thereto, such as plant investment fees.

6.09 *Laws and Regulations*

A. CONTRACTOR shall give all notices and comply with all Laws and Regulations applicable to the performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither OWNER nor ENGINEER shall be responsible for monitoring CONTRACTOR's compliance with any Laws or Regulations.

B. If CONTRACTOR performs any Work knowing or having reason to know that it is contrary to Laws or Regulations, CONTRACTOR shall bear all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work; however, it shall not be CONTRACTOR's primary responsibility to make certain that the Specifications and Drawings are in accordance with Laws and Regulations, but this shall not relieve CONTRACTOR of CONTRACTOR's obligations under paragraph 3.03.

C. Changes in Laws or Regulations not known at the time of opening of Bids (or, on the Effective Date of the Agreement if there were no Bids) having an effect on the cost or time of performance of the Work may be the subject of an adjustment in Contract Price or Contract Times. If OWNER and CONTRACTOR are

unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefor as provided in paragraph 10.05.

6.10 *Taxes*

- A. CONTRACTOR shall pay all sales, consumer, use, and other similar taxes required to be paid by CONTRACTOR in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work.
- B. OWNER qualifies for state and local sales tax exemption in the purchase of all material and equipment.

6.11 *Use of Site and Other Areas*

A. *Limitation on Use of Site and Other Areas*

1. CONTRACTOR shall confine construction equipment, the storage of materials and equipment, and the operations of workers to the Site and other areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and other areas with construction equipment or other materials or equipment. CONTRACTOR shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof, or of any adjacent land or areas resulting from the performance of the Work.

2. Should any claim be made by any such owner or occupant because of the performance of the Work, CONTRACTOR shall promptly settle with such other party by negotiation or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law.

3. To the fullest extent permitted by Laws and Regulations, CONTRACTOR shall indemnify and hold harmless OWNER, ENGINEER, ENGINEER's Consultant, and the officers, directors, partners, employees, agents, and other consultants of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such owner or occupant against OWNER, ENGINEER, or any other party indemnified hereunder to the extent caused by or based upon CONTRACTOR's performance of the Work.

B. *Removal of Debris During Performance of the Work:* During the progress of the Work CONTRACTOR shall keep the Site and other areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris shall conform to applicable Laws and Regulations.

C. *Cleaning:* Prior to Substantial Completion of the Work CONTRACTOR shall clean the Site and make it ready for utilization by OWNER. At the completion of the Work CONTRACTOR shall remove from the Site all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.

D. *Loading Structures:* CONTRACTOR shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall CONTRACTOR subject any part of the Work or adjacent property to stresses or pressures that will endanger it.

6.12 Record Documents

A. CONTRACTOR shall maintain in a safe place at the Site one record copy of all Drawings, Specifications, Addenda, Written Amendments, Change Orders, Work Change Directives, Field Orders, and written interpretations and clarifications in good order and annotated to show changes made during construction. These record documents together with all approved Samples and a counterpart of all approved Shop Drawings will be available to ENGINEER for reference. Upon completion of the Work, these record documents, Samples, and Shop Drawings will be delivered to ENGINEER for OWNER.

6.13 Safety and Protection

A. CONTRACTOR shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. CONTRACTOR shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:

1. all persons on the Site or who may be affected by the Work;
2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and
3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities, and Underground Facilities not designated for

removal, relocation, or replacement in the course of construction.

B. CONTRACTOR shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. CONTRACTOR shall notify owners of adjacent property and of Underground Facilities and other utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property. All damage, injury, or loss to any property referred to in paragraph 6.13.A.2 or 6.13.A.3 caused, directly or indirectly, in whole or in part, by CONTRACTOR, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by CONTRACTOR (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of OWNER or ENGINEER or ENGINEER's Consultant, or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of CONTRACTOR or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them). CONTRACTOR's duties and responsibilities for safety and for protection of the Work shall continue until such time as all the Work is completed and ENGINEER has issued a notice to OWNER and CONTRACTOR in accordance with paragraph 14.07.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).

6.14 Safety Representative

A. CONTRACTOR shall designate a qualified and experienced safety representative at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.

6.15 Hazard Communication Programs

A. CONTRACTOR shall be responsible for coordinating any exchange of material safety data sheets or other hazard communication information required to be made available to or exchanged between or among employers at the Site in accordance with Laws or Regulations.

6.16 Emergencies

A. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, CONTRACTOR is obligated to act to

prevent threatened damage, injury, or loss. CONTRACTOR shall give ENGINEER prompt written notice if CONTRACTOR believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby or are required as a result thereof. If ENGINEER determines that a change in the Contract Documents is required because of the action taken by CONTRACTOR in response to such an emergency, a Work Change Directive or Change Order will be issued.

6.17 Shop Drawings and Samples

A. CONTRACTOR shall submit Shop Drawings to ENGINEER for review and approval in accordance with the acceptable schedule of Shop Drawings and Sample submittals. All submittals will be identified as ENGINEER may require and in the number of copies specified in the General Requirements. The data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show ENGINEER the services, materials, and equipment CONTRACTOR proposes to provide and to enable ENGINEER to review the information for the limited purposes required by paragraph 6.17.E.

B. CONTRACTOR shall also submit Samples to ENGINEER for review and approval in accordance with the acceptable schedule of Shop Drawings and Sample submittals. Each Sample will be identified clearly as to material, Supplier, pertinent data such as catalog numbers, and the use for which intended and otherwise as ENGINEER may require to enable ENGINEER to review the submittal for the limited purposes required by paragraph 6.17.E. The numbers of each Sample to be submitted will be as specified in the Specifications.

C. Where a Shop Drawing or Sample is required by the Contract Documents or the schedule of Shop Drawings and Sample submittals acceptable to ENGINEER as required by paragraph 2.07, any related Work performed prior to ENGINEER's review and approval of the pertinent submittal will be at the sole expense and responsibility of CONTRACTOR.

D. Submittal Procedures

1. Before submitting each Shop Drawing or Sample, CONTRACTOR shall have determined and verified:

a. all field measurements, quantities, dimensions, specified performance criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;

b. all materials with respect to intended use, fabrication, shipping, handling, storage,

assembly, and installation pertaining to the performance of the Work;

c. all information relative to means, methods, techniques, sequences, and procedures of construction and safety precautions and programs incident thereto; and

d. CONTRACTOR shall also have reviewed and coordinated each Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents.

2. Each submittal shall bear a stamp or specific written indication that CONTRACTOR has satisfied CONTRACTOR's obligations under the Contract Documents with respect to CONTRACTOR's review and approval of that submittal.

3. At the time of each submittal, CONTRACTOR shall give ENGINEER specific written notice of such variations, if any, that the Shop Drawing or Sample submitted may have from the requirements of the Contract Documents, such notice to be in a written communication separate from the submittal; and, in addition, shall cause a specific notation to be made on each Shop Drawing and Sample submitted to ENGINEER for review and approval of each such variation.

E. ENGINEER's Review

1. ENGINEER will timely review and approve Shop Drawings and Samples in accordance with the schedule of Shop Drawings and Sample submittals acceptable to ENGINEER. ENGINEER's review and approval will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.

2. ENGINEER's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction (except where a particular means, method, technique, sequence, or procedure of construction is specifically and expressly called for by the Contract Documents) or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.

3. ENGINEER's review and approval of Shop Drawings or Samples shall not relieve CONTRACTOR from responsibility for any variation from the requirements of the Contract Documents unless CONTRACTOR has in writing called ENGINEER's attention to each such variation at the time of each submittal as required by paragraph 6.17.D.3 and ENGINEER has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample approval; nor will any approval by ENGINEER relieve CONTRACTOR from responsibility for complying with the requirements of paragraph 6.17.D.1.

F. Resubmittal Procedures

1. CONTRACTOR shall make corrections required by ENGINEER and shall return the required number of corrected copies of Shop Drawings and submit as required new Samples for review and approval. CONTRACTOR shall direct specific attention in writing to revisions other than the corrections called for by ENGINEER on previous submittals.

6.18 Continuing the Work

A. CONTRACTOR shall carry on the Work and adhere to the progress schedule during all disputes or disagreements with OWNER. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, except as permitted by paragraph 15.04 or as OWNER and CONTRACTOR may otherwise agree in writing.

6.19 CONTRACTOR's General Warranty and Guarantee

A. CONTRACTOR warrants and guarantees to OWNER, ENGINEER, and ENGINEER's Consultants that all Work will be in accordance with the Contract Documents and will not be defective. CONTRACTOR's warranty and guarantee hereunder excludes defects or damage caused by:

1. abuse, modification, or improper maintenance or operation by persons other than CONTRACTOR, Subcontractors, Suppliers, or any other individual or entity for whom CONTRACTOR is responsible; or

2. normal wear and tear under normal usage.

B. CONTRACTOR's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release

of CONTRACTOR's obligation to perform the Work in accordance with the Contract Documents:

1. observations by ENGINEER;
2. recommendation by ENGINEER or payment by OWNER of any progress or final payment;
3. the issuance of a certificate of Substantial Completion by ENGINEER or any payment related thereto by OWNER;
4. use or occupancy of the Work or any part thereof by OWNER;
5. any acceptance by OWNER or any failure to do so;
6. any review and approval of a Shop Drawing or Sample submittal or the issuance of a notice of acceptability by ENGINEER;
7. any inspection, test, or approval by others; or
8. any correction of defective Work by OWNER.

6.20 Indemnification

A. To the fullest extent permitted by Laws and Regulations, CONTRACTOR shall indemnify and hold harmless OWNER, ENGINEER, ENGINEER's Consultants, and the officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the performance of the Work, provided that any such claim, cost, loss, or damage:

1. is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom; and

2. is caused in whole or in part by any negligent act or omission of CONTRACTOR, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work or anyone for whose acts any of them may be liable, regardless of whether or not caused in part by any negligence or omission of an individual or entity indemnified hereunder or whether liability is imposed upon such indemni-

fied party by Laws and Regulations regardless of the negligence of any such individual or entity.

B. In any and all claims against OWNER or ENGINEER or any of their respective consultants, agents, officers, directors, partners, or employees by any employee (or the survivor or personal representative of such employee) of CONTRACTOR, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under paragraph 6.20.A shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for CONTRACTOR or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.

C. The indemnification obligations of CONTRACTOR under paragraph 6.20.A shall not extend to the liability of ENGINEER and ENGINEER's Consultants or to the officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them arising out of:

1. the preparation or approval of, or the failure to prepare or approve, maps, Drawings, opinions, reports, surveys, Change Orders, designs, or Specifications; or
2. giving directions or instructions, or failing to give them, if that is the primary cause of the injury or damage.

ARTICLE 7 - OTHER WORK

7.01 *Related Work at Site*

A. OWNER may perform other work related to the Project at the Site by OWNER's employees, or let other direct contracts therefor, or have other work performed by utility owners. If such other work is not noted in the Contract Documents, then:

1. written notice thereof will be given to CONTRACTOR prior to starting any such other work; and
2. if OWNER and CONTRACTOR are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times that should be allowed as a result of such other work, a Claim may be made therefor as provided in paragraph 10.05.

B. CONTRACTOR shall afford each other contractor who is a party to such a direct contract and each utility owner (and OWNER, if OWNER is performing the other work with OWNER's employees) proper and safe access to the Site and a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work and shall properly coordinate the Work with theirs. Unless otherwise provided in the Contract Documents, CONTRACTOR shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. CONTRACTOR shall not endanger any work of others by cutting, excavating, or otherwise altering their work and will only cut or alter their work with the written consent of ENGINEER and the others whose work will be affected. The duties and responsibilities of CONTRACTOR under this paragraph are for the benefit of such utility owners and other contractors to the extent that there are comparable provisions for the benefit of CONTRACTOR in said direct contracts between OWNER and such utility owners and other contractors.

C. If the proper execution or results of any part of CONTRACTOR's Work depends upon work performed by others under this Article 7, CONTRACTOR shall inspect such other work and promptly report to ENGINEER in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of CONTRACTOR's Work. CONTRACTOR's failure to so report will constitute an acceptance of such other work as fit and proper for integration with CONTRACTOR's Work except for latent defects and deficiencies in such other work.

7.02 *Coordination*

A. If OWNER intends to contract with others for the performance of other work on the Project at the Site, the following will be set forth in Supplementary Conditions:

1. the individual or entity who will have authority and responsibility for coordination of the activities among the various contractors will be identified;
2. the specific matters to be covered by such authority and responsibility will be itemized; and
3. the extent of such authority and responsibilities will be provided.

B. Unless otherwise provided in the Supplementary Conditions, OWNER shall have sole authority and responsibility for such coordination.

ARTICLE 8 - OWNER'S RESPONSIBILITIES

8.01 *Communications to Contractor*

A. Except as otherwise provided in these General Conditions, OWNER shall issue all communications to CONTRACTOR through ENGINEER.

8.02 *Replacement of ENGINEER*

A. In case of termination of the employment of ENGINEER, OWNER shall appoint an engineer to whom CONTRACTOR makes no reasonable objection, whose status under the Contract Documents shall be that of the former ENGINEER.

8.03 *Furnish Data*

A. OWNER shall promptly furnish the data required of OWNER under the Contract Documents.

8.04 *Pay Promptly When Due*

A. OWNER shall make payments to CONTRACTOR promptly when they are due as provided in paragraphs 14.02.C and 14.07.C.

8.05 *Lands and Easements; Reports and Tests*

A. OWNER's duties in respect of providing lands and easements and providing engineering surveys to establish reference points are set forth in paragraphs 4.01 and 4.05. Paragraph 4.02 refers to OWNER's identifying and making available to CONTRACTOR copies of reports of explorations and tests of subsurface conditions and drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site that have been utilized by ENGINEER in preparing the Contract Documents.

8.06 *Insurance*

A. OWNER's responsibilities, if any, in respect to purchasing and maintaining liability and property insurance are set forth in Article 5.

8.07 *Change Orders*

A. OWNER is obligated to execute Change Orders as indicated in paragraph 10.03.

8.08 *Inspections, Tests, and Approvals*

A. OWNER's responsibility in respect to certain inspections, tests, and approvals is set forth in paragraph 13.03.B.

8.09 *Limitations on OWNER's Responsibilities*

A. The OWNER shall not supervise, direct, or have control or authority over, nor be responsible for, CONTRACTOR's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of CONTRACTOR to comply with Laws and Regulations applicable to the performance of the Work. OWNER will not be responsible for CONTRACTOR's failure to perform the Work in accordance with the Contract Documents.

8.10 *Undisclosed Hazardous Environmental Condition*

A. OWNER's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in paragraph 4.06.

8.11 *Evidence of Financial Arrangements*

A. If and to the extent OWNER has agreed to furnish CONTRACTOR reasonable evidence that financial arrangements have been made to satisfy OWNER's obligations under the Contract Documents, OWNER's responsibility in respect thereof will be as set forth in the Supplementary Conditions.

ARTICLE 9 - ENGINEER'S STATUS DURING CONSTRUCTION

9.01 *OWNER'S Representative*

A. ENGINEER will be OWNER's representative during the construction period. The duties and responsibilities and the limitations of authority of ENGINEER as OWNER's representative during construction are set forth in the Contract Documents and will not be changed without written consent of OWNER and ENGINEER.

9.02 *Visits to Site*

A. ENGINEER will make visits to the Site at intervals appropriate to the various stages of construction as ENGINEER deems necessary in order to observe as an experienced and qualified design professional the progress that has been made and the quality of the various aspects of CONTRACTOR's executed Work. Based on information obtained during such visits and observations, ENGINEER, for the benefit of OWNER, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. ENGINEER will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. ENGINEER's efforts will be directed toward providing for OWNER a greater degree of confidence that the completed Work will

conform generally to the Contract Documents. On the basis of such visits and observations, ENGINEER will keep OWNER informed of the progress of the Work and will endeavor to guard OWNER against defective Work.

B. ENGINEER's visits and observations are subject to all the limitations on ENGINEER's authority and responsibility set forth in paragraph 9.10, and particularly, but without limitation, during or as a result of ENGINEER's visits or observations of CONTRACTOR's Work ENGINEER will not supervise, direct, control, or have authority over or be responsible for CONTRACTOR's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of CONTRACTOR to comply with Laws and Regulations applicable to the performance of the Work.

9.03 *Project Representative*

A. If OWNER and ENGINEER agree, ENGINEER will furnish a Resident Project Representative to assist ENGINEER in providing more extensive observation of the Work. The responsibilities and authority and limitations thereon of any such Resident Project Representative and assistants will be as provided in paragraph 9.10 and in the Supplementary Conditions. If OWNER designates another representative or agent to represent OWNER at the Site who is not ENGINEER's Consultant, agent or employee, the responsibilities and authority and limitations thereon of such other individual or entity will be as provided in the Supplementary Conditions.

9.04 *Clarifications and Interpretations*

A. ENGINEER will issue with reasonable promptness such written clarifications or interpretations of the requirements of the Contract Documents as ENGINEER may determine necessary, which shall be consistent with the intent of and reasonably inferable from the Contract Documents. Such written clarifications and interpretations will be binding on OWNER and CONTRACTOR. If OWNER and CONTRACTOR are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, that should be allowed as a result of a written clarification or interpretation, a Claim may be made therefor as provided in paragraph 10.05.

9.05 *Authorized Variations in Work*

A. ENGINEER may authorize minor variations in the Work from the requirements of the Contract Documents which do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. ~~These may be accomplished by a Field~~

~~Order and will be binding on OWNER and also on CONTRACTOR, who shall perform the Work involved promptly. If OWNER and CONTRACTOR are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, as a result of a Field Order, a Claim may be made therefor as provided in paragraph 10.05.~~

9.06 *Rejecting Defective Work*

A. ENGINEER will have authority to disapprove or reject Work which ENGINEER believes to be defective, or that ENGINEER believes will not produce a completed Project that conforms to the Contract Documents or that will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. ENGINEER will also have authority to require special inspection or testing of the Work as provided in paragraph 13.04, whether or not the Work is fabricated, installed, or completed.

9.07 *Shop Drawings, Change Orders and Payments*

A. In connection with ENGINEER's authority as to Shop Drawings and Samples, see paragraph 6.17.

B. In connection with ENGINEER's authority as to Change Orders, see Articles 10, 11, and 12.

C. In connection with ENGINEER's authority as to Applications for Payment, see Article 14.

9.08 *Determinations for Unit Price Work*

A. ENGINEER will determine the actual quantities and classifications of Unit Price Work performed by CONTRACTOR. ENGINEER will review with CONTRACTOR the ENGINEER's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). ENGINEER's written decision thereon will be final and binding (except as modified by ENGINEER to reflect changed factual conditions or more accurate data) upon OWNER and CONTRACTOR, subject to the provisions of paragraph 10.05.

9.09 *Decisions on Requirements of Contract Documents and Acceptability of Work*

A. ENGINEER will be the initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the Work thereunder. Claims, disputes and other matters relating to the acceptability of the Work, the quantities and classifications of Unit Price Work, the interpretation of the requirements of the Contract Documents pertaining to the performance of the Work, and Claims seeking changes in the Contract Price or Contract Times will be referred

initially to ENGINEER in writing, in accordance with the provisions of paragraph 10.05, with a request for a formal decision.

B. When functioning as interpreter and judge under this paragraph 9.09, ENGINEER will not show partiality to OWNER or CONTRACTOR and will not be liable in connection with any interpretation or decision rendered in good faith in such capacity. The rendering of a decision by ENGINEER pursuant to this paragraph 9.09 with respect to any such Claim, dispute, or other matter (except any which have been waived by the making or acceptance of final payment as provided in paragraph 14.07) will be a condition precedent to any exercise by OWNER or CONTRACTOR of such rights or remedies as either may otherwise have under the Contract Documents or by Laws or Regulations in respect of any such Claim, dispute, or other matter.

9.10 *Limitations on ENGINEER's Authority and Responsibilities*

A. Neither ENGINEER's authority or responsibility under this Article 9 or under any other provision of the Contract Documents nor any decision made by ENGINEER in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by ENGINEER shall create, impose, or give rise to any duty in contract, tort, or otherwise owed by ENGINEER to CONTRACTOR, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.

B. ENGINEER will not supervise, direct, control, or have authority over or be responsible for CONTRACTOR's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of CONTRACTOR to comply with Laws and Regulations applicable to the performance of the Work. ENGINEER will not be responsible for CONTRACTOR's failure to perform the Work in accordance with the Contract Documents.

C. ENGINEER will not be responsible for the acts or omissions of CONTRACTOR or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.

D. ENGINEER's review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, Bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by paragraph 14.07.A will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests, and approvals that the results certified indicate compliance with, the Contract Documents.

E. The limitations upon authority and responsibility set forth in this paragraph 9.10 shall also apply to ENGINEER's Consultants, Resident Project Representative, and assistants.

ARTICLE 10 - CHANGES IN THE WORK; CLAIMS

10.01 *Authorized Changes in the Work*

A. Without invalidating the Agreement and without notice to any surety, OWNER may, at any time or from time to time, order additions, deletions, or revisions in the Work by a Written Amendment, a Change Order, or a Work Change Directive. Upon receipt of any such document, CONTRACTOR shall promptly proceed with the Work involved which will be performed under the applicable conditions of the Contract Documents (except as otherwise specifically provided).

B. If OWNER and CONTRACTOR are unable to agree on entitlement to, or on the amount or extent, if any, of an adjustment in the Contract Price or Contract Times, or both, that should be allowed as a result of a Work Change Directive, a Claim may be made therefor as provided in paragraph 10.05.

10.02 *Unauthorized Changes in the Work*

A. CONTRACTOR shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents as amended, modified, or supplemented as provided in paragraph 3.04, except in the case of an emergency as provided in paragraph 6.16 or in the case of uncovering Work as provided in paragraph 13.04.B.

10.03 *Execution of Change Orders*

A. OWNER and CONTRACTOR shall execute appropriate Change Orders recommended by ENGINEER (or Written Amendments) covering:

1. changes in the Work which are: (i) ordered by OWNER pursuant to paragraph 10.01.A, (ii) required because of acceptance of defective Work under paragraph 13.08.A or OWNER's correction of defective Work under paragraph 13.09, or (iii) agreed to by the parties;
2. changes in the Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive; and
3. changes in the Contract Price or Contract Times which embody the substance of

any written decision rendered by ENGINEER pursuant to paragraph 10.05; provided that, in lieu of executing any such Change Order, an appeal may be taken from any such decision in accordance with the provisions of the Contract Documents and applicable Laws and Regulations, but during any such appeal, CONTRACTOR shall carry on the Work and adhere to the progress schedule as provided in paragraph 6.18.A.

10.04 *Notification to Surety*

A. If notice of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times) is required by the provisions of any Bond to be given to a surety, the giving of any such notice will be CONTRACTOR's responsibility. The amount of each applicable Bond will be adjusted to reflect the effect of any such change.

10.05 *Claims and Disputes*

A. *Notice:* Written notice stating the general nature of each Claim, dispute, or other matter shall be delivered by the claimant to ENGINEER and the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto. Notice of the amount or extent of the Claim, dispute, or other matter with supporting data shall be delivered to the ENGINEER and the other party to the Contract within 60 days after the start of such event (unless ENGINEER allows additional time for claimant to submit additional or more accurate data in support of such Claim, dispute, or other matter). A Claim for an adjustment in Contract Price shall be prepared in accordance with the provisions of paragraph 12.01.B. A Claim for an adjustment in Contract Time shall be prepared in accordance with the provisions of paragraph 12.02.B. Each Claim shall be accompanied by claimant's written statement that the adjustment claimed is the entire adjustment to which the claimant believes it is entitled as a result of said event. The opposing party shall submit any response to ENGINEER and the claimant within 30 days after receipt of the claimant's last submittal (unless ENGINEER allows additional time).

B. *ENGINEER's Decision:* ENGINEER will render a formal decision in writing within 30 days after receipt of the last submittal of the claimant or the last submittal of the opposing party, if any. ENGINEER's written decision on such Claim, dispute, or other matter will be final and binding upon OWNER and CONTRACTOR unless:

1. an appeal from ENGINEER's decision is taken within the time limits and in accordance with the dispute resolution procedures set forth in Article 16; or

2. if no such dispute resolution procedures have been set forth in Article 16, a written notice of intention to appeal from ENGINEER's written decision is delivered by OWNER or CONTRACTOR to the other and to ENGINEER within 30 days after the date of such decision, and a formal proceeding is instituted by the appealing party in a forum of competent jurisdiction within 60 days after the date of such decision or within 60 days after Substantial Completion, whichever is later (unless otherwise agreed in writing by OWNER and CONTRACTOR), to exercise such rights or remedies as the appealing party may have with respect to such Claim, dispute, or other matter in accordance with applicable Laws and Regulations.

C. If ENGINEER does not render a formal decision in writing within the time stated in paragraph 10.05.B, a decision denying the Claim in its entirety shall be deemed to have been issued 31 days after receipt of the last submittal of the claimant or the last submittal of the opposing party, if any.

D. No Claim for an adjustment in Contract Price or Contract Times (or Milestones) will be valid if not submitted in accordance with this paragraph 10.05.

ARTICLE 11 - COST OF THE WORK; CASH ALLOWANCES; UNIT PRICE WORK

11.01 *Cost of the Work*

A. *Costs Included:* The term Cost of the Work means the sum of all costs necessarily incurred and paid by CONTRACTOR in the proper performance of the Work. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, the costs to be reimbursed to CONTRACTOR will be only those additional or incremental costs required because of the change in the Work or because of the event giving rise to the Claim. Except as otherwise may be agreed to in writing by OWNER, such costs shall be in amounts no higher than those prevailing in the locality of the Project, shall include only the following items, and shall not include any of the costs itemized in paragraph 11.01.B.

~~1. Payroll costs for employees in the direct employ of CONTRACTOR in the performance of the Work under schedules of job classifications agreed upon by OWNER and CONTRACTOR. Such employees shall include without limitation superintendents, foremen, and other personnel employed full time at the Site. Payroll costs for employees not employed full~~

~~time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits, which shall include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, shall be included in the above to the extent authorized by OWNER.~~

2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to CONTRACTOR unless OWNER deposits funds with CONTRACTOR with which to make payments, in which case the cash discounts shall accrue to OWNER. All trade discounts, rebates and refunds and returns from sale of surplus materials and equipment shall accrue to OWNER, and CONTRACTOR shall make provisions so that they may be obtained.

3. Payments made by CONTRACTOR to Subcontractors for Work performed by Subcontractors. If required by OWNER, CONTRACTOR shall obtain competitive bids from subcontractors acceptable to OWNER and CONTRACTOR and shall deliver such bids to OWNER, who will then determine, with the advice of ENGINEER, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee shall be determined in the same manner as CONTRACTOR's Cost of the Work and fee as provided in this paragraph 11.01.

4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed for services specifically related to the Work.

5. Supplemental costs including the following:

a. The proportion of necessary transportation, travel, and subsistence expenses of CONTRACTOR's employees incurred in discharge of duties connected with the Work.

b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and tempo-

rary facilities at the Site, and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of CONTRACTOR.

c. Rentals of all construction equipment and machinery, and the parts thereof whether rented from CONTRACTOR or others in accordance with rental agreements approved by OWNER with the advice of ENGINEER, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.

d. Sales, consumer, use, and other similar taxes related to the Work, and for which CONTRACTOR is liable, imposed by Laws and Regulations.

e. Deposits lost for causes other than negligence of CONTRACTOR, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.

f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by CONTRACTOR in connection with the performance of the Work (except losses and damages within the deductible amounts of property insurance established in accordance with paragraph 5.06.D), provided such losses and damages have resulted from causes other than the negligence of CONTRACTOR, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of OWNER. No such losses, damages, and expenses shall be included in the Cost of the Work for the purpose of determining CONTRACTOR's fee.

g. The cost of utilities, fuel, and sanitary facilities at the Site.

h. Minor expenses such as telegrams, long distance telephone calls, telephone service at the Site, expressage, and similar petty cash items in connection with the Work.

i. When the Cost of the Work is used to determine the value of a Change Order or of a

Claim, the cost of premiums for additional Bonds and insurance required because of the changes in the Work or caused by the event giving rise to the Claim.

j. When all the Work is performed on the basis of cost-plus, the costs of premiums for all Bonds and insurance CONTRACTOR is required by the Contract Documents to purchase and maintain.

B. *Costs Excluded:* The term Cost of the Work shall not include any of the following items:

1. Payroll costs and other compensation of CONTRACTOR's officers, executives, principals (of partnerships and sole proprietorships), general managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks, and other personnel employed by CONTRACTOR, whether at the Site or in CONTRACTOR's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in paragraph 11.01.A.1 or specifically covered by paragraph 11.01.A.4, all of which are to be considered administrative costs covered by the CONTRACTOR's fee.

2. Expenses of CONTRACTOR's principal and branch offices other than CONTRACTOR's office at the Site.

3. Any part of CONTRACTOR's capital expenses, including interest on CONTRACTOR's capital employed for the Work and charges against CONTRACTOR for delinquent payments.

4. Costs due to the negligence of CONTRACTOR, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.

5. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in paragraphs 11.01.A and 11.01.B.

C. *CONTRACTOR's Fee:* When all the Work is performed on the basis of cost-plus, CONTRACTOR's fee shall be determined as set forth in the Agreement. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work,

CONTRACTOR's fee shall be determined as set forth in paragraph 12.01.C.

D. *Documentation:* Whenever the Cost of the Work for any purpose is to be determined pursuant to paragraphs 11.01.A and 11.01.B, CONTRACTOR will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to ENGINEER an itemized cost breakdown together with supporting data.

11.02 *Cash Allowances*

A. It is understood that CONTRACTOR has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums as may be acceptable to OWNER and ENGINEER. CONTRACTOR agrees that:

1. the allowances include the cost to CONTRACTOR (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and

2. CONTRACTOR's costs for unloading and handling on the Site, labor, installation costs, overhead, profit, and other expenses contemplated for the allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment on account of any of the foregoing will be valid.

B. Prior to final payment, an appropriate Change Order will be issued as recommended by ENGINEER to reflect actual amounts due CONTRACTOR on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

11.03 *Unit Price Work*

A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Determinations of the actual quantities and classifications of Unit Price Work performed by CONTRACTOR will be made by ENGINEER subject to the provisions of paragraph 9.08.

B. Each unit price will be deemed to include an amount considered by CONTRACTOR to be adequate

to cover CONTRACTOR's overhead and profit for each separately identified item.

C. OWNER or CONTRACTOR may make a Claim for an adjustment in the Contract Price in accordance with paragraph 10.05 if:

1. the quantity of any item of Unit Price Work performed by CONTRACTOR differs materially and significantly from the estimated quantity of such item indicated in the Agreement; and
2. there is no corresponding adjustment with respect any other item of Work; and
3. if CONTRACTOR believes that CONTRACTOR is entitled to an increase in Contract Price as a result of having incurred additional expense or OWNER believes that OWNER is entitled to a decrease in Contract Price and the parties are unable to agree as to the amount of any such increase or decrease.

ARTICLE 12 - CHANGE OF CONTRACT PRICE; CHANGE OF CONTRACT TIMES

12.01 *Change of Contract Price*

A. The Contract Price may only be changed by a Change Order or by a Written Amendment. Any Claim for an adjustment in the Contract Price shall be based on written notice submitted by the party making the Claim to the ENGINEER and the other party to the Contract in accordance with the provisions of paragraph 10.05.

B. The value of any Work covered by a Change Order or of any Claim for an adjustment in the Contract Price will be determined as follows:

1. where the Work involved is covered by unit prices contained in the Contract Documents, by application of such unit prices to the quantities of the items involved (subject to the provisions of paragraph 11.03); or
2. where the Work involved is not covered by unit prices contained in the Contract Documents, by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with paragraph 12.01.C.2); or
3. where the Work involved is not covered by unit prices contained in the Contract Documents and agreement to a lump sum is not reached under paragraph 12.01.B.2, on the basis of the Cost of the Work (determined as

provided in paragraph 11.01) plus a CONTRACTOR's fee for overhead and profit (determined as provided in paragraph 12.01.C).

C. *CONTRACTOR's Fee*: The CONTRACTOR's fee for overhead and profit shall be determined as follows:

1. a mutually acceptable fixed fee; or
2. if a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:
 - a. for costs incurred under paragraphs 11.01.A.1 and 11.01.A.2, the CONTRACTOR's fee shall be 15 percent;
 - b. for costs incurred under paragraph 11.01.A.3, the CONTRACTOR's fee shall be five percent;
 - c. where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of paragraph 12.01.C.2.a is that the Subcontractor who actually performs the Work, at whatever tier, will be paid a fee of 15 percent of the costs incurred by such Subcontractor under paragraphs 11.01.A.1 and 11.01.A.2 and that any higher tier Subcontractor and CONTRACTOR will each be paid a fee of five percent of the amount paid to the next lower tier Subcontractor;
 - d. no fee shall be payable on the basis of costs itemized under paragraphs 11.01.A.4, 11.01.A.5, and 11.01.B;
 - e. the amount of credit to be allowed by CONTRACTOR to OWNER for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost plus a deduction in CONTRACTOR's fee by an amount equal to five percent of such net decrease; and
 - f. when both additions and credits are involved in any one change, the adjustment in CONTRACTOR's fee shall be computed on the basis of the net change in accordance with paragraphs 12.01.C.2.a through 12.01.C.2.e, inclusive.

12.02 *Change of Contract Times*

A. The Contract Times (or Milestones) may only be changed by a Change Order or by a Written Amendment. Any Claim for an adjustment in the Contract Times (or Milestones) shall be based on written notice submitted by the party making the claim to the ENGI-

NEER and the other party to the Contract in accordance with the provisions of paragraph 10.05.

B. Any adjustment of the Contract Times (or Milestones) covered by a Change Order or of any Claim for an adjustment in the Contract Times (or Milestones) will be determined in accordance with the provisions of this Article 12.

12.03 *Delays Beyond CONTRACTOR's Control*

A. Where CONTRACTOR is prevented from completing any part of the Work within the Contract Times (or Milestones) due to delay beyond the control of CONTRACTOR, the Contract Times (or Milestones) will be extended in an amount equal to the time lost due to such delay if a Claim is made therefor as provided in paragraph 12.02.A. Delays beyond the control of CONTRACTOR shall include, but not be limited to, acts or neglect by OWNER, acts or neglect of utility owners or other contractors performing other work as contemplated by Article 7, fires, floods, epidemics, abnormal weather conditions, or acts of God.

12.04 *Delays Within CONTRACTOR's Control*

A. The Contract Times (or Milestones) will not be extended due to delays within the control of CONTRACTOR. Delays attributable to and within the control of a Subcontractor or Supplier shall be deemed to be delays within the control of CONTRACTOR.

12.05 *Delays Beyond OWNER's and CONTRACTOR's Control*

A. Where CONTRACTOR is prevented from completing any part of the Work within the Contract Times (or Milestones) due to delay beyond the control of both OWNER and CONTRACTOR, an extension of the Contract Times (or Milestones) in an amount equal to the time lost due to such delay shall be CONTRACTOR's sole and exclusive remedy for such delay.

12.06 *Delay Damages*

A. In no event shall OWNER or ENGINEER be liable to CONTRACTOR, any Subcontractor, any Supplier, or any other person or organization, or to any surety for or employee or agent of any of them, for damages arising out of or resulting from:

1. delays caused by or within the control of CONTRACTOR; or
2. delays beyond the control of both OWNER and CONTRACTOR including but not limited to fires, floods, epidemics, abnormal weather conditions, acts of God, or acts or neglect by utility owners or other contractors

performing other work as contemplated by Article 7.

B. Nothing in this paragraph 12.06 bars a change in Contract Price pursuant to this Article 12 to compensate CONTRACTOR due to delay, interference, or disruption directly attributable to actions or inactions of OWNER or anyone for whom OWNER is responsible.

ARTICLE 13 - TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

13.01 *Notice of Defects*

A. Prompt notice of all defective Work of which OWNER or ENGINEER has actual knowledge will be given to CONTRACTOR. All defective Work may be rejected, corrected, or accepted as provided in this Article 13.

13.02 *Access to Work*

A. OWNER, ENGINEER, ENGINEER's Consultants, other representatives and personnel of OWNER, independent testing laboratories, and governmental agencies with jurisdictional interests will have access to the Site and the Work at reasonable times for their observation, inspecting, and testing. CONTRACTOR shall provide them proper and safe conditions for such access and advise them of CONTRACTOR's Site safety procedures and programs so that they may comply therewith as applicable.

13.03 *Tests and Inspections*

A. CONTRACTOR shall give ENGINEER timely notice of readiness of the Work for all required inspections, tests, or approvals and shall cooperate with inspection and testing personnel to facilitate required inspections or tests.

B. ~~OWNER shall employ and pay for the services of an independent testing laboratory to perform all inspections, tests, or approvals required by the Contract Documents except:~~

- ~~1. for inspections, tests, or approvals covered by paragraphs 13.03.C and 13.03.D below;~~
- ~~2. that costs incurred in connection with tests or inspections conducted pursuant to paragraph 13.04.B shall be paid as provided in said paragraph 13.04.B; and~~

~~3. as otherwise specifically provided in the Contract Documents.~~

C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, CONTRACTOR shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish ENGINEER the required certificates of inspection or approval.

D. CONTRACTOR shall be responsible for arranging and obtaining and shall pay all costs in connection with any inspections, tests, or approvals required for OWNER's and ENGINEER's acceptance of materials or equipment to be incorporated in the Work; or acceptance of materials, mix designs, or equipment submitted for approval prior to CONTRACTOR's purchase thereof for incorporation in the Work. Such inspections, tests, or approvals shall be performed by organizations acceptable to OWNER and ENGINEER.

E. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by CONTRACTOR without written concurrence of ENGINEER, it must, if requested by ENGINEER, be uncovered for observation.

F. Uncovering Work as provided in paragraph 13.03.E shall be at CONTRACTOR's expense unless CONTRACTOR has given ENGINEER timely notice of CONTRACTOR's intention to cover the same and ENGINEER has not acted with reasonable promptness in response to such notice.

13.04 *Uncovering Work*

A. If any Work is covered contrary to the written request of ENGINEER, it must, if requested by ENGINEER, be uncovered for ENGINEER's observation and replaced at CONTRACTOR's expense.

B. If ENGINEER considers it necessary or advisable that covered Work be observed by ENGINEER or inspected or tested by others, CONTRACTOR, at ENGINEER's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as ENGINEER may require, that portion of the Work in question, furnishing all necessary labor, material, and equipment. If it is found that such Work is defective, CONTRACTOR shall pay all Claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited

to all costs of repair or replacement of work of others); and OWNER shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount thereof, OWNER may make a Claim therefor as provided in paragraph 10.05. If, however, such Work is not found to be defective, CONTRACTOR shall be allowed an increase in the Contract Price or an extension of the Contract Times (or Milestones), or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, CONTRACTOR may make a Claim therefor as provided in paragraph 10.05.

13.05 *OWNER May Stop the Work*

~~A. If the Work is defective, or CONTRACTOR fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, OWNER may order CONTRACTOR to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of OWNER to stop the Work shall not give rise to any duty on the part of OWNER to exercise this right for the benefit of CONTRACTOR, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.~~

13.06 *Correction or Removal of Defective Work*

A. CONTRACTOR shall correct all defective Work, whether or not fabricated, installed, or completed, or, if the Work has been rejected by ENGINEER, remove it from the Project and replace it with Work that is not defective. CONTRACTOR shall pay all Claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or removal (including but not limited to all costs of repair or replacement of work of others).

13.07 *Correction Period*

~~A. If within one year after the date of Substantial Completion or such longer period of time as may be prescribed by Laws or Regulations or by the terms of any applicable special guarantee required by the Contract Documents or by any specific provision of the Contract Documents, any Work is found to be defective, or if the repair of any damages to the land or areas made available for CONTRACTOR's use by OWNER or permitted by Laws and Regulations as contemplated in paragraph 6.11.A is found to be defective, CONTRACTOR shall promptly, without cost~~

~~to OWNER and in accordance with OWNER's written instructions: (i) repair such defective land or areas, or (ii) correct such defective Work or, if the defective Work has been rejected by OWNER, remove it from the Project and replace it with Work that is not defective, and (iii) satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others or other land or areas resulting therefrom. If CONTRACTOR does not promptly comply with the terms of such instructions, or in an emergency where delay would cause serious risk of loss or damage, OWNER may have the defective Work corrected or repaired or may have the rejected Work removed and replaced, and all Claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others) will be paid by CONTRACTOR.~~

~~B. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications or by Written Amendment.~~

C. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this paragraph 13.07, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.

D. CONTRACTOR's obligations under this paragraph 13.07 are in addition to any other obligation or warranty. The provisions of this paragraph 13.07 shall not be construed as a substitute for or a waiver of the provisions of any applicable statute of limitation or repose.

13.08 *Acceptance of Defective Work*

A. If, instead of requiring correction or removal and replacement of defective Work, OWNER (and, prior to ENGINEER's recommendation of final payment, ENGINEER) prefers to accept it, OWNER may do so. CONTRACTOR shall pay all Claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) attributable to OWNER's evaluation of and determination to accept such defective Work (such costs to be approved by ENGINEER as to reasonableness) and the diminished value of the Work to the extent not otherwise paid by CONTRACTOR pursuant to this sentence. If any such

acceptance occurs prior to ENGINEER's recommendation of final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work, and OWNER shall be entitled to an appropriate decrease in the Contract Price, reflecting the diminished value of Work so accepted. If the parties are unable to agree as to the amount thereof, OWNER may make a Claim therefor as provided in paragraph 10.05. If the acceptance occurs after such recommendation, an appropriate amount will be paid by CONTRACTOR to OWNER.

13.09 *OWNER May Correct Defective Work*

A. If CONTRACTOR fails within a reasonable time after written notice from ENGINEER to correct defective Work or to remove and replace rejected Work as required by ENGINEER in accordance with paragraph 13.06.A, or if CONTRACTOR fails to perform the Work in accordance with the Contract Documents, or if CONTRACTOR fails to comply with any other provision of the Contract Documents, OWNER may, after seven days written notice to CONTRACTOR, correct and remedy any such deficiency.

B. In exercising the rights and remedies under this paragraph, OWNER shall proceed expeditiously. In connection with such corrective and remedial action, OWNER may exclude CONTRACTOR from all or part of the Site, take possession of all or part of the Work and suspend CONTRACTOR's services related thereto, take possession of CONTRACTOR's tools, appliances, construction equipment and machinery at the Site, and incorporate in the Work all materials and equipment stored at the Site or for which OWNER has paid CONTRACTOR but which are stored elsewhere. CONTRACTOR shall allow OWNER, OWNER's representatives, agents and employees, OWNER's other contractors, and ENGINEER and ENGINEER's Consultants access to the Site to enable OWNER to exercise the rights and remedies under this paragraph.

C. All Claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred or sustained by OWNER in exercising the rights and remedies under this paragraph 13.09 will be charged against CONTRACTOR, and a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and OWNER shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount of the adjustment, OWNER may make a Claim therefor as provided in paragraph 10.05. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction,

removal, or replacement of CONTRACTOR's defective Work.

D. CONTRACTOR shall not be allowed an extension of the Contract Times (or Milestones) because of any delay in the performance of the Work attributable to the exercise by OWNER of OWNER's rights and remedies under this paragraph 13.09.

ARTICLE 14 - PAYMENTS TO CONTRACTOR AND COMPLETION

14.01 *Schedule of Values*

A. The schedule of values established as provided in paragraph 2.07.A will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to ENGINEER. Progress payments on account of Unit Price Work will be based on the number of units completed.

14.02 *Progress Payments*

A. *Applications for Payments*

1. At least 20 days before the date established for each progress payment (but not more often than once a month), CONTRACTOR shall submit to ENGINEER for review an Application for Payment filled out and signed by CONTRACTOR covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that OWNER has received the materials and equipment free and clear of all Liens and evidence that the materials and equipment are covered by appropriate property insurance or other arrangements to protect OWNER's interest therein, all of which must be satisfactory to OWNER.

2. Beginning with the second Application for Payment, each Application shall include an affidavit of CONTRACTOR stating that all previous progress payments received on account of the Work have been applied on account to discharge CONTRACTOR's legitimate obligations associated with prior Applications for Payment.

3. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

B. *Review of Applications*

1. ENGINEER will, within 10 days after receipt of each Application for Payment, either indicate in writing a recommendation of payment and present the Application to OWNER or return the Application to CONTRACTOR indicating in writing ENGINEER's reasons for refusing to recommend payment. In the latter case, CONTRACTOR may make the necessary corrections and resubmit the Application.

2. ENGINEER's recommendation of any payment requested in an Application for Payment will constitute a representation by ENGINEER to OWNER, based on ENGINEER's observations on the Site of the executed Work as an experienced and qualified design professional and on ENGINEER's review of the Application for Payment and the accompanying data and schedules, that to the best of ENGINEER's knowledge, information and belief:

a. the Work has progressed to the point indicated;

b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, to the results of any subsequent tests called for in the Contract Documents, to a final determination of quantities and classifications for Unit Price Work under paragraph 9.08, and to any other qualifications stated in the recommendation); and

c. The conditions precedent to CONTRACTOR's being entitled to such payment appear to have been fulfilled in so far as it is ENGINEER's responsibility to observe the Work.

3. By recommending any such payment ENGINEER will not thereby be deemed to have represented that: (i) inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to ENGINEER in the Contract Documents; or (ii) that there may not be other matters or issues between the parties that might entitle

CONTRACTOR to be paid additionally by OWNER or entitle OWNER to withhold payment to CONTRACTOR.

4. Neither ENGINEER's review of CONTRACTOR's Work for the purposes of recommending payments nor ENGINEER's recommendation of any payment, including final payment, will impose responsibility on ENGINEER to supervise, direct, or control the Work or for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for CONTRACTOR's failure to comply with Laws and Regulations applicable to CONTRACTOR's performance of the Work. Additionally, said review or recommendation will not impose responsibility on ENGINEER to make any examination to ascertain how or for what purposes CONTRACTOR has used the moneys paid on account of the Contract Price, or to determine that title to any of the Work, materials, or equipment has passed to OWNER free and clear of any Liens.

5. ENGINEER may refuse to recommend the whole or any part of any payment if, in ENGINEER's opinion, it would be incorrect to make the representations to OWNER referred to in paragraph 14.02.B.2. ENGINEER may also refuse to recommend any such payment or, because of subsequently discovered evidence or the results of subsequent inspections or tests, revise or revoke any such payment recommendation previously made, to such extent as may be necessary in ENGINEER's opinion to protect OWNER from loss because:

a. the Work is defective, or completed Work has been damaged, requiring correction or replacement;

b. the Contract Price has been reduced by Written Amendment or Change Orders;

c. OWNER has been required to correct defective Work or complete Work in accordance with paragraph 13.09; or

~~d. ENGINEER has actual knowledge of the occurrence of any of the events enumerated in paragraph 15.02.A.~~

C. *Payment Becomes Due*

~~1. Ten days after presentation of the Application for Payment to OWNER with ENGINEER's recommendation, the amount recommended will (subject to the provisions of paragraph 14.02.D) become due, and when due will be paid by OWNER to CONTRACTOR.~~

D. *Reduction in Payment*

1. OWNER may refuse to make payment of the full amount recommended by ENGINEER because:

a. claims have been made against OWNER on account of CONTRACTOR's performance or furnishing of the Work;

b. Liens have been filed in connection with the Work, except where CONTRACTOR has delivered a specific Bond satisfactory to OWNER to secure the satisfaction and discharge of such Liens;

c. there are other items entitling OWNER to a set-off against the amount recommended; or

d. OWNER has actual knowledge of the occurrence of any of the events enumerated in paragraphs 14.02.B.5.a through 14.02.B.5.c or paragraph 15.02.A.

2. If OWNER refuses to make payment of the full amount recommended by ENGINEER, OWNER must give CONTRACTOR immediate written notice (with a copy to ENGINEER) stating the reasons for such action and promptly pay CONTRACTOR any amount remaining after deduction of the amount so withheld. OWNER shall promptly pay CONTRACTOR the amount so withheld, or any adjustment thereto agreed to by OWNER and CONTRACTOR, when CONTRACTOR corrects to OWNER's satisfaction the reasons for such action.

3. If it is subsequently determined that OWNER's refusal of payment was not justified, the amount wrongfully withheld shall be treated as an amount due as determined by paragraph 14.02.C.1.

14.03 *CONTRACTOR's Warranty of Title*

A. CONTRACTOR warrants and guarantees that title to all Work, materials, and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to OWNER no later than the time of payment free and clear of all Liens.

14.04 *Substantial Completion*

A. When CONTRACTOR considers the entire Work ready for its intended use CONTRACTOR shall notify OWNER and ENGINEER in writing that the entire Work is substantially complete (except for items specifically listed by CONTRACTOR as incomplete) and request that ENGINEER issue a certificate of

Substantial Completion. Promptly thereafter, OWNER, CONTRACTOR, and ENGINEER shall make an inspection of the Work to determine the status of completion. If ENGINEER does not consider the Work substantially complete, ENGINEER will notify CONTRACTOR in writing giving the reasons therefore. ~~If ENGINEER considers the Work substantially complete, ENGINEER will prepare and deliver to OWNER a tentative certificate of Substantial Completion which shall fix the date of Substantial Completion. There shall be attached to the certificate a tentative list of items to be completed or corrected before final payment. OWNER shall have seven days after receipt of the tentative certificate during which to make written objection to ENGINEER as to any provisions of the certificate or attached list. If, after considering such objections, ENGINEER concludes that the Work is not substantially complete, ENGINEER will within 14 days after submission of the tentative certificate to OWNER notify CONTRACTOR in writing, stating the reasons therefor. If, after consideration of OWNER's objections, ENGINEER considers the Work substantially complete, ENGINEER will within said 14 days execute and deliver to OWNER and CONTRACTOR a definitive certificate of Substantial Completion (with a revised tentative list of items to be completed or corrected) reflecting such changes from the tentative certificate as ENGINEER believes justified after consideration of any objections from OWNER. At the time of delivery of the tentative certificate of Substantial Completion ENGINEER will deliver to OWNER and CONTRACTOR a written recommendation as to division of responsibilities pending final payment between OWNER and CONTRACTOR with respect to security, operation, safety, and protection of the Work, maintenance, heat, utilities, insurance, and warranties and guarantees. Unless OWNER and CONTRACTOR agree otherwise in writing and so inform ENGINEER in writing prior to ENGINEER's issuing the definitive certificate of Substantial Completion, ENGINEER's aforesaid recommendation will be binding on OWNER and CONTRACTOR until final payment.~~

B. OWNER shall have the right to exclude CONTRACTOR from the Site after the date of Substantial Completion, but OWNER shall allow CONTRACTOR reasonable access to complete or correct items on the tentative list.

14.05 *Partial Utilization*

A. Use by OWNER at OWNER's option of any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which OWNER, ENGINEER, and CONTRACTOR agree constitutes a separately functioning and usable part of the Work that can be used by OWNER for its intended purpose without significant interference with CONTRACTOR's performance of the remainder of the Work, may be accomplished prior to Substantial Com-

pletion of all the Work subject to the following conditions.

1. OWNER at any time may request CONTRACTOR in writing to permit OWNER to use any such part of the Work which OWNER believes to be ready for its intended use and substantially complete. If CONTRACTOR agrees that such part of the Work is substantially complete, CONTRACTOR will certify to OWNER and ENGINEER that such part of the Work is substantially complete and request ENGINEER to issue a certificate of Substantial Completion for that part of the Work. CONTRACTOR at any time may notify OWNER and ENGINEER in writing that CONTRACTOR considers any such part of the Work ready for its intended use and substantially complete and request ENGINEER to issue a certificate of Substantial Completion for that part of the Work. Within a reasonable time after either such request, OWNER, CONTRACTOR, and ENGINEER shall make an inspection of that part of the Work to determine its status of completion. If ENGINEER does not consider that part of the Work to be substantially complete, ENGINEER will notify OWNER and CONTRACTOR in writing giving the reasons therefor. If ENGINEER considers that part of the Work to be substantially complete, the provisions of paragraph 14.04 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.

2. No occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of paragraph 5.10 regarding property insurance.

14.06 *Final Inspection*

A. Upon written notice from CONTRACTOR that the entire Work or an agreed portion thereof is complete, ENGINEER will promptly make a final inspection with OWNER and CONTRACTOR and will notify CONTRACTOR in writing of all particulars in which this inspection reveals that the Work is incomplete or defective. CONTRACTOR shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

14.07 *Final Payment*

A. *Application for Payment*

1. After CONTRACTOR has, in the opinion of ENGINEER, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance

with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, Bonds, certificates or other evidence of insurance certificates of inspection, marked-up record documents (as provided in paragraph 6.12), and other documents, CONTRACTOR may make application for final payment following the procedure for progress payments.

2. The final Application for Payment shall be accompanied (except as previously delivered) by: (i) all documentation called for in the Contract Documents, including but not limited to the evidence of insurance required by subparagraph 5.04.B.7; (ii) consent of the surety, if any, to final payment; and (iii) complete and legally effective releases or waivers (satisfactory to OWNER) of all Lien rights arising out of or Liens filed in connection with the Work.

3. In lieu of the releases or waivers of Liens specified in paragraph 14.07.A.2 and as approved by OWNER, CONTRACTOR may furnish receipts or releases in full and an affidavit of CONTRACTOR that: (i) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (ii) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which OWNER or OWNER's property might in any way be responsible have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, CONTRACTOR may furnish a Bond or other collateral satisfactory to OWNER to indemnify OWNER against any Lien.

B. *Review of Application and Acceptance*

1. If, on the basis of ENGINEER's observation of the Work during construction and final inspection, and ENGINEER's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, ENGINEER is satisfied that the Work has been completed and CONTRACTOR's other obligations under the Contract Documents have been fulfilled, ENGINEER will, within ten days after receipt of the final Application for Payment, indicate in writing ENGINEER's recommendation of payment and present the Application for Payment to OWNER for payment. At the same time ENGINEER will also give written notice to OWNER and CONTRACTOR that the Work is acceptable subject to the provisions of paragraph 14.09. Otherwise, ENGINEER will return the Application for Payment to CONTRACTOR, indicating in writing the reasons for refusing to recommend final payment, in which case CONTRACTOR shall

make the necessary corrections and resubmit the Application for Payment.

C. *Payment Becomes Due*

~~1. Thirty days after the presentation to OWNER of the Application for Payment and accompanying documentation, the amount recommended by ENGINEER will become due and, when due, will be paid by OWNER to CONTRACTOR.~~

14.08 Final Completion Delayed

A. If, through no fault of CONTRACTOR, final completion of the Work is significantly delayed, and if ENGINEER so confirms, OWNER shall, upon receipt of CONTRACTOR's final Application for Payment and recommendation of ENGINEER, and without terminating the Agreement, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance to be held by OWNER for Work not fully completed or corrected is less than the retainage stipulated in the Agreement, and if Bonds have been furnished as required in paragraph 5.01, the written consent of the surety to the payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by CONTRACTOR to ENGINEER with the Application for such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

14.09 Waiver of Claims

A. The making and acceptance of final payment will constitute:

1. a waiver of all Claims by OWNER against CONTRACTOR, except Claims arising from unsettled Liens, from defective Work appearing after final inspection pursuant to paragraph 14.06, from failure to comply with the Contract Documents or the terms of any special guarantees specified therein, or from CONTRACTOR's continuing obligations under the Contract Documents; and

2. a waiver of all Claims by CONTRACTOR against OWNER other than those previously made in writing which are still unsettled.

ARTICLE 15 - SUSPENSION OF WORK AND TERMINATION

15.01 OWNER May Suspend Work

A. At any time and without cause, OWNER may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by notice in writing to CONTRACTOR and ENGINEER which will fix the date on which Work will be resumed. CONTRACTOR shall resume the Work on the date so fixed. ~~CONTRACTOR shall be allowed an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension if CONTRACTOR makes a Claim therefor as provided in paragraph 10.05.~~

15.02 OWNER May Terminate for Cause

A. The occurrence of any one or more of the following events will justify termination for cause:

1. CONTRACTOR's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the progress schedule established under paragraph 2.07 as adjusted from time to time pursuant to paragraph 6.04);
2. CONTRACTOR's disregard of Laws or Regulations of any public body having jurisdiction;
3. CONTRACTOR's disregard of the authority of ENGINEER; or
4. CONTRACTOR's violation in any substantial way of any provisions of the Contract Documents.

B. If one or more of the events identified in paragraph 15.02.A occur, OWNER may, after giving CONTRACTOR (and the surety, if any) seven days written notice, terminate the services of CONTRACTOR, exclude CONTRACTOR from the Site, and take possession of the Work and of all CONTRACTOR's tools, appliances, construction equipment, and machinery at the Site, and use the same to the full extent they could be used by CONTRACTOR (without liability to CONTRACTOR for trespass or conversion), incorporate in the Work all materials and equipment stored at the Site or for which OWNER has paid CONTRACTOR but which are stored elsewhere, and finish the Work as OWNER may deem expedient. In such case, CONTRACTOR shall not be entitled to receive any further payment until the Work is finished. If the unpaid balance of the Contract Price exceeds all claims, costs, losses, and damages

(including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by OWNER arising out of or relating to completing the Work, such excess will be paid to CONTRACTOR. If such claims, costs, losses, and damages exceed such unpaid balance, CONTRACTOR shall pay the difference to OWNER. Such claims, costs, losses, and damages incurred by OWNER will be reviewed by ENGINEER as to their reasonableness and, when so approved by ENGINEER, incorporated in a Change Order. When exercising any rights or remedies under this paragraph OWNER shall not be required to obtain the lowest price for the Work performed.

C. Where CONTRACTOR's services have been so terminated by OWNER, the termination will not affect any rights or remedies of OWNER against CONTRACTOR then existing or which may thereafter accrue. Any retention or payment of moneys due CONTRACTOR by OWNER will not release CONTRACTOR from liability.

15.03 OWNER May Terminate For Convenience

A. Upon seven days written notice to CONTRACTOR and ENGINEER, OWNER may, without cause and without prejudice to any other right or remedy of OWNER, elect to terminate the Contract. In such case, CONTRACTOR shall be paid (without duplication of any items):

1. for completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;
2. for expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses;
3. for all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred in settlement of terminated contracts with Subcontractors, Suppliers, and others; and
4. for reasonable expenses directly attributable to termination.

B. CONTRACTOR shall not be paid on account of loss of anticipated profits or revenue or other eco-

conomic loss arising out of or resulting from such termination.

15.04 *CONTRACTOR May Stop Work or Terminate*

A. If, through no act or fault of CONTRACTOR, the Work is suspended for more than 90 consecutive days by OWNER or under an order of court or other public authority, or ENGINEER fails to act on any Application for Payment within 30 days after it is submitted, ~~or OWNER fails for 30 days to pay CONTRACTOR any sum finally determined to be due~~, then CONTRACTOR may, upon seven days written notice to OWNER and ENGINEER, and provided OWNER or ENGINEER do not remedy such suspension or failure within that time, terminate the Contract and recover from OWNER payment on the same terms as provided in paragraph 15.03. In lieu of terminating the Contract and without prejudice to any other right or remedy, if ENGINEER has failed to act on an Application for Payment within 30 days after it is submitted, ~~or OWNER has failed for 30 days to pay CONTRACTOR any sum finally determined to be due~~, CONTRACTOR may, seven days after written notice to OWNER and ENGINEER, stop the Work until payment is made of all such amounts due CONTRACTOR, including interest thereon. The provisions of this paragraph 15.04 are not intended to preclude CONTRACTOR from making a Claim under paragraph 10.05 for an adjustment in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to CONTRACTOR's stopping the Work as permitted by this paragraph.

ARTICLE 16 - DISPUTE RESOLUTION

16.01 *Methods and Procedures*

A. Dispute resolution methods and procedures, if any, shall be as set forth in the Supplementary Conditions. If no method and procedure has been set forth, and subject to the provisions of paragraphs 9.09 and 10.05, OWNER and CONTRACTOR may exercise such rights or remedies as either may otherwise have under the Contract Documents or by Laws or Regulations in respect of any dispute.

ARTICLE 17 - MISCELLANEOUS

17.01 *Giving Notice*

A. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or

if delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.

17.02 *Computation of Times*

A. When any period of time is referred to in the Contract Documents by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

17.03 *Cumulative Remedies*

A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee, or by other provisions of the Contract Documents, and the provisions of this paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

17.04 *Survival of Obligations*

A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract Documents, as well as all continuing obligations indicated in the Contract Documents, will survive final payment, completion, and acceptance of the Work or termination or completion of the Agreement.

17.05 *Controlling Law*

A. This Contract is to be governed by the law of the state in which the Project is located.

**SECTION 00800 - SUPPLEMENTARY CONDITION TO THE
GENERAL CONDITIONS**

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+++ END OF THIS SUPPLEMENTARY CONDITIONS INDEX +++

Supplementary Conditions – 00800-1

SECTION 00800 - SUPPLEMENTARY CONDITIONS TO THE GENERAL CONDITIONS

SC-1.00 Introduction

These Supplementary Conditions amend or supplement the Standard General Conditions of the Construction Contract (No. 1910-8, 1996 Edition) and other provisions of the Contract Documents as indicated below. All provisions, which are not so amended or supplemented, remain in full force and effect.

The terms used in these Supplementary Conditions will have the meanings indicated in the General Conditions.

SC-1.01 Defined Terms

SC-1.01.A.20 *Add the following language to the end of GC 1.01.A.20.*

ENGINEERS's Consultant:	EDLUND DRITENBAS BINKLEY Architects and Associates, P.A. 65 Royal Palm Pointe, Suite D Vero Beach, FL 32960
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SC-1.01.A.21. Delete paragraph GC 1.01.A.21 in its entirety.

SC-1.02 Terminology

SC-1.02.D.1, 2, and 3 *Delete paragraphs GC-1.02.D.1, 2, and 3 in their entirety and insert the following paragraphs in their place:*

D. *Furnish, Install, Perform, Provide*

1. The word "furnish" shall mean to supply and deliver services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.
2. The word "install" shall mean to put into use or place in final position services, materials, or equipment complete and ready for intended use.
3. The words "perform" or "provide" shall mean to furnish and install services, materials, or equipment complete and ready for intended use.

SC-2.05 Before Starting Construction

SC-2.05.C. *Delete paragraph GC 2.05.C in its entirety and insert the following paragraph in its place:*

- C. Evidence of Insurance: CONTRACTOR shall not commence work under this Contract until he has obtained all insurance required under Article 5 and such insurance has been delivered to the OWNER and approved by the OWNER, nor shall the CONTRACTOR allow any Subcontractor to commence work on his subcontract until all similar insurance required of the Subcontractor has been so obtained and approved. All such insurance shall remain in effect until final payment and at all times thereafter when CONTRACTOR may be correcting, removing or replacing *defective* Work in accordance with Article 13.

SC-2.06 Preconstruction Conference

SC-2.06 *Delete paragraph GC-2.06.A in its entirety and insert the following paragraph in its place:*

Supplementary Conditions - 00800-2

- A. Immediately after awarding the contract, but before the CONTRACTOR begins work, the Project Manager will call a preconstruction conference at a place the ENGINEER designates to establish an understanding among the parties as to the work and to discuss schedules referred to in paragraph 2.05.B, procedures for handling Shop Drawings and other submittals, and maintaining required records. Utility companies and others as appropriate will be requested to attend to discuss and coordinate work.
- B. Per the FDOT Standard Specifications for Road and Bridge Construction, the Contractor will certify to the Engineer the following:
 - 1. A listing of on-site clerical staff, supervisory personnel and their pro-rated time assigned to the contract,
 - 2. Actual Rate for items listed in Table 4-3.2.1 (see below),
 - 3. Existence of employee benefit plan for Holiday, Sick and Vacation benefits and a Retirement Plan, and,
 - 4. Payment of Per Diem is a company practice for instances when compensation for Per Diem is requested.

Such certification must be made by an officer or director of the Contractor with authority to bind the Contractor. Timely certification is a condition precedent to any right of the Contractor to recover compensations for such costs, and failure to timely submit the certification will constitute a full, complete, absolute and irrevocable waiver by the Contractor of any right to recover such costs. Any subsequent changes shall be certified to the Engineer as part of the cost proposal or seven calendar days in advance of performing such extra work.

FDOT Table 4-3.2.1	
Item	Rate
FICA	Rate established by Law
FUTA/SUTA	Rate established by Law
Medical Insurance	Actual
Holidays, Sick & Vacation Benefits	Actual
Retirement Benefits	Actual
Workers Compensation	Rates based on the National Council on Compensation Insurance basic rates tables adjusted by Contractor's actual experience modification factor in effect at the time of the additional work or unforeseen work
Per Diem	Actual but not to exceed State of Florida's rate
Insurance*	Actual
*Compensation for Insurance is limited solely to General Liability Coverage and does not include any other insurance coverage (such as, but not limited to, Umbrella Coverage, Automobile Insurance, etc.).	

SC-3.06 Coordination of Plans, Specifications, and Special Provisions

SC-3.06 Add the following new paragraphs immediately after paragraph GC-3.05:

SC-3.06 Coordination of Plans, Specifications, and Special Provisions

- A. In case of discrepancy, the governing order of the documents shall be as follows:
 - 1. Written Interpretations
 - 2. Addenda
 - 3. Specifications
 - 4. Supplementary Conditions to the General Conditions
 - 5. General Conditions

6. Approved Shop Drawings
 7. Drawings
 8. Referenced Standards.
- B. Written/computed dimensions shall govern over scaled dimensions.

SC-4.02 Subsurface and Physical Conditions

SC-4.02 *Add the following new paragraphs immediately after paragraph GC-4.02.B:*

- C. In the preparation of Drawings and Specifications, ENGINEER or ENGINEER's Consultants relied upon the following reports of explorations and tests of subsurface conditions at the Site:
Geotechnical Report
- D. Reports and drawings itemized in SC-4.02.C are included with the Bidding Documents in Appendix D.

SC-5.01 Performance, Payment and Other Bonds

SC-5.01.A. *Delete paragraph GC-5.01.A in its entirety and insert the following paragraphs in its place:*

Within fifteen (15) days of receipt of the Contract Documents for execution, the CONTRACTOR shall furnish a Public Construction Bond in an amount equal to 100% of the Contract Price.

1. In lieu of the Public Construction Bond, the CONTRACTOR may furnish an alternative form of security in the form of cash, money order, certified check, cashier's check, irrevocable letter of credit or a security as listed in Part II of F.S. Chapter 625. Any such alternative form of security shall be for the same purpose, and be for the same amount and subject to the same conditions as those applicable to the bond otherwise required. The determination of the value of an alternative form of security shall be made by the OWNER.
2. Such Bond shall continue in effect for one (1) year after acceptance of the Work by the OWNER.
3. The OWNER shall record the Public Construction Bond with the Public Record Section of the Indian River County Courthouse located at 2000 16th Avenue, Vero Beach, Florida 32960.

SC-5.03 Certificates of Insurance

SC-5.03 *Delete the second sentence of paragraph GC-5.03 in its entirety.*

SC-5.04 CONTRACTOR's Liability Insurance

SC-5.04 *Add the following new paragraphs immediately after paragraph GC-5.04.B:*

- C. The limits of liability for the insurance required by paragraph 5.04 of the General Conditions shall provide coverage for not less than the following amounts or greater where required by Laws and Regulations:
1. **Worker's Compensation:** To meet statutory limits in compliance with the Worker's Compensation Law of Florida. This policy must include Employer Liability with a limit \$100,000 for each accident, \$500,000 disease (policy limit) and \$100,000 disease (each employee). Such policy shall include a waiver of

subrogation as against OWNER and ENGINEER on account of injury sustained by an employee(s) of the CONTRACTOR.

2. Commercial General Liability: Coverage shall provide minimum limits of liability of \$1,000,000 per occurrence Combined Single Limit for Bodily Injury and Property Damage. This shall include coverage for:
 - a. Premises/Operations
 - b. Products/Completed Operations
 - c. Contractual Liability
 - d. Independent Contractors
 - e. Explosion
 - f. Collapse
 - g. Underground.
3. Business Auto Liability: Coverage shall provide minimum limits of liability of \$1,000,000 per occurrence Combined Single Limit for Bodily Injury and Property Damage. This shall include coverage for:
 - a. Owned Autos, and other vehicles
 - b. Hired Autos, and other vehicles
 - c. Non-Owned Autos, and other vehicles.
4. Special Requirements:
 - a. Ten (10) days prior to the commencement of any work under this Contract, certificates of insurance and endorsement forms in the exact wording and format as presented in these Contract Documents will be provided to the OWNER's Risk Manager for review and approval.
 - b. "Indian River County Florida" will be named as "Additional Insured" on both the General Liability and Auto Liability.
 - c. The OWNER will be given thirty (30) days notice prior to cancellation or modification of any stipulated insurance. Such notification will be in writing by registered mail, return receipt requested and addressed to the OWNER's Risk Manager.
 - d. An appropriate "Indemnification" clause shall be made a provision of the Contract (see paragraph 6.20 of the General Conditions).
 - e. It is the responsibility of the CONTRACTOR to insure that all subcontractors comply with all insurance requirements.
 - f. It should be remembered that these are minimum requirements, which are subject to modification in response to high hazard operation.
 - g. Insured must be authorized to do business and have an agent for service of process in Florida and have Best's Rating of A-VII or better.
 - h. All insurance requirements shall be at the Contractor's sole cost and expense, including any deductible or self-insured retention, without contribution from Indian River County or its insurance carriers.

D. Additional Insureds:

1. In addition to "Indian River County, Florida," the following individuals or entities shall be listed as "additional insureds" on the CONTRACTOR's liability insurance policies:
 - a. N/A

E. Contractor shall be responsible for any deductible or self-insured retention.

SC-5.05 OWNER's Liability Insurance

SC-5.05 *Delete paragraph GC-5.05.A in its entirety.*

SC-5.06 Property Insurance

SC-5.06 *Delete paragraphs GC-5.06.A, B, and C in their entirety and insert the following paragraphs in their place:*

- A. CONTRACTOR shall purchase and maintain property insurance upon the Work at the Site in the amount of the full replacement cost thereof. This insurance shall:
 - 1. include the interests of OWNER, CONTRACTOR, Subcontractors, ENGINEER, ENGINEER's Consultants and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, partners, employees, agents and other consultants and subcontractors of any of them each of whom is deemed to have an insurable interest and shall be listed as an insured or additional insured;
 - 2. be written on a Builder's Risk "All Risk" or open peril or special causes of loss policy form that shall at least include insurance for physical loss and damage to the Work, temporary buildings, falsework, and materials and equipment in transit and shall insure against at least the following perils or causes of loss: fire, lightning, extended coverage, theft, vandalism and malicious mischief, earthquake, collapse, debris removal, demolition occasioned by enforcement of Laws and Regulations, water damage, and such other perils or causes of loss as may be specifically required by the Supplementary Conditions.
 - 3. include expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects);
 - 4. cover materials and equipment stored at the Site or at another location that was agreed to in writing by OWNER prior to being incorporated in the Work, provided that such materials and equipment have been included in an Application for Payment recommended by ENGINEER; and
 - 5. allow for partial utilization of the Work by OWNER;
 - 6. include testing and startup; and
 - 7. be maintained in effect until final payment is made unless otherwise agreed to in writing by OWNER, CONTRACTOR and ENGINEER with 30 days written notice to each other additional insured to whom a certificate of insurance has been issued.
- B. CONTRACTOR shall be responsible for any deductible or self-insured retention.
- C. The policies of insurance required to be purchased and maintained by CONTRACTOR in accordance with this paragraph SC-5.06 shall comply with the requirements of paragraph 5.06.C of the General Conditions.

SC-5.06.E *Delete paragraph GC-5.06.E in its entirety and insert the following in its place:*

- E. Additional Insureds:
 - 1. The following individuals or entities shall be listed as "additional insureds" on the CONTRACTOR's property insurance policies:

a. Indian River County, Florida**SC-5.07 Waiver of Rights**

SC-5.07 *Delete GC-5.07 (paragraphs A, B, and C) in its entirety.*

SC-5.08 Receipt and Application of Insurance Proceeds

SC-5.08 *Delete GC-5.08 (paragraphs A and B) in its entirety.*

SC-5.09 Acceptance of Bonds and Insurance; Option to Replace

SC-5.09 *Delete GC-5.09 (paragraph A) in its entirety.*

SC-6.02 Labor; Working Hours

SC-6.02.B. *Add the following paragraphs immediately after paragraph GC-6.02.B:*

1. Regular working hours are defined as Monday through Friday, excluding Indian River County Holidays, from 7 a.m. to 5 p.m.
2. Indian River County Holidays are: New Year's Day, Martin Luther King, Jr. Day, Good Friday, Memorial Day, Independence Day, Labor Day, Veterans Day, Thanksgiving Day, Friday after Thanksgiving, Christmas Eve and Christmas Day. Working on these days will not be permitted without prior written permission and approval from the Construction Coordination Manager.
3. The CONTRACTOR shall receive no additional compensation for overtime work, i.e., work in excess of eight hours in any one calendar day or 40 hours in any one calendar week, even though such overtime work may be required under emergency conditions and may be ordered by the ENGINEER in writing.
4. All costs of inspection and testing performed during overtime work by the CONTRACTOR, which is allowed solely for the convenience of the CONTRACTOR, shall be borne by the CONTRACTOR, and a credit given to the OWNER to deduct the costs of all such inspection and testing from any payments otherwise due the CONTRACTOR.
5. All costs of OWNER's employees and costs of ENGINEER's Consultant resulting from overtime work by the CONTRACTOR, which is allowed solely for the convenience of the CONTRACTOR, shall be borne by the CONTRACTOR, and a credit given to OWNER to deduct all such costs from any payments otherwise due the CONTRACTOR.
6. No work shall commence before 7 a.m. or continue after 5 p.m. except in case of emergency upon specific permission of the ENGINEER.

SC-6.06 Concerning Subcontractors, Suppliers, and Others

SC-6.06.C. *Add the following sentence at the end of paragraph GC-6.06.C:*

OWNER or ENGINEER may furnish to any such Subcontractor, Supplier, or other individual or entity, to the extent practicable, information about amounts paid to CONTRACTOR on account of Work performed for CONTRACTOR by a particular Subcontractor, Supplier, or other individual or entity.

SC-6.08 Permits

SC-6.08 *Add the following paragraphs immediately after paragraph GC-6.08.A:*

1. The OWNER has obtained the following permits (copies of these permits are contained in Appendix A):
 - A. St. Johns River Water Management District – Permit No. 200266-1
 - B. Indian River Farms Water Control District – Permit No. 23-26
 - C. Sebastian River Improvement District – Permit No. 2022-05
 - D. Indian River County ROW Commercial – Permit No. 2023051918
 - E. Indian River County Utility – Permit No. 3677
 - E. FDEP Domestic Wastewater Collection- Permit No. 0038890-44-DWC-CL
 - F. FDEP Potable Water – Permit No. 0039206-1066
 - G. City of Fellsmere Construction Plan Approval Letter
 - H. City of Fellsmere Final Development Plan - Resolution No. 2023-50

2. The CONTRACTOR shall obtain and pay for all other required permits and licenses. The CONTRACTOR shall provide copies of the permits to the OWNER and ENGINEER and shall comply with all conditions contained in the permits at no extra cost to the OWNER.

3. The CONTRACTOR shall be familiar with all permit requirements during construction and shall be responsible for complying with these requirements. The cost of this effort shall be included in the pay item in which the work is most closely associated with.

SC-9.05 Authorized Variations in Work

SC-9.05.A. *Delete the second sentence in paragraph GC-9.05.A in its entirety.*

SC-11.01 Cost of the Work

SC-11.01.A.1. *Delete paragraph GC-11.01.A.1 in its entirety, and insert the following sentences in its place:*

1. CONTRACTOR will receive payment for actual costs of direct labor and burden (see SC-2.06.B) for the additional or unforeseen work. Labor includes foremen actually engaged in the work; and will not include project supervisory personnel nor necessary on-site clerical staff, except when the additional or unforeseen work is a controlling work item and the performance of such controlling work item actually extends completion of the project due to no fault of the Contractor. Compensation for project supervisory personnel, but in no case higher than a Project Manager's position, shall only be for the pro-rata time such supervisory personnel spent on the contract. In no case shall an officer or director of the Company, nor those persons who own more than 1% of the Company, be considered as project supervisory personnel, direct labor or foremen hereunder. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, shall be included in the above to the extent authorized by OWNER.

SC-13.03 Test and Inspections

SC-13.03.B. *Delete paragraph GC-13.03.B in its entirety, and insert the following sentences in its place:*

- B. OWNER shall employ and pay for the services of an independent testing laboratory to perform all initial inspections, tests, or approvals required by the Contract Documents except those inspections, tests, or approvals listed immediately below. Subsequent inspections, tests, or

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approvals required after initial failing inspections, tests, or approvals shall be paid for by the CONTRACTOR by back charge to subsequent applications for payment. The CONTRACTOR shall arrange, obtain, and pay for the following inspections, tests, or approvals:

1. inspections, tests, or approvals covered by paragraphs 13.03.C and 13.03.D below;
2. costs incurred in connection with tests or inspections conducted pursuant to paragraph 13.04.B shall be paid as provided in said paragraph 13.04.B;
3. tests otherwise specifically provided in the Contract Documents.

SC-13.05 OWNER May Stop the Work

SC-13.05.A. *Delete paragraph GC-13.05.A in its entirety and insert the following paragraph in its place:*

- A. If the Work is defective, or CONTRACTOR fails to supply sufficient skilled workers or suitable materials or equipment, or fails to comply with permit requirements, or fails to comply with the technical specifications, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, OWNER may order CONTRACTOR to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of OWNER to stop the Work shall not give rise to any duty on the part of OWNER to exercise this right for the benefit of CONTRACTOR, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

SC-13.07 Correction Period

SC-13.07 A. *Delete the first sentence of paragraph GC-13.07.A in its entirety and insert the following sentence in its place*

- A. If within one year after the date of Final Completion or such longer period of time as may be prescribed by Laws or Regulations or by the terms of any applicable special guarantee required by the Contract Documents or by any specific provision of the Contract Documents, any Work is found to be defective, or if the repair of any damages to the land or areas made available for CONTRACTOR's use by OWNER or permitted by Laws and Regulations as contemplated in paragraph 6.11.A is found to be defective, CONTRACTOR shall promptly, without cost to OWNER and in accordance with OWNER's written instructions: (i) repair such defective land or areas, or (ii) correct such defective Work or, if the defective Work has been rejected by OWNER, remove it from the Project and replace it with Work that is not defective, and (iii) satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others or other land or areas resulting therefrom.

SC-13.07 B. *Delete paragraph GC-13.07.B in its entirety and insert the following sentence in its place*

- B. In special circumstances where a particular item of equipment is placed in continuous service before Final Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications or by Written Amendment.

SC-14.02 Progress Payments

SC-14.02.B.5. *Delete paragraph GC-14.02.B.5.d in its entirety and insert the following paragraph in its place:*

- d. ENGINEER has actual knowledge of the occurrence of any of the events enumerated in paragraph 15.02.A; or

SC-14.02.B.5. *Add the following sentences at the end of paragraph GC-14.02.B.5:*

- e. OWNER has been required to pay ENGINEER additional compensation because of CONTRACTOR delays or rejection of defective Work; or
- f. OWNER has been required to pay an independent testing laboratory for subsequent inspections, tests, or approvals taken after initial failing inspections, tests, or approvals.

SC-14.02.C.1. *Delete paragraph GC-14.02.C.1 in its entirety and insert the following paragraph in its place:*

- C. Payment Becomes Due
 1. Payment shall be made by OWNER to CONTRACTOR according to the Local Government Prompt Payment Act. F.S. 218.70 et. seq.

SC-14.04 Substantial Completion

SC-14.04A. *After the third sentence in paragraph GC-14.04A of the General Conditions, delete the remainder of paragraph 14.04A in its entirety and replace with the following:*

“If Engineer considers the Work substantially complete, Engineer will prepare and deliver to Owner a tentative certificate of Substantial Completion that shall fix the date of Substantial Completion. In accordance with the provisions of Florida Statutes section 208.735(7)(a)(2023), upon receipt of the tentative certificate of Substantial Completion from Engineer, the Owner, the Engineer, and the Contractor shall conduct a walk-through inspection of the Project to document a list of any items required to render the Work on the Project complete, satisfactory, and acceptable under this Agreement (herein the “Statutory List”). The Statutory List shall be reduced to writing and circulated among the Owner, the Engineer, and the Contractor by the Owner or the Engineer within 30 calendar days after substantial completion. The Owner and Contractor acknowledge and agree that: 1) the failure to include any corrective work, or pending items that are not yet completed, on the Statutory List does not alter the responsibility of the Contractor to complete all of the Work under this Agreement; 2) upon completion of all items on the Statutory List, the Contractor may submit a pay request for all remaining retainage except as otherwise set forth in this Agreement; and 3) any and all items that require correction under this Agreement and that are identified after the preparation of the Statutory List remain the obligation of the Contractor to complete to the Owner’s satisfaction under this Agreement. After receipt of the Statutory List by the Contractor, the Contractor acknowledges and agrees that it will diligently proceed to complete all items on the Statutory List and schedule a final walk-through in anticipation of final completion on the Project.”

SC-14.04B *Add the following new paragraph immediately after paragraph GC 14.04B:*

- C. At the time of delivery of the tentative certificate of Substantial Completion, Engineer will deliver to Owner and Contractor a written recommendation as to division of responsibilities pending final payment

between Owner and Contractor with respect to security, operation, safety, and protection of the Work, maintenance, heat, utilities, insurance, and warranties and guarantees

D. For construction projects less than \$10 million, at the time the Owner is in receipt of the Certificate of Substantial Completion, the Owner shall have 30 calendar days to provide a list to the Contractor of items to be completed and the estimated cost to complete each item on the list. Owner and Contractor agree that the Contractor's itemized bid shall serve as the basis for determining the cost of each item on the list. For projects in excess of \$10 million, owner shall have up to 45 calendar days following receipt of Certificate of Substantial Completion of the project to provide contractor with said list.

Payment of retainage

E. Within 20 business days following the creation of the list, Owner shall pay Contractor the remaining contract balance including all retainage previously withheld by Owner except for an amount equal to 150% of the estimated cost to complete all of the items on the list.

Upon completion of all items on the list, the Contractor may submit a payment request for the amount of the 150% retainage held by the Owner. If a good faith dispute exists as to whether one or more of the items have been finished, the owner may continue to withhold the 150% of the total cost to complete such items. The owner shall provide Contractor written reasons for disputing completion of the list.

SC-14.07 Final Payment

SC-14.07.C.1. *Delete paragraph GC-14.07.C.1 in its entirety and insert the following paragraph in its place:*

C. Payment Becomes Due

1. Payment shall be made by OWNER to CONTRACTOR according to the "Local Government Prompt Payment Act" , Florida Statutes section 218.70, et. seq.

SC-15.01 OWNER May Suspend Work

SC-15.01.A *Delete the last sentence in paragraph GC-15.01.A and insert the following in its place:* CONTRACTOR shall be allowed an extension of the Contract Times, directly attributable to any such suspension if CONTRACTOR makes a Claim for an extension as provided in paragraph 10.05. CONTRACTOR shall not be allowed an adjustment of the Contract Price and CONTRACTOR shall not be paid on account of loss of anticipated profits or revenue or other economic loss arising out of or resulting from such Work suspension.

SC-15.02 OWNER May Terminate For Cause

SC-15.02.A.5 and SC-15.02.A.6 *Add the following new paragraphs immediately after paragraph GC-15.02.A.4:*

5. CONTRACTOR's violation of Section 02225 – "Erosion Control and Treatment of Dewatering Water From the Construction Site."
6. CONTRACTOR's failure to make payment to Subcontractors or Suppliers for materials or labor in accordance with the respective agreements between the CONTRACTOR and the Subcontractors or Suppliers.
7. CONTRACTOR certifies that it and its related entities as defined by Florida law are not on the Scrutinized Companies that Boycott Israel List, created pursuant to s. 215.4725 of the

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Florida Statutes, and are not engaged in a boycott of Israel. In addition, if this agreement is for goods or services of one million dollars or more, CONTRACTOR certifies that it and its related entities as defined above by Florida law are not on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, created pursuant to Section 215.473 of the Florida Statutes and are not engaged in business operations in Cuba or Syria.

OWNER may terminate this Contract if CONTRACTOR is found to have submitted a false certification as provided under section 287.135(5), Florida Statutes, been placed on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, or been engaged in business operations in Cuba or Syria, as defined by section 287.135, Florida Statutes.

OWNER may terminate this Contract if CONTRACTOR, including all wholly owned subsidiaries, majority-owned subsidiaries, and parent companies, that exist for the purpose of making profit, is found to have been placed on the Scrutinized Companies that Boycott Israel List or is engaged in a boycott of Israel as set forth in section 215.4725, Florida Statutes.

SC-15.04 CONTRACTOR May Stop Work or Terminate

SC-15.04 *Delete the following text from the first sentence of paragraph GC-15.04.A:*

~~or OWNER fails for 30 days to pay CONTRACTOR any sum finally determined to be due,~~

SC-15.04 *Delete the following text from the second sentence of paragraph GC-15.04.A:*

~~or OWNER has failed for 30 days to pay CONTRACTOR any sum finally determined to be due,~~

SC-16 Dispute Resolution

SC-16.02 Mediation

SC-16 *Add the following new paragraph immediately after paragraph GC-16.01.*

SC-16.02 Mediation

- A. OWNER and CONTRACTOR agree that they shall submit any and all unsettled Claims or counterclaims, disputes, or other matters in question between them arising out of or relating to the Contract Documents or the breach thereof, to mediation by a certified mediator of the 19th Judicial Circuit in Indian River County unless delay in initiating mediation would irrevocably prejudice one of the parties. The mediator of any dispute submitted to mediation under this agreement shall not serve as arbitrator of such dispute unless otherwise agreed.

SC-17 Miscellaneous

SC-17.06 Liens

Add the following new paragraphs immediately after paragraph GC17.05:

SC-17.06 Liens

- A. This project is a "Public Works" under Chapter 255, Florida Statutes. No merchant's liens may be filed against the OWNER. Any claimant may apply to the OWNER for a copy of this Contract. The claimant shall have a right of action against the CONTRACTOR for the amount due him. Such action shall not involve the OWNER in any expense. Claims against the CONTRACTOR are subject to timely prior notice to the CONTRACTOR as specified in Florida Statutes Section 255.05. The CONTRACTOR shall insert the following paragraph in all subcontracts hereunder:

"Notice: Claims for labor, materials and supplies are not assessable against Indian River County and are subject to proper prior notice to (CONTRACTOR'S Name) and to (CONTRACTOR Surety Company Name), pursuant to Chapter 255 of the Florida Statutes. This paragraph shall be inserted in every sub-subcontract hereunder." The payment due under the Contract shall be paid by the OWNER to the CONTRACTOR only after the CONTRACTOR has furnished the OWNER with an affidavit stating that all persons, firms or corporations who are defined in Section 713.01, Florida Statutes, who have furnished labor or materials, employed directly or indirectly in the Work, have been paid in full. The OWNER may rely on said affidavit at face value. The CONTRACTOR does hereby release, remiss and quit-claim any and all rights he may enjoy perfecting any lien or any other type of statutory common law or equitable lien against the job.

++END OF SUPPLEMENTARY CONDITIONS++

SECTION 00942 – Change Order Form

No. _____

DATE OF ISSUANCE: _____

EFFECTIVE DATE: _____

OWNER: Indian River County

CONTRACTOR _____

Project: **INDIAN RIVER COUNTY FIRE/EMS STATION 7**

OWNER's Project No. **IRC-1911**

OWNER'S Bid No. 202441

FM No.: **N/A**

You are directed to make the following changes in the Contract Documents:

Description:

Reason for Change Order:

Attachments: (List documents supporting change)

CHANGE IN CONTRACT PRICE:	
Description	Amount
Original Contract Price	\$ _____
Net Increase (Decrease) from previous Change Orders No. _____ to _____:	\$ _____
Contract Price prior to this Change Order:	\$ _____
Net increase (decrease) of this Change Order:	\$ _____
Contract Price with all approved Change Orders:	\$ _____

CHANGE IN CONTRACT TIMES	
Description	Time
Original Contract Time:	(days or dates) _____
Substantial Completion:	_____
Final Completion:	_____
Net change from previous Change Orders No. _____ to _____:	(days) _____
Substantial Completion:	_____
Final Completion:	_____
Contract Time prior to this Change Order:	(days or dates) _____
Substantial Completion:	_____
Final Completion:	_____
Net increase (decrease) this Change Order:	(days or dates) _____
Substantial Completion:	_____
Final Completion:	_____
Contract Time with all approved Change Orders:	(days or dates) _____
Substantial Completion:	_____
Final Completion:	_____

ACCEPTED:
By:
CONTRACTOR (Signature)
Date:

RECOMMENDED:
By:
ENGINEER (Signature)
Date:

APPROVED:
By:
OWNER (Signature)
Date:

SECTION 00948 – Work Change Directive

No. ____

DATE OF ISSUANCE: _____

EFFECTIVE DATE: _____

OWNER: Indian River County

CONTRACTOR _____

Project: INDIAN RIVER COUNTY FIRE/EMS STATION 7

OWNER's Project No. IRC-1911

OWNER'S Bid No. 202441

FM No.: N/A

You are directed to proceed promptly with the following changes:

Description:

Reason for Change Order:

Attachments: (List documents supporting change)

If OWNER or CONTRACTOR believe that the above change has affected Contract Price any Claim for a Change Order based thereon will involve one or more of the following methods as defined in the Contract Documents.

Method of determining change in Contract Prices

- Unit Prices
- Lump Sum
- Other: _____
- By Change Order:

Estimated increase (decrease) of this Work Change Directive
\$ _____

If the change involves an increase, the estimated amount is not to be exceeded without further authorization.

Method of determining change in Contract Times

- Contractor's Records
- Engineer's Records
- Other: _____
- By Change Order:

Estimated increase (decrease) in Contract Times:

Substantial Completion: _____ days;
Ready for Final Completion: _____ days.

If the change involves an increase, the estimated time is not to be exceeded without further authorization.

ACCEPTED:
By:
CONTRACTOR (Signature)
Date:

RECOMMENDED:
By:
ENGINEER (Signature)
Date:

APPROVED:
By:
OWNER (Signature)
Date:

**** END OF SECTION****

DIVISION 1 - GENERAL REQUIREMENTS

DIVISION 1 - GENERAL REQUIREMENTS

SECTION 01009 - SPECIAL PROVISIONS

SECTION 01024 - FORCE ACCOUNT

SECTION 01050 - FIELD ENGINEERING AND LAYOUT

SECTION 01091 - REFERENCE STANDARDS

SECTION 01215 - GENERAL QUALITY CONTROL

SECTION 01220 - PROGRESS MEETINGS

SECTION 01310 - CONSTRUCTION SCHEDULES

SECTION 01340 - SUBMITTAL OF SHOP DRAWINGS

SECTION 01520 - CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

SECTION 01541 - PROTECTION OF THE WORK AND PROPERTY

SECTION 01550 - ACCESS ROADS, PARKING AREAS AND USE OF PUBLIC STREETS

SECTION 01610 - TRANSPORTATION AND HANDLING OF MATERIALS AND EQUIPMENT

SECTION 01611 - STORAGE OF MATERIAL AND EQUIPMENT

SECTION 01630 - SUBSTITUTIONS

SECTION 01710 - SITE CLEANUP AND RESTORATION

SECTION 01820 - POST FINAL INSPECTION

SECTION 01009 - SPECIAL PROVISIONS

1.1 GENERAL

- A. Visits to the construction site may be made by representatives of permitting or governing bodies. Submit details of all instructions from the above to the ENGINEER immediately. The Work will not be accepted by the OWNER until final acceptance has been received from the various Regulatory Agencies having jurisdiction.
- B. Furnish sufficient labor, construction equipment and materials, and work such hours, including night shifts and overtime operations, as may be necessary to insure the prosecution of the work in accordance with the approved progress schedule. If, in the opinion of the ENGINEER, the CONTRACTOR falls behind the progress schedule, take such steps as may be necessary to improve progress, all without additional cost to the OWNER. The ENGINEER shall be compensated for his overtime services in accordance with the Supplementary Conditions, SC-6.02.
- C. All salvageable material and equipment for which specific use, relocation or other disposal is not specifically noted, shall remain the property of the OWNER and shall be delivered to the OWNER at the following location: 4550 41st Street, at the CONTRACTOR's expense. All material and equipment not in salvageable condition, as determined by the ENGINEER and the OWNER, shall be disposed of by the CONTRACTOR, at the CONTRACTOR's expense.
- D. In addition to these Specifications all work must comply with the requirements of the local governing agency, St. Johns River Water Management District, Department of Environmental Protection, Army Corps of Engineers, Indian River Farms Water Control District, and all other applicable State or Federal agencies' specifications and permits. In the event of a conflict, the more stringent specification or requirement shall govern.
- E. Before performing any work outside the designated limits of the work site, secure any necessary permits and authorization from the applicable owner, or verify in writing that such has been previously obtained. Follow all requirements of any said permits or authorization. Give the ENGINEER and appropriate owner ten (10) days minimum notice before commencing construction operations outside the designated limits of the work site.

+ + END OF SECTION + +

SECTION 01024 - FORCE ACCOUNT

1.1 GENERAL

- A. CONTRACTOR shall furnish all labor, materials, equipment and incidentals necessary to perform additional work not covered on the Contract Drawings. The force Account is intended as a contingency for unforeseen work.

1.2 PAYMENT

- A. Lump sum amount for force account work is included in the bid schedule. The value of force account work will be determined in accordance with Article 12 of the General Conditions.

+ + END OF SECTION + +

SECTION 01050 - FIELD ENGINEERING AND LAYOUT

1.1 GENERAL

- A. The CONTRACTOR will furnish all construction staking for the project. All staking from control will be under the supervision of a Florida Registered Land Surveyor.
- B. Develop and make all detail surveys and measurements needed for construction including but not limited to, slope stakes, batter boards, piling layouts and all other working lines, elevations and cut sheets.
- C. Keep a transit and leveling instrument on the site at all times and a skilled instrument man available whenever necessary for layout of the Work.
- D. Provide all material required for benchmarks, control points, batter boards, grade stakes, and other items.
- E. Be solely responsible for all locations, dimensions and levels. No data other than written orders of the ENGINEER shall justify departure from the dimensions and levels required by the Drawings.
- F. Safeguard all points, stakes, grademarks, monuments and benchmarks made or established on the Work, and reestablish same, if disturbed. Rectify all Work improperly installed because of not maintaining, not protecting or removing without authorization such established points, stakes, marks and monuments.
- G. When requested by the ENGINEER, provide such facilities and assistance as may be necessary for the ENGINEER to check line and grade points placed by the CONTRACTOR. Do no excavation or embankment work until all cross-sectioning necessary for determining pay quantities has been completed and checked by the ENGINEER.
- H. The cost of performing engineering and layout work described above shall be included in the contract unit prices for the various items of work to which it is incidental. No separate payment will be made for surveying or engineering.

1.2 SURVEY WORK AND QUALIFICATIONS OF SURVEYOR

- A. Prior to commencing work, the CONTRACTOR shall satisfy himself as to the accuracy of all survey and existing site information as indicated in the Contract Documents. Immediately notify the ENGINEER upon discovery of any errors, inaccuracies or omissions in the survey data. The commencing of any of the work by the CONTRACTOR shall be held as the CONTRACTOR's acceptance that all survey or existing site information is correct and accurate, without any reasonably inferable errors, inaccuracies or omissions.

- B. The CONTRACTOR shall carefully preserve all control stakes, benchmarks, reference points and property corners and will be responsible for any mistake or loss of time caused by their unnecessary loss or disturbance. If the loss or disturbance of the stakes or marks cause a delay in the Work, the CONTRACTOR shall have no claim for damages or extension of time. Control stakes, benchmarks, reference points and property corners disturbed by the CONTRACTOR's work shall be replaced by a Florida Registered Land Surveyor and Mapper, at the CONTRACTOR's expense. In the event the Owner must provide the services of the Florida Registered Surveyor and Mapper to perform this replacement work, the cost of the surveying services will be deducted from any sums due the CONTRACTOR for the work performed under this Contract.

- C. All survey work shall be performed under the guidance and direction of a Florida Registered Surveyor and Mapper.

- D. All survey work for Record Drawings shall be performed by a Florida Registered Surveyor and Mapper.

1.3 STATION BOARDS

- A. CONTRACTOR shall erect and maintain white/black standard FDOT station markers every 100 feet.

1.4 LAYOUT OF STRIPING

- A. Establish by instrument, and mark the finished surface, the points necessary for striping finished roadway in conformance with Section 5-7 of FDOT Standard Specifications.

+ + END OF SECTION + +

SECTION 01091 - REFERENCE STANDARDS**1.1 GENERAL**

- A. Whenever reference is made to the furnishing of materials or testing thereof to conform to the standards of any technical society, organization or body, it shall be construed to mean the latest standard, code, specification or tentative specification adopted and published at the date of advertisement for bids, unless noted otherwise in the Technical Specifications or on the Drawings. When a reference standard is specified, comply with requirements and recommendations stated in that standard, except when they are modified by the Contract Documents, or when applicable laws, ordinances, rules, regulations or codes establish stricter standards. The list of specifications presented in Paragraph B is hereby made a part of the Contract, the same as if repeated herein in full.
- B. Reference to a technical society, organization, or body may be made in the Specifications by abbreviations, in accordance with the following list:

AASHTO	The American Association of State Highway and Transportation Officials
ACI	American Concrete Institute
AGA	American Gas Association
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
ANSI	American National Standards Institute
ASCE	American Society of Civil Engineers
ASTM	American Society for Testing and Materials
AWPA	American Wood Preservers Association
AWWA	American Water Works Association
AWS	American Welding Society
FED.SPEC.	Federal Specifications
CRSI	Concrete Reinforcing Steel Institute
FDEP/DEP	Florida Department of Environmental Protection
DNR	Department of Natural Resources
NCPI	National Clay Pipe Institute
NEMA	National Electrical Manufacturers Association
NEC	National Electric Code
NSPE	National Society of Professional Engineers
OSHA	Occupational Safety and Health Administration

PCI	Prestressed Concrete Institute
FDOT/DOT	Florida Department of Transportation
U. L., Inc.	Underwriter's Laboratories, Inc.
SSPC	Steel Structures Painting Council
SJRWMD	St. Johns River Water Management District

- C. When no reference is made to a code, standard or specification, the standard specifications of ASTM, FDOT, or ANSI shall govern.
- D. In the event of a conflict between the specifications prepared by the ENGINEER and the above referenced specifications and standards, or any other regulatory specification or standard, the more stringent requirement prevails.

+ + END OF SECTION + +

SECTION 01215 - GENERAL QUALITY CONTROL

1.1 DESCRIPTION OF REQUIREMENTS

- A. Definitions: Specific quality control requirements for the work are indicated throughout the Contract Documents. The requirements of this section are primarily related to the performance of the work beyond the furnishing of manufactured products. The term "Quality Control" includes, but is not necessarily limited to, inspection and testing and associated requirements. This section does not specify or modify the OWNER and ENGINEER duties relating to quality review and Contract surveillance.

1.2 RESPONSIBILITY FOR INSPECTIONS AND TESTS

- A. Residual OWNER Responsibility: The OWNER will employ and pay for the services of independent testing laboratories to perform those required inspections and tests.
- B. CONTRACTORS General Responsibility: No failure of test agencies, whether engaged by the OWNER or CONTRACTOR, to perform adequate inspections of tests or to properly analyze or report results, shall relieve the CONTRACTOR of responsibility for the fulfillment of the requirements of the Contract Documents. It is recognized that the required inspection and testing program is intended to assist the CONTRACTOR, OWNER, ENGINEER, and governing authorities in the nominal determination of probable compliance with requirements for certain crucial elements of work. The program is not intended to limit the CONTRACTOR in his regular quality control program, as needed for general assurance of compliance.

1.3 QUALITY ASSURANCE

- A. General Workmanship Standards: It is a requirement that each category of tradesman or installer performing the work be pre-qualified, to the extent of being familiar with the applicable and recognized quality standards for his category of work, and being capable of workmanship complying with those standards.

1.4 PRODUCT DELIVERY-STORAGE-HANDLING

Handle, store and protect materials and products, including fabricated components, by methods and means which will prevent damage, deterioration and losses (and resulting delays), thereby ensuring highest quality results as the performance of the work progresses. Control delivery schedules so as to minimize unnecessary long-term storage at the project site prior to installation.

1.5 PROJECT PHOTOGRAPHS/VIDEOS

- A. The CONTRACTOR shall make provisions, at his expense, for photographs and video tapes of all work areas just prior to construction, and for unusual conditions during construction. The photographs and videos shall show pertinent physical features along the line of construction. The purpose of the videos is to determine any damage to private or public property during construction. The video must be performed by a professional videographer.
- B. Pre-Construction Photographs and Video:
1. Contractor shall provide the Owner with photographs and video record and one copy of the existing conditions prior to construction. These photographs and videos shall be a standard DVD format and shall be narrated.
 2. The photographs and video shall include, but not be limited to, the following items shown in a clear manner:
 - 1) All existing features within the right-of-way.
 - 2) All existing features within the temporary construction easement.
 - 3) All existing features within permanent easements.
 - 4) All existing features adjacent to any construction.
 3. Detail of the photographs and video shall be such that the following examples shall be clear and visible:
 - 1) Cracks in walls.
 - 2) Condition of fencing.
 - 3) Condition of planted areas and types of vegetation.
 - 4) Condition of sodded areas.
 - 5) Conditions of sprinkler systems and associated controls and wiring.
 - 6) Condition of signs.
 - 7) Conditions of lighting and associated wiring.
 - 8) Significant detail of any pre-existing damages physical features shall be shown. The coverage of the photographs and video should include the limits of effects of the use of vibratory rollers.
 - 9) These photographs and video record shall be presented and approved by the Owner prior to the Notice to Proceed. A copy shall be kept in the Contractor's field office.
 - 10) Payment – No additional payment will be made for this work.

+ + END OF SECTION + +

SECTION 01220 - PROGRESS MEETINGS

1.1 SCOPE

- A. Date and Time:
 - 1. Regular Meetings: As mutually agreed upon by ENGINEER and CONTRACTOR.
 - 2. Other Meetings: On call.
- B. Place: CONTRACTOR'S office at Project site or other mutually agreed upon location.
- C. ENGINEER shall prepare agenda, preside at meetings, and prepare and distribute a transcript of proceedings to all parties.
- D. CONTRACTOR shall provide data required and be prepared to discuss all items on agenda.

1.2 MINIMUM ATTENDANCE

- A. CONTRACTOR
- B. SUBCONTRACTOR:
When needed for the discussion of a particular agenda item, CONTRACTOR shall require representatives of Subcontractors or suppliers to attend a meeting.
- C. PROJECT MANAGER
- D. OWNER'S representative, if required.
- E. Utility Representatives
- F. Others as appropriate.
- G. Representatives present for each party shall be authorized to act on their behalf.

1.3 AGENDA

Agenda will include, but will not necessarily be limited to, the following:

- 1. Transcript of previous meeting.
- 2. Progress since last meeting.
- 3. Planned progress for next period.
- 4. Problems, conflicts and observations.
- 5. Change Orders.
- 6. Status of Shop Drawings.
- 7. Quality standards and control.
- 8. Schedules, including off-site fabrication and delivery schedules. Corrective measures, if required.
- 9. Coordination between parties.
- 10. Safety concerns.
- 11. Other business.

++ END OF SECTION ++

SECTION 01310 - CONSTRUCTION SCHEDULES

1.1 GENERAL REQUIREMENTS

- A. No partial payments shall be approved by the ENGINEER until there is an approved construction progress schedule on hand.
- B. Designate an authorized representative who shall be responsible for development and maintenance of the schedule and of all progress and payment reports. This representative shall have direct project control and complete authority to act on behalf of the CONTRACTOR in fulfilling the commitments of the CONTRACTOR's schedules.

1.2 REVISIONS TO THE CONSTRUCTION SCHEDULES

When the ENGINEER requires the CONTRACTOR to submit revised (updated) progress schedules on a monthly basis the CONTRACTOR shall:

- A. Indicate the progress of each activity to the date of submission.
- B. Show changes occurring since the previous submission listing:
 - 1. Major changes in scope.
 - 2. Activities modified since the 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.

1.3 SUBMISSION OF THE CONSTRUCTION SCHEDULES

On or before the tenth day after the effective date of the Agreement, submit the initial schedules to the ENGINEER. The ENGINEER will review the schedules and return a review copy to the CONTRACTOR within 21 days after receipt. If required by the ENGINEER, resubmit revised schedules on or before the seventh day after receipt of the review copy. If required by the ENGINEER, submit revised monthly progress schedules with that month's application for payment.

1.4 DISTRIBUTION OF THE CONSTRUCTION SCHEDULES

- A. After receiving approval by the ENGINEER, distribute copies of the approved initial schedule and all reviewed revisions (updated) to:
 - 1. Job site file.
 - 2. Subcontractors.
 - 3. Other concerned parties.
 - 4. OWNER (two copies).
 - 5. ENGINEER

- B. In the cover letter, instruct recipients to report promptly to the CONTRACTOR, in writing, any problems anticipated by the projections shown in the schedules.

+ + END OF SECTION + +

SECTION 01340 - SUBMITTAL OF SHOP DRAWINGS

1.1 SCOPE

- A. Submit shop drawings, product data and samples as required by or inferred by the Drawings and Specifications. Submittals shall conform to the requirements of Article 6.17 of the General Conditions, Section 00700, and as described in this Section.

1.2 SHOP DRAWINGS

- A. Shop drawings are original drawings, prepared by the CONTRACTOR, a subcontractor, supplier, or distributor, which illustrate some portion of the work; showing fabrication, layout, setting, or erection details. Shop drawings are further defined in Article 6.17, Section 00700.
- B. Shop drawings shall be prepared by a qualified detailer and shall be identified by reference to sheet and detail numbers on the Contract Drawings.

1.3 PRODUCT DATA

- A. Product data are manufacturer's standard schematic drawings and manufacturer's catalog sheets, brochures, diagrams, schedules, performance charts, illustrations, and other standard descriptive data. Product data are further defined in Article 6.17, Section 00700.
- B. Modify standard drawings to delete information which is not applicable to the project and supplement them to provide additional information applicable to the project.
- C. Clearly mark catalog sheets, brochures, etc., to identify pertinent materials, products, or models.

1.4 SAMPLES

- A. Samples are physical examples to illustrate materials, equipment, or workmanship and to establish standards by which work is to be evaluated. Samples are further defined in Article 6.17, Section 00700.

1.5 CONTRACTOR'S RESPONSIBILITIES FOR SUBMITTAL OF SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

- A. The CONTRACTOR's responsibilities for submittal of shop drawings, product data, and samples are set forth in paragraph 6.17 of the General Conditions and as further explained herein.
- B. Prior to submission, thoroughly check shop drawings, product data, and samples for completeness and for compliance with the Contract Documents, verify all dimensions and field conditions, and coordinate the shop drawings with the requirements for other related work. Also review each shop drawing before submitting it to the ENGINEER to determine that it is acceptable in terms of the means, methods, techniques, sequences and operations of construction, safety precautions and programs incidental thereto, all of which are the CONTRACTOR's responsibility.
 - 1. It is CONTRACTOR'S responsibility to review submittals made by his suppliers and Subcontractors before transmitting them to ENGINEER to assure proper coordination of the Work and to determine that each submittal is in accordance with its desires and that there is sufficient information about materials and equipment for ENGINEER to determine compliance with the Contract Documents.
 - 2. Incomplete or inadequate submittals will be returned for revision without review.
- C. The CONTRACTOR's responsibility for errors and omissions in submittals is not relieved by the ENGINEER's review of submittals. The CONTRACTOR shall approve the shop drawings based on his in-the-field measurements, prior to submittal to the ENGINEER for his review.
- D. Notify the ENGINEER, in writing at the time of submission, of deviations in submittals from the requirements of the Contract Documents. The CONTRACTOR's responsibility for deviations in submittals from the requirements of the Contract Documents is not relieved by the ENGINEER's review of submittals, unless the ENGINEER gives written acceptance of specific deviations.
- E. Begin no work, which requires submittals until return of submittals with the ENGINEER's stamp and initials or signature indicating the submittal has been reviewed.

1.6 SUBMITTAL REQUIREMENTS AND ENGINEER'S REVIEW FOR SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

- A. Submit to:
 Indian River County
 Engineering Division
 1801 27th Street
 Vero Beach, FL 32960

- B. A letter of transmittal shall accompany each submittal. If data for more than one Section of the Specifications is submitted, a separate transmittal letter shall accompany the data submitted for each Section.

- C. At the beginning of each letter of transmittal, provide a reference heading indicating the following:
 - 1. OWNER'S Name
 - 2. Project Name
 - 3. Project Number
 - 4. Transmittal Number
 - 5. Section Number

- D. All submittals shall have a title block with complete identifying information satisfactory to the ENGINEER. The following is a sample Submittal Form that the CONTRACTOR may use:

[The remainder of this page has been left blank intentionally]

CONTRACTOR SUBMITTALS

SUBMITTAL NO.

Contractor:

Date Sent to County _____
No. Copies Sent to County _____
 Original Submittal Re-Submittal

Project Name: INDIAN RIVER COUNTY FIRE STATION 7

Project No.: IRC-1911

Shop Drawing Cut Sheet Other _____

Description: _____

Sub-Contractor: _____

Remarks: _____

Reviewing Agency: (As checked below)

Date Received Date Returned No. Copies Ret'd

I R C Engineering Div. _____

I R C Utilities Services _____

Remarks: _____

IRC Engineering Division

Date Rec'd from Contractor _____

Date Ret'd to Contractor _____

1801 27th Street

No. Copies Ret'd _____

Vero Beach, Fl. 32960

Remarks: _____

Distribution of Copies:

IRC Engineering Division

Office File

Field Office File

- E. All submittals shall bear the stamp of approval and signature of CONTRACTOR as evidence that they have been reviewed by CONTRACTOR. Submittals without this stamp of approval will not be reviewed by the ENGINEER and will be returned to CONTRACTOR.
- F. Assign a number to each submittal starting with No. 1 and thence numbered consecutively. Identify resubmittals by the original submittal number followed by the suffix "A" for the first resubmittal, the suffix "B" for the second resubmittal, etc.
- G. Initially submit to ENGINEER a minimum of two (2) copies of all submittals that are on 11-inch by 17-inch or smaller sheets (no less than 8 1/2-inch x 11-inch).
- H. After ENGINEER completes his review, Shop Drawings will be marked with one of the following notations:
 - 1. Approved
 - 2. Approved as Noted
 - 3. NOT Approved - Resubmit
- I. If a submittal is acceptable, it will be marked "Approved" or "Approved as Noted". One (1) electronic copy of the submittal will be returned to CONTRACTOR.
- J. Upon return of a submittal marked "Approved" or "Approved as Noted", CONTRACTOR may order, ship or fabricate the materials included on the submittal, provided it is in accordance with the corrections indicated.
- K. If a submittal is unacceptable, one (1) copy will be returned to CONTRACTOR with following notation, "NOT Approved - Resubmit".
- L. Upon return of a submittal marked "NOT Approved - Resubmit", make the corrections indicated and repeat the initial approval procedure. Upon return of a submittal so marked, repeat the initial approval procedure utilizing acceptable material or equipment.
- M. Work shall not be performed nor equipment installed without an ENGINEER "Approved" or "Approved as Noted" Shop Drawing.
- N. Submit Shop Drawings well in advance of the need for the material or equipment for construction and with ample allowance for the time required to make delivery of material or equipment after data covering such is approved. CONTRACTOR shall assume the risk for all materials or equipment which is fabricated or delivered prior to the approval of Shop Drawings. Materials or equipment requiring Shop Drawings which have not yet received approval by the ENGINEER shall not be installed on the project. Materials or equipment will not be included in periodic progress payments until approval thereof has been obtained in the specified manner.

- P. ENGINEER will review and process all submittals promptly, but a reasonable time should be allowed for this, for the Shop Drawings being revised and resubmitted, and for time required to return the approved Shop Drawings to CONTRACTOR.
- Q. Furnish required submittals with complete information and accuracy in order to achieve required approval of an item within three submittals. All costs to ENGINEER involved with subsequent submittals of Shop Drawings, Samples or other items requiring approval, will be back-charged to CONTRACTOR in accordance with the General Conditions and the Supplementary Conditions. If the CONTRACTOR requests a substitution for a previously approved item, all of ENGINEER'S costs in the reviewing and approval of the substitution will be back-charged to CONTRACTOR unless the need for such substitution is beyond the control of CONTRACTOR.

+ + END OF SECTION + +

SECTION 01520 - CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

1.1 SCOPE

- A. Provide all construction equipment and facilities and temporary controls required to satisfactorily complete the work represented on the Drawings and described in the Specifications.

1.2 RESPONSIBILITY

- A. All construction facilities and temporary controls remain the property of the Contractor establishing them and shall be maintained in a safe and useful condition until removed from the construction site.
- B. All false work, scaffolding, ladders, hoistways, braces, pumps, roadways, sheeting, forms, barricades, drains, flumes, and the like, any of which may be needed in construction of any part of the work and which are not herein described or specified in detail, must be furnished, maintained and removed by the CONTRACTOR, who is responsible for the safety and efficiency of such work and for any damage that may result from their failure or from their improper construction, maintenance or operation.
- C. In accepting the Contract, the CONTRACTOR assumes full responsibility for the sufficiency and safety of all hoists, cranes, temporary structures or work and for any damage which may result from their failure or their improper construction, maintenance or operation and will indemnify and save harmless the OWNER and ENGINEER from all claims, suits or actions and damages or costs of every description arising by reason of failure to comply with the above provision.

1.3 TEMPORARY UTILITIES AND SERVICES

- A. **TEMPORARY WATER**
 - 1. Provide a temporary water service as required for all construction purposes and pay for all water used.
 - 2. Furnish potable drinking water in suitable dispensers and with cups for use of all employees at the job.
 - 3. Provide all temporary piping, hoses, etc., required to transport water to the point of usage by all trades.
 - 4. When temporary water service is no longer required, remove all temporary water lines.

B. TEMPORARY SANITARY FACILITIES

1. Provide temporary toilet facilities separate from the job office. Maintain these during the entire period of construction under this Contract for the use of all construction personnel on the job. Provide enough chemical toilets to conveniently serve the needs of all personnel. Properly seclude toilet facilities from public observation.
2. Chemical toilets and their maintenance shall meet the requirements of State and local health regulations and ordinances. Immediately correct any facilities or maintenance methods failing to meet these requirements. Upon completion of work, remove the facilities from the premises.

1.4 SECURITY

Full time watchmen will not be specifically required as a part of the Contract, but the CONTRACTOR shall provide inspection of work area daily and shall take whatever measures are necessary to protect the safety of the public, workmen, and materials, and provide for the security of the site, both day and night.

1.5 TEMPORARY CONTROLS

Take all necessary precautions to control dust and mud associated with the work of this Contract. In dry weather, spray dusty areas daily with water in order to control dust. Take necessary steps to prevent the tracking of mud onto adjacent streets and highways.

1.6 REMOVAL OF TEMPORARY CONSTRUCTION FACILITIES

Remove the various temporary facilities, services, and controls and legally dispose of them as soon as the work is complete. The areas of the site used for temporary facilities shall be properly reconditioned and restored to a condition acceptable to the OWNER.

+ + END OF SECTION + +

SECTION 01541 - PROTECTION OF THE WORK AND PROPERTY

1.1 GENERAL

- A. CONTRACTOR shall be responsible for taking all precautions, providing all programs, and taking all actions necessary to protect the Work and all public and private property and facilities from damage as specified in the General Conditions and herein.
- B. In order to prevent damage, injury or loss, CONTRACTOR'S actions shall include, but not be limited to, the following:
 - 1. Store apparatus, materials, supplies, and equipment in an orderly, safe manner that will not unduly interfere with the progress of the Work or the Work of any other Contractor or utility service company.
 - 2. Provide suitable storage facilities for all materials, which are subject to injury by exposure to weather, theft, breakage, or otherwise.
 - 3. Place upon the Work or any part thereof, only such loads as are consistent with the safety of that portion of the Work.
 - 4. Clean up frequently all refuse, rubbish, scrap materials, and debris caused by construction operations, so that at all times, the site of the Work presents a safe, orderly, and workmanlike appearance.
 - 5. Provide barricades and guard rails around openings, for scaffolding, for temporary stairs and ramps, around excavations, elevated walkways and other hazardous areas.
- C. Except after written consent from proper parties, do not enter or occupy privately-owned land with men, tools, materials or equipment, except on easements provided herein.
- D. Assume full responsibility for the preservation of all public and private property or facility on or adjacent to the site. If any direct or indirect damage is done by or on account of any act, omission, neglect or misconduct in the execution of the Work by the CONTRACTOR, it shall be restored by the CONTRACTOR, at its expense, to a condition equal to or better than that existing before the damage was done.

1.2 BARRICADES AND WARNING SIGNALS

CONTRACTOR's responsibility for the maintenance of barricades, signs, lights, and for providing watchmen shall continue until OWNER accepts the Project.

1.3 TREE AND PLANT PROTECTION

- A. Protect existing trees, shrubs and plants on or adjacent to the site that are shown or designated to remain in place against unnecessary cutting, breaking or skinning of trunk, branches, bark or roots.

- B. Do not store or park materials or equipment within the drip line of trees that are to remain.
- C. Install temporary fences or barricades to protect trees and plants in areas subject to traffic.
- D. Fires shall not be permitted under or adjacent to trees and plants.
- E. Within the limits of the Work, water trees and plants that are to remain, in order to maintain their health during construction operations.
- F. Cover all exposed roots with burlap and keep it continuously wet. Cover all exposed roots with earth as soon as possible. Protect root systems from mechanical damage and damage by erosion, flooding, run-off or noxious materials in solution.
- G. If branches or trunks are damaged, prune branches immediately and protect the cut or damaged areas with emulsified asphalt compounded specifically for horticultural use.
- H. Remove all damaged trees and plants that die or suffer permanent injury and replace them with a specimen of equal or better quality.
- I. Coordinate Work in this Section with requirements of other sections herein.

1.4 PROTECTION OF IRRIGATION

The CONTRACTOR shall be responsible for maintaining in good condition all irrigation systems within the easements, which could be damaged by construction activities. The CONTRACTOR shall repair any irrigation systems damaged by construction activities within two (2) days. Irrigation systems partially within the right-of-way and all intersecting side streets within project limits may be cut off and capped or connected to same system to maintain functionality. The CONTRACTOR shall be responsible for maintaining the functionality of the remaining portion of the system if it should fall outside of the right-of-way.

1.5 PROTECTION OF EXISTING STRUCTURES

- A. Underground Structures:
 - 1. Underground structures are defined to include, but not be limited to, all sewer, water, gas, and other piping, and manholes, chambers, electrical conduits, tunnels and other existing subsurface work located within or adjacent to the limits of the Work.
 - 2. All underground structures known to ENGINEER except service connections for water, sewer, electric, and telephone are shown. This information is shown for the assistance of CONTRACTOR in accordance with the best information available, but is not guaranteed to be correct or complete. The existing utilities shown on the Contract Drawings are located according to the information available to the ENGINEER at the time the Drawings were prepared and have not been

independently verified by the OWNER or the ENGINEER. Guarantee is not made that all existing underground utilities are shown or that the locations of those shown are accurate. The locations shown are for bidding purposes only. Finding the actual location of any existing utilities is the CONTRACTOR's responsibility and shall be done before it commences any work in the vicinity. Furthermore, the CONTRACTOR shall be fully responsible for any and all damages, which might be occasioned by the CONTRACTOR's failure to exactly locate and preserve any and all underground utilities. The OWNER or ENGINEER will assume no liability for any damages sustained or costs incurred because of the CONTRACTOR's operations in the vicinity of existing utilities or structures, nor for temporary bracing and shoring of same. If it is necessary to shore, brace, or swing a utility, contact the utility company or department affected and obtain their permission regarding the method to use for such work.

3. Contact the various utility companies which may have buried or aerial utilities within or near the construction area before commencing work. Provide 48 hours minimum notice to all utility companies prior to beginning construction.
4. Schedule and execute all work involving existing utilities in order to minimize necessary interruption of services. Whenever such interruption is necessary for completion of the work, notify the ENGINEER and the appropriate utility at least 48 hours in advance. Perform all work to repair/restore utility service to the satisfaction of the appropriate utility. Include all costs related to service maintenance, interruption, and restoration in the appropriate line item in the Contract.
5. Where it is necessary to temporarily interrupt house or business services, the CONTRACTOR shall notify the owner or occupant, both before the interruption (24-hour minimum), and again immediately before service is resumed. Before disconnecting and pipes or cables, the CONTRACTOR shall obtain permission from their owner, or shall make suitable arrangement for their disconnection by their owner.
6. Explore ahead of trenching and excavation work and uncover all obstructing underground structures sufficiently to determine their location, to prevent damage to them and to prevent interruption of the services which such structures provide. If CONTRACTOR damages an underground structure, restore it to original condition at CONTRACTOR's expense.
7. Necessary changes in the location of the Work may be made by ENGINEER, to avoid unanticipated underground structures.
8. If permanent relocation of an underground structure or other subsurface facility is required and is not otherwise provided for in the Contract Documents, ENGINEER will direct CONTRACTOR in writing to perform the Work, which shall be paid for under the provisions of Article 11 of the General Conditions.

B. Surface Structures:

1. Surface structures are defined as structures or facilities above the ground surface. Included with such structures are their foundations and any extension below the surface. Surface structures include, but are not limited to, buildings, tanks, walls, bridges, roads, dams, channels, open drainage, piping, poles, wires, posts, signs, markers, curbs, walks and all other facilities that are visible above the ground surface.

C. Protection of Underground and Surface Structures:

1. Sustain in their places and protect from direct or indirect injury, all underground and surface structures located within or adjacent to the limits of the Work. Such sustaining and supporting shall be done carefully, and as required by the party owning or controlling such structure. Before proceeding with the work of sustaining and supporting such structure, satisfy the ENGINEER that the methods and procedures to be used have been approved by the party owning same.
2. Assume all risks attending the presence or proximity of all underground and surface structures within or adjacent to the limits of the Work. CONTRACTOR shall be responsible for all damage and expense for direct or indirect injury caused by its Work to any structure. CONTRACTOR shall repair immediately all damage caused by his work, to the satisfaction of the OWNER of the damaged structure.

- D. All other existing surface facilities, including but not limited to, guard rails, posts, guard cables, signs, poles, markers, and curbs which are temporarily removed to facilitate installation of the Work shall be replaced and restored to their original condition at CONTRACTOR'S expense.

1.6 DAMAGE TO EXISTING STRUCTURES AND UTILITIES

- A. The CONTRACTOR shall be responsible for and make good all damage to pavement beyond the limits of this Contract, buildings, telephone or other cables, water pipes, sanitary pipes, or other structures which may be encountered, whether or not shown on the Drawings.
- B. Information shown on the Drawings as to the location of existing utilities has been prepared from the most reliable data available to the Engineer. This information is not guaranteed, however, and it shall be this CONTRACTOR's responsibility to determine the location, character and depth of any existing utilities. He shall assist the utility companies, by every means possible to determine said locations. Extreme caution shall be exercised to eliminate any possibility of any damage to utilities resulting from his activities.

1.7 ADJUSTMENTS OF UTILITY CASTINGS, COVERS AND BOXES

- A. All existing utility castings, including valve boxes, junction boxes, manholes, pull boxes, inlets and similar structures in the areas of construction that are to remain in service shall be adjusted by the CONTRACTOR to bring them flush with the surface of the finished work.

- B. The CONTRACTOR shall coordinate the utilities to ensure proper construction sequencing. CONTRACTOR shall make available survey reference markers to the various utility companies.

+ + END OF SECTION + +

SECTION 01550 - ACCESS ROADS, PARKING AREAS AND USE OF PUBLIC STREETS

1.1 GENERAL

- A. Provide all temporary construction roads, walks and parking areas required during construction and for use of emergency vehicles. Design and maintain temporary roads and parking areas so they are fully usable in all weather conditions.
- B. Prevent interference with traffic and the OWNER's operations on existing roads. Indemnify and save harmless the OWNER from any expenses caused by CONTRACTOR's operations over these roads.
- C. Roadways damaged by CONTRACTOR shall be restored to their original condition by the CONTRACTOR subject to approval of the OWNER or ENGINEER.
- D. Remove temporary roads, walks and parking areas prior to final acceptance and return the ground to its original condition, unless otherwise required by the Contract Documents.

1.2 USE OF PUBLIC STREETS

The use of public streets and alleys shall be such as to provide a minimum of inconvenience to the public and to other traffic. Any earth or other excavated material spilled from trucks shall be removed immediately by the CONTRACTOR and the streets cleaned to the satisfaction of the Owner.

1.3 USE OF PUBLIC STREETS FOR HAUL ROADS

- A. Prior to construction, the CONTRACTOR shall designate all proposed haul roads to be used during the life of the project. Any earth or other materials spilled from trucks shall be removed by the CONTRACTOR and streets cleaned to the satisfaction of the Owner. He further shall be responsible for repairs to any damages caused by his operations, prior to final payment.
- B. All trucks carrying earth shall be covered while moving with an appropriate tarpaulin. Should trucks hauling earth fail to cover their loads, the CONTRACTOR will be given two (2) written warnings, after which the CONTRACTOR shall pay a fine of \$50 per uncovered truck to the Owner when invoked by the Owner to Owner's Engineer. All cleanup shall be the responsibility of the CONTRACTOR.
- C. All trucks/moving equipment shall have backup warning horns in proper working order while on the job site.

++ END OF SECTION ++

SECTION 01610 - TRANSPORTATION AND HANDLING OF MATERIALS AND EQUIPMENT

1.1 GENERAL

- A. Make all arrangements for transportation, delivery and handling of equipment and materials required for prosecution and completion of the Work.
- B. Shipments of materials to CONTRACTOR or Subcontractors shall be delivered to the site only during regular working hours. Shipments shall be addressed and consigned to the proper party giving name of Project, street number and city. Shipments shall not be delivered to OWNER except where otherwise directed.
- C. If necessary, to move stored materials and equipment during construction, CONTRACTOR shall move or cause to be moved materials and equipment without any additional compensation.

1.2 DELIVERY

- A. Arrange deliveries of products in accord with construction schedules and in ample time to facilitate inspection prior to installation.
- B. Coordinate deliveries to avoid conflict with Work and conditions at site and to accommodate the following:
 - 1. Work of other contractors, or OWNER.
 - 2. Limitations of storage space.
 - 3. Availability of equipment and personnel for handling products.
 - 4. OWNER'S use of premises.
- C. Do not have products delivered to project site until related Shop Drawings have been approved by the ENGINEER.
- D. Do not have products delivered to site until required storage facilities have been provided.
- E. Have products delivered to site in manufacturer's original, unopened, labeled containers. Keep ENGINEER informed of delivery of all equipment to be incorporated in the Work.
- F. Partial deliveries of component parts of equipment shall be clearly marked to identify the equipment, to permit easy accumulation of parts, and to facilitate assembly.
- G. Immediately on delivery, Contractor shall inspect shipment to assure:
 - 1. Product complies with requirements of Contract Documents and reviewed submittals.
 - 2. Quantities are correct.
 - 3. Containers and packages are intact, labels are legible.
 - 4. Products are properly protected and undamaged.

1.3 PRODUCT HANDLING

- A. Provide equipment and personnel necessary to handle products, including those provided by OWNER, by methods to prevent soiling or damage to products or packaging.
- B. Provide additional protection during handling as necessary to prevent scraping, marring or otherwise damaging products or surrounding surfaces.
- C. Handle products by methods to prevent bending or overstressing.
- D. Lift heavy components only at designated lifting points.
- E. Materials and equipment shall at all times be handled in a safe manner and as recommended by manufacturer or supplier so that no damage will occur to them. Do not drop, roll or skid products off delivery vehicles. Hand carry or use suitable materials handling equipment.

+ + END OF SECTION + +

SECTION 01611 - STORAGE OF MATERIAL AND EQUIPMENT

1.1 GENERAL

- A. Store and protect materials and equipment in accordance with manufacturer's recommendations and requirements of Specifications.
- B. Make all arrangements and provisions necessary for the storage of materials and equipment. Place all excavated materials, construction equipment, and materials and equipment to be incorporated into the Work, so as not to injure any part of the Work or existing facilities, and so that free access can be had at all times to all parts of the Work and to all public utility installations in the vicinity of the Work. Keep materials and equipment neatly and compactly stored in locations that will cause a minimum of inconvenience to other contractors, public travel, adjoining owners, tenants and occupants. Arrange storage in a manner to provide easy access for inspection.
- C. Areas available on the construction site for storage of material and equipment shall be as shown or approved by the ENGINEER.
- D. Store materials and equipment which are to become the property of the OWNER to facilitate their inspection and insure preservation of the quality and fitness of the Work, including proper protection against damage by extreme temperatures and moisture.
- E. Do not use lawns, grass plots or other private property for storage purposes without written permission of the OWNER or other person in possession or control of such premises.
- F. CONTRACTOR shall be fully responsible for loss or damage to stored materials and equipment.
- G. Do not open manufacturers containers until time of installation unless recommended by the manufacturer or otherwise specified.
- H. When appropriate store materials on wood blocking so there is no contact with the ground.

+ + END OF SECTION + +

SECTION 01630 - SUBSTITUTIONS

1.1 GENERAL

- A. Requests for review of a substitution shall conform to the requirements of Article 6.05, "Substitutes and Or-Equals," of the General Conditions, and shall contain complete data substantiating compliance of the proposed substitution with the Contract Documents.

1.2 CONTRACTOR'S OPTIONS

- A. For materials or equipment (hereinafter products) specified only by reference standard, select product meeting that standard by any manufacturer, fabricator, supplier or distributor (hereinafter manufacturer). To the maximum extent possible, provide products of the same generic kind from a single source.
- B. For products specified by naming several products or manufacturers, select any one of the products or manufacturers named which complies with Specifications.
- C. For products specified by naming one or more products or manufacturers and stating "or equivalent," submit a request for a substitution for any product or manufacturer which is not specifically named.
- D. For products specified by naming only one product or manufacturer and followed by words indicating that no substitution is permitted, there is no option and no substitution will be allowed.
- E. Where more than one choice is available as a CONTRACTOR's option, select product which is compatible with other products already selected or specified.

1.3 SUBSTITUTIONS

- A. During a period of 15 days after date of commencement of Contract Time, ENGINEER will consider written requests from CONTRACTOR for substitution of products or manufacturers, and construction methods (if specified).
 - 1. After end of specified period, requests will be considered only in case of unavailability of product or other conditions beyond control of CONTRACTOR.
- B. Submit 5 copies of Request for Substitution. Submit a separate request for each substitution. In addition to requirements set forth in Article 6.05 of General Conditions, include in the request the following:
 - 1. For products or manufacturers:
 - a. Product identification, including manufacturer's name and address.
 - b. Manufacturer's literature with product description, performance and test data, and reference standards.
 - c. Samples, if appropriate.

- d. Name and address of similar projects on which product was used, and date of installation.
 2. For construction methods (if specified):
 - a. Detailed description of proposed method.
 - b. Drawings illustrating method.
 3. Such other data as the ENGINEER may require to establish that the proposed substitution is equal to the product, manufacturer or method specified.
- C. In making Request for Substitution, CONTRACTOR represents that:
1. CONTRACTOR has investigated proposed substitution, and determined that it is equal to or superior in all respects to the product, manufacturer or method specified.
 2. CONTRACTOR will provide the same or better guarantees or warranties for proposed substitution as for product, manufacturer, or method specified.
 3. CONTRACTOR waives all claims for additional costs or extension of time related to a proposed substitution that subsequently may become apparent.
- D. A proposed substitution will not be accepted if:
1. Acceptance will require changes in the design concept or a substantial revision of the Contract Documents.
 2. It will delay completion of the Work, or the work of other contractors.
 3. It is indicated or implied on a Shop Drawing and is not accompanied by a formal Request for Substitution from CONTRACTOR.
- E. If the ENGINEER determines that a proposed substitute is not equal to that specified, furnish the product, manufacturer, or method specified at no additional cost to OWNER.
- F. Approval of a substitution will not relieve CONTRACTOR from the requirement for submission of Shop Drawings as set forth in the Contract Documents.
- G. The procedure for review by Engineer will include the following:
1. Requests for review of substitute items of material and equipment will not be accepted by Engineer from anyone other than CONTRACTOR.
 2. Upon receipt of an application for review of a substitution, Engineer will determine whether the review will be more extensive than a normal shop drawing review for the specified item.
 3. If the substitution will not require a more extensive review, Engineer will proceed with the review without additional cost to CONTRACTOR.
 4. If the substitution requires a more extensive review, Engineer will proceed with the review only after CONTRACTOR has agreed to reimburse Owner for the review cost.
 5. Engineer may require CONTRACTOR to furnish at CONTRACTOR's expense additional data about the proposed substitute.

- H. Any redesign of structural members shall be performed by, and the plans signed and sealed by, a Professional Engineer registered in the State of Florida. The redesign shall be at the CONTRACTOR's expense. Any redesign will require an extensive review by the Engineer. The CONTRACTOR must agree to reimburse the Owner for the review cost prior to the Owner's Engineer proceeding with the design review. The ENGINEER's estimated cost of review shall be provided to the CONTRACTOR prior to proceeding with the review to allow the CONTRACTOR the opportunity to rescind the request.
- I. Engineer will be allowed a reasonable time within which to evaluate each proposed substitution. Engineer will be the sole judge of acceptability and shall have the right to deny use of any proposed substitution. The CONTRACTOR shall not order, install, or utilize any substitution without either an executed Change Order or Engineer's notation on the reviewed shop drawing. Owner may require CONTRACTOR to furnish at CONTRACTOR's expense a special manufacturer's performance guarantee(s) or other surety with respect to any substitute and an indemnification by the CONTRACTOR. ENGINEER will record time required by Engineer and Engineer's consultants in evaluating substitutions proposed by CONTRACTOR and in making changes in the Contract Documents occasioned thereby. Whether or not a proposed substitute is used, CONTRACTOR shall reimburse Owner for the charges of Engineer and Engineer's consultants for evaluating each proposed substitute.
- J. Substitute materials or equipment may be proposed for acceptance in accordance with this Section. In the event that substitute materials or equipment are used and are less costly than the originally specified material or equipment, than the net difference in cost shall benefit the Owner and CONTRACTOR in equal proportions. This cost difference shall not be reduced by any failure of the CONTRACTOR to base his bid on the named materials or equipment.

+ + END OF SECTION + +

SECTION 01710 - SITE CLEANUP AND RESTORATION

1.1 SCOPE

Furnish all labor, equipment, appliances, and materials required or necessary to clean up and restore the site after the construction is completed.

1.2 REQUIREMENTS

- A. During the progress of the project, keep the work and the adjacent areas affected thereby in a neat and orderly condition. Remove all rubbish, surplus materials, and unused construction equipment. Repair all damage so that the public and property owners will be inconvenienced as little as possible.
- B. Provide onsite containers for the collection of waste materials, debris, and rubbish and empty such containers in a legal manner when they become full.
- C. Where material or debris has been deposited in watercourses, ditches, gutters, drains, or catch-basins as a result of the CONTRACTOR's operations, such material or debris shall be entirely removed and satisfactorily disposed of during the progress of the work, and the ditches, channels, drains, etc., shall be kept clean and open at all times.
- D. Before the completion of the project, unless otherwise especially directed or permitted in writing:
 - 1. Tear down and remove all temporary buildings and structures;
 - 2. Remove all temporary works, tools, and machinery, or other construction equipment furnished;
 - 3. Remove all rubbish from any grounds occupied; and
 - 4. Leave the roads, all parts of the premises, and adjacent property affected by construction operations, in a neat and satisfactory condition.
- E. Restore or replace any public or private property damaged by construction work, equipment, or employees, to a condition at least equal to that existing immediately prior to the beginning of the operations. To this end, the CONTRACTOR shall restore all highway, roadside, and landscaping work within any right-of-way, platted or prescriptive. Acceptable materials, equipment, and methods shall be used for such restoration.
- F. Thoroughly clean all materials and equipment installed and on completion of the work, deliver the facilities undamaged and in fresh and new-appearing condition.
- G. It is the intent of the Specifications to place the responsibility on the CONTRACTOR to restore to their original condition all items disturbed, destroyed, or damaged during construction. Particular attention will be placed on restoration of canals to equal or better condition than prior to construction.

- H. When finished surfaces require cleaning with cleaning materials, use only those cleaning materials which will not create hazards to health or property and which will not damage the surfaces. Use cleaning materials only on those surfaces recommended by the manufacturer. Follow the manufacturer's directions and recommendations at all times.
- I. Keep the amount of dust produced during construction activities to a minimum. At CONTRACTOR's expense, spray water or other dust control agents over the areas, which are producing the dust. Schedule construction operations so that dust and other contaminants will not fall on wet or newly coated surfaces.

1.3 SITE CLEANUP AND RESTORATION

Prior to final completion, the OWNER, ENGINEER, and CONTRACTOR shall review the site with regards to site cleanup and restoration. Clean and/or restore all items determined to be unsatisfactory by the OWNER or ENGINEER, at no additional expense.

+ + END OF SECTION + +

SECTION 01820 - POST FINAL INSPECTION

1.1 GENERAL

- A. Approximately one year after Final Completion, the OWNER will make arrangements with the Project Manager and the CONTRACTOR for a post final inspection and will send a written notice to said parties to inform them of the date and time of the inspection.
- B. Corrections of defective work noted by OWNER and Project Manager shall comply with the applicable sections of Article 13, General Conditions.
- C. After the inspection, the OWNER will inform the CONTRACTOR of any corrections required to release the performance and payment bonds.

+ + END OF SECTION + +

DIVISION 2 - TECHNICAL PROVISIONS

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SECTION 001 - TECHNICAL SPECIFICATIONS

STANDARD SPECIFICATIONS

- A. All work of this Contract shall conform to the applicable technical specifications of Florida Department of Transportation Standard Specifications for Road and Bridge Construction, FY 2024-25, and Supplemental Specification, Special Provisions and addenda thereto, except as modified and supplemented hereinafter. Reference to Article numbers herein-after apply to the FDOT Standard Specifications, and reference in FDOT Standard Specifications to Department shall be taken as the Owner or its appointed Representative. Wherever the Specifications, Supplementals, etc. may refer to the "Owner", "Department", "State of Florida Department of Transportation", or words relating to offices of State Government, such words shall be taken as meaning Owner or Indian River County, Florida. Wherever the word "Owner's Engineer", "District Engineer", "Engineer", "Project Engineer", etc., appears, it shall be taken to mean the Registered Professional Project Engineer of the Indian River County Public Works Department, Engineering Division acting directly or through duly authorized representatives. Wherever the word "Resident Engineer" appears, it shall be taken to mean an authorized representative of the Owner's Engineer on the Project (Resident Construction Inspector) who will act as an agent for Indian River County, assigned to observe the progress quantity and quality of the work.

The work to be performed for utility work (if any) shall conform to the applicable technical specifications of the "Indian River County Department of Utility Services, Water & Wastewater Utility Standards" May, 2019 or the current version.

The work to be performed per line items 700 through 711 shall conform to the applicable standards of Indian River County Typical Drawings for Pavement Markings, Signing & Geometrics Revised March 2012.

SECTION 004 - SCOPE OF WORK

Section 4-3.9 Value Engineering Incentive is deleted in its entirety.

SECTION 101 - MOBILIZATION

The work specified in this section shall conform to Section 101 of the Florida Department of Transportation Standard Specifications for Road and Bridge Construction.

- A. The Contractor shall maintain all grassed and landscaped areas within the project limits in a satisfactory condition until final acceptance of the project. Such maintenance within the limits of construction shall include the mowing of all existing grassed areas within the Right-of-Way, removal of all trash and debris on a weekly basis, and keeping vegetation trimmed on all sidewalks. Grass height shall not exceed 6" without mowing. Clippings shall be removed from sidewalk.

Item of Payment

Payment for the work specified in this item shall be made under:

Bid Item No. 101-1 – Mobilization/ Demobilization – Per Lump Sum

SECTION 102 - MAINTENANCE OF TRAFFIC

The work specified in this item shall conform to Section 102 of the Florida Department of Transportation Standard Specifications for Road and Bridge Construction, except as modified herein.

- A. **GENERAL PROVISIONS-DESCRIPTION:** The work specified in this Section consists of maintaining traffic within the limits of the project for the duration of the construction period, including any temporary suspensions of the work. It shall include the construction and maintenance of any necessary detour facilities; the providing of necessary facilities for access to residences, businesses, etc., along the project; the furnishing, installing and maintaining of traffic control and safety devices during construction, the control of dust through the use of calcium chloride if necessary, and any other special requirements for safe and expeditious movement of traffic as may be called for on the plans. The term, Maintenance of Traffic, as used herein, shall include all of such facilities, devices and operations as are required for the safety and convenience of the public as well as for minimizing public nuisance; all as specified in this Itemized Section 14 of these provisions and Paragraph 24 in General Conditions Section.
- B. **BEGINNING DATE OF CONTRACTOR'S RESPONSIBILITY:** The Contractor shall present his Maintenance of Traffic Plan at or before the pre-construction conference. The Maintenance of Traffic Plan shall indicate the type and location of all signs, lights, barricades, striping and barriers to be used for the safe passage of pedestrians and vehicular traffic through the project and for the protection of the workmen. The plan will indicate conditions and setups for each phase of the Contractor's activities.

When the project plans include or specify a specific Maintenance of Traffic Plan, alternate proposals will be considered when they are found to be equal to or better than the plan specified.

In no case may the Contractor begin work until the Maintenance of Traffic Plan has been approved in writing by the Engineer. Modifications to the Maintenance of Traffic Plan that become necessary shall also be approved in writing. Except in an emergency, no changes to the approved plan will be allowed until approval to change such plan has been received.

The cost of all work included in the Maintenance of Traffic Plan shall be included in the pay item for Maintenance of Traffic.

The Contractor shall be responsible for performing daily inspections, including weekends and

holidays, with some inspections at nighttime, of the installations on the project and replace all equipment and devices not conforming with the approved standards during that inspection. The project personnel will be advised of the schedule of these inspections and be given the opportunity to join in the inspection as is deemed necessary.

- C. TRAFFIC CONTROL - STANDARDS: The FDOT Design Standards For Design, Construction, Maintenance and Utility Operations On The State Highway System, Edition as dated on the plans set forth the basic principles and prescribes minimum standards to be followed in the design, application, installation, maintenance and removal of all traffic control devices and all warning devices and barriers which are necessary to protect the public and workmen from hazards within the project limits. The standards established in the aforementioned manual constitute the minimum requirements for normal conditions, and additional traffic control devices warning devices, barriers or other safety devices will be required where unusual, complex or particularly hazardous conditions exist.

The above referenced standards were developed using F.H.W.A., U.S.D.O.T. Manual on Uniform Traffic Control Devices (MUTCD).

- D. TRAFFIC CONTROL DEVICES, WARNING DEVICES AND BARRIERS - INSTALLATION: The responsibility for installation and maintenance of adequate traffic control devices, warning devices and barriers, for the protection of the travel in public and workmen, as well as to safeguard the work area in general shall rest with the Contractor. Consideration shall be given to recommendations of the Engineer. The required traffic control devices, warning devices and barriers shall be erected by the Contractor prior to creation of any hazardous condition and in conjunction with any necessary re-routing of traffic. The Contractor shall immediately remove, turn or cover any devices or barriers which do not apply to existing conditions. All traffic control devices shall conform to MUTCD standards and shall be clean and relatively undamaged. Damaged devices diminishing legibility and recognition, during either night or day conditions, are not acceptable for use.
- E. NO WAIVER OF LIABILITY: The Contractor shall conduct his operations in such a manner that no undue hazard will result due to the requirements of this article, and the procedures and policies described therein shall in no way act as a waiver of any of the terms of the liability of the Contractor or his surety.
- F. Contractor's Maintenance of Traffic Plan shall maintain continuous vehicular traffic at all times.
- G. The Changeable Variable Message Sign shall be used as necessary. The location, message, and duration shall be as directed by Engineer.
- H. In addition to above, the Contractor shall comply with INDIAN RIVER COUNTY TRAFFIC ENGINEERING DIVISION SPECIAL CONDITIONS FOR RIGHT-OF-WAY CONSTRUCTION in Appendix C.

Item of Payment

Payment for the work specified in this item shall be made under:

Bid Item No. 102-1 – Maintenance of Traffic – Per Lump Sum

SECTION 104 - PREVENTION, CONTROL, AND ABATEMENT OF EROSION AND WATER POLLUTION

PART 1 – GENERAL

1.1 SCOPE

- A. This Section covers erosion control and the treatment of dewatering water and stormwater runoff from the construction site and work area. Pollution control measures shall prevent polluted or turbid waters from being discharged from the construction site or work area to undeveloped portions of the site or offsite, including but not limited to Multiple Separate Storm Sewer Systems (MS4s) and Waters of the State.
- B. The OWNER considers pollution from dewatering water and stormwater runoff from a construction site or work area to be a very serious offense. The CONTRACTOR is solely responsible for preventing pollution caused by dewatering water and stormwater runoff from the construction site or work area. Note that state regulations do not allow mixing stormwater and dewatering groundwater in the same release – separate and independent discharges are required.
- C. Pollution control measures specified herein represent minimum standards to be adhered to by the CONTRACTOR throughout the Project’s construction. The OWNER reserves the right to require the CONTRACTOR to employ additional pollution control measures, when in the sole opinion of the OWNER, they are warranted. If site specific conditions require additional erosion and stormwater pollution control measures during any phase of construction or operation to prevent erosion or to control sediment or other pollution, beyond those specified in the Drawings, the Project’s approved Stormwater Pollution Prevention Plan (SWPPP), or herein, implement additional best management practices as necessary, in accordance with [Chapter 4, “Best Management Practices for Erosion and Sedimentation Control” of the Florida Erosion and Sediment Control Inspector’s Manual](#) and other references as may be applicable or required by regulatory permits.
- D. The OWNER may terminate this Contract if the CONTRACTOR fails to comply with this Section. Alternatively, the OWNER may halt the CONTRACTOR’s operations until the CONTRACTOR is in full compliance with this Section. If the OWNER halts the CONTRACTOR’s Work as a result of failure to comply with this Section, the Contract time clock will continue to run.
- E. In addition to these Specifications, comply with [Chapter 4 - “Best Management Practices for Erosion and Sedimentation Control”](#) and [Chapter 5 – “Best Management Practices for Dewatering” of the Florida Erosion and Sediment Control Inspector’s Manual](#). In the event

of a conflict between the referenced chapters and these Specifications, the more stringent requirement shall prevail.

- F, Submit to SJRWMD a “Notice to District of Dewatering Activity” (SJRWMD Form No. 40C-2.900(12)) prior to commencement of dewatering in accordance with F.A.C. 40C-2.042(9). Provide a copy of the Notice to Indian River County.

1.2 PERMITS

- A. The OWNER has obtained certain permits for this project and they are listed in [paragraph 6.08.B of the EJCDC Standard General Conditions of the Construction Contract \(General Conditions\)](#). Per [paragraph 6.08.C of the General Conditions](#), apply for and obtain all other required federal, state, and local permits, licenses, sampling, and tests.
- B. Provide copies of all approved permits to the OWNER and ENGINEER and comply with all conditions contained in all permits at no extra cost to the OWNER. If there is a conflict between any permit requirement and these Specifications or requirements between permits, the more stringent specification or requirement shall govern.
- C. Pay for all required water quality sampling and laboratory tests.

1.3 GENERAL

- A. Do not begin any other construction work until the pollution control and treatment system has been constructed in accordance with approved plans, permits, and these Specifications; and the installed system has been examined by the OWNER for compliance.
- B. From time to time, the OWNER or ENGINEER will inspect the pollution control and treatment system and may take effluent samples for analysis by a testing laboratory selected and paid for by the OWNER. If at any time, the OWNER or ENGINEER determines that the pollution control and treatment system is not in compliance with the approved system, the OWNER or ENGINEER will shut the portion of the project down that is not in compliance, and it shall remain shut-down until the pollution control and treatment system is properly constructed or repaired, and complies with the approved pollution control and treatment system plans, specifications, contract documents, and permits.
- C. Schedule construction to minimize erosion and stormwater runoff from the construction site. Implement erosion control measures on disturbed areas as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than 7 days after the construction activity in that portion of the site has temporarily or permanently ceased. In addition to other temporary erosion control measures that may be implemented, application of polyacrylamide is required on all such disturbed areas within 7 days after the construction activity in that portion of the site has temporarily or permanently ceased, unless final landscaping has been installed. Polyacrylamide application shall be as specified herein. Include polyacrylamide application in the Project’s SWPPP.

- D. Inspect each pollution control system at least once per day and after each rainfall event. Clean and maintain each pollution control system as required until the system is no longer needed. If a water quality violation occurs, immediately cease all work contributing to the water quality violation and correct the problem. Immediately report all water quality violations to the OWNER. Immediately report the discharge of any hazardous substance to the State Warning Point at 800-320-0519 or 850-413-9911.
- E. Discharge shall not violate State or local water quality standards in receiving waters, nor cause injury to the public health or to public or private property, nor to the Work completed or in progress. The receiving point for water from construction operations shall be approved by the applicable owner, regulatory agency, and the ENGINEER. The receiving point shall be shown on the Project SWPPP.
- F. Promptly repair all damage at no cost to the OWNER.

1.4 SUBMITTALS

- A. Shop Drawings: Submit shop drawings of the proposed pollution control and treatment systems in accordance with [Section 1340](#).
- B. Approved Stormwater Pollution Prevention Plan.
- C. "Contractor's Affidavit Regarding Erosion Control and Treatment of Dewatering Water and Stormwater From Construction Activities"

1.5 STORMWATER TREATMENT AND EROSION CONTROL SYSTEM RESPONSIBILITY

- A. Prepare a site-specific design of the erosion and stormwater pollution control system. Install and maintain all erosion and stormwater pollution control devices under the supervision of a State Certified Stormwater, Erosion, and Sedimentation Control Inspector. Maintain the erosion and stormwater pollution control devices until in the ENGINEER's sole opinion, the devices are no longer necessary (such time not to extend past the date the OWNER formally accepts the project as complete). Before beginning construction, submit to Indian River County, Florida Department of Environmental Protection (FDEP) and other applicable regulatory agencies for review and approval, a Stormwater Pollution Prevention Plan (SWPPP), prepared by the certified erosion control subcontractor. Construction shall not begin until the SWPPP has been approved by Indian River County, FDEP, and all applicable regulatory agencies. Submit the approved SWPPP to the ENGINEER before beginning construction. Include in the SWPPP, the "Contractor's Affidavit Regarding Erosion Control and Treatment of Dewatering Water and Stormwater From Construction Activities" (located at the end of this Section).

1.6 "POLLUTION" AND CERTAIN UNCONTESTABLE POLLUTION EVENTS DEFINED

- A. With respect to this Section and as may be further defined in paragraphs [1.6.B](#), [1.6.C](#), and [1.6.D](#), “pollution” is the presence in off-site waters of any substances, contaminants, or manmade or human-induced impairment of off-site waters or alteration of the chemical, physical, biological, or radiological integrity of off-site water in quantities or at levels which are or may be potentially harmful or injurious to human health or welfare, animal or plant life, or property. Pollutants to be removed include but are not limited to, sediment and suspended solids, solid and sanitary wastes, phosphorus, nitrogen, pesticides, oil and grease, concrete truck washout, stucco mixer washout, curb machine washout, washout from other construction equipment, construction chemicals, and construction debris.
- B. When the Discharge is Directly Into an Existing Water Body An existing water body (including ditches and canals) is defined to be polluted by the CONTRACTOR’s operations when at any time, the turbidity of the water immediately downstream of the CONTRACTOR’s discharge point(s) is at least 29 nephelometric turbidity units (NTUs) higher than the turbidity of the background water upstream of the discharge point(s). [See [Fla. Administrative Code 62-302.530](#)] Exception: When the discharge is directly into or through an outfall discharging into “Outstanding Florida Waters,” designated by [Florida Statute 403.061\(27\)](#), the turbidity of the discharged water cannot exceed the turbidity of the immediate receiving water. The ENGINEER or OWNER shall determine the locations where the turbidity is measured.
- C. When the Discharge is not Directly Into an Existing Water Body In some instances, dewatering water or stormwater runoff from the construction site or work area may reach a water body indirectly, such as by overland flow. If the discharge water’s TSS and turbidity measurements exceed pre-construction background values by 20 percent for TSS and 29 NTUs for turbidity, then the discharge is defined to be polluted.
- D. When Pollution Always Occurs The discharge from a construction site or work area is defined to be polluted whenever the pH of the discharge is less than 6.5 or greater than 8.5, or whenever any of the following is present in the discharge water:
- (1) Hazardous waste or hazardous materials in any quantity,
 - (2) Any petroleum product or by-product in any quantity,
 - (3) Any chemical in any quantity, or
 - (4) Concentrated pollutants.
- E. Above paragraphs [1.6.B](#), [1.6.C](#), and [1.6.D](#) do not in any way, limit the types of conditions in which pollution may be determined to occur.

1.7 PENALTIES FOR NONCOMPLIANCE WITH THIS SECTION

- A. In addition to the OWNER’s specific remedies, if erosion or pollution is caused by dewatering water or stormwater runoff from the construction site, the OWNER may report the violations to Indian River County Stormwater Enforcement, SJRWMD, FDEP, Indian River Farms Water Control District (or other F. S. Chapter 298 Drainage District, as appropriate), and other pertinent regulatory or enforcement agencies.

PART 2 - MATERIALS AND INSTALLATION

2.1 GENERAL

- A. Polyacrylamide: As required in Paragraph 1.3.C, place polyacrylamide (PAM) on bare ground to reduce the potential for erosion and cover it with hay, jute, or mulch. PAM may also be used in water bodies to remove turbidity. In all cases, use the anionic form of polyacrylamide that does not stick to fish gills. For PAM information and its proper application, a contact is Applied Polymer Systems, Inc., (678) 494-5998, www.siltstop.com.
- B. Staked Silt Fences:
1. General: Use silt fences to control runoff from the construction site where the soil has been disturbed.
 2. Installation: Install per the manufacture's recommendations and as specified herein. In general, install the silt fence in a manner that allows it to stop the water long enough for the sediment to settle while the water passes through the silt fence fabric. All supporting posts shall be on the down-slope side of the fencing. Place the bottom of the fabric 6-inches minimum, under compacted soil to prevent the flow of sediment underneath the fence. Place silt fences away from the toe of slopes. Otherwise, work shall conform to Section 104 of the Florida Department of Transportation Standard Specifications for Road and Bridge Construction.
 3. Product: All material shall be new and unused. Use FDOT Types III through IV silt fences where large sediment loads are anticipated, where slopes are 1:2 (vertical: horizontal) or steeper, or as directed by the ENGINEER; otherwise use FDOT Type II silt fence.
- C. Turbidity Barriers:
1. General: Use turbidity barriers to control sediment contamination of rivers, lakes, ponds, canals, etc.
 2. Installation: Install per the manufacturer's recommendations and per Section 104 of the Florida Department of Transportation Standard Specifications for Road and Bridge Construction unless directed otherwise by the ENGINEER.
 3. Product: All material shall be new and unused. The turbidity barrier shall be a pervious barrier and the fabric color shall be yellow. Use staked turbidity barriers in water less than one-foot deep. Use floating turbidity barriers in water one-foot or deeper.
- D. Sedimentation Control From Dewatering or Pumping Operations Using Filter Bags:
1. Filter bags shall be manufactured using a polypropylene non-woven geotextile and sewn by a double-needle machine, using a high strength nylon thread. The bag shall have a fill spout large enough to accommodate a 4-inch pump discharge hose. Straps shall be attached to the bag to secure the hose and prevent pumped water from escaping without being filtered.
 2. Installation: Install in accordance with the manufacturer's specifications. Use as many filter bags as required, at no additional cost to the OWNER. Legally dispose of the bags offsite, at no cost to the OWNER. If the bags are placed on aggregate to

facilitate filtration efficiency, do not use limerock aggregate – use non-calcareous rock.

3. Product: The filter bag shall be supplied with lifting straps.
 - a. “DIRTBAG 53 or 55 as applicable,” supplied by ACF Environmental, Inc. (1-800-448-3636).
 - b. “DANDY DEWATERING BAG” supplied by Dandy Products, Inc. (1-800-591-2284).
 - c. Or equivalent.

E. Curb Inlet Protection:

1. Filter stormwater before it enters curb inlets.
2. Installation: Install in accordance with the manufacturer’s specifications. Use as many of the specified filtration devices as required, at no additional cost to the OWNER.
3. Product: All materials shall be new and unused. The length of the curb inlet filtration device shall be at least 2-feet longer than the curb inlet opening.
 - a. “GUTTERBUDDY,” supplied by ACF Environmental, Inc. (1-800-448-3636).
 - b. Or equivalent.

F. Catch Basin Protection:

1. Filter stormwater before it enters catch basins (drop inlets). The filter “sack” shall be manufactured from woven polypropylene geotextile and sewn by a double-needle machine, using a high strength nylon thread. The sack shall be manufactured to fit the opening of the catch basin or drop inlet and it shall have the following features: two dump straps attached at the bottom to facilitate emptying; lifting loops as an integral part of the system to be used to lift the sack from the basin; and a colored restraint chord approximately halfway up the sack to keep the sides away from the catch basin walls. The colored restraint chord shall also serve as a visual means of indicating when the sack should be emptied.
2. Installation: Install in each catch basin in accordance with the manufacturer’s specifications. Use as many of the specified filtration devices as required, at no additional cost to the OWNER.
3. Product: All materials shall be new and unused.
 - a. “SILTSACK” (regular flow), supplied by ACF Environmental, Inc. (1-800-448-3636).
 - b. “FloGuard+PLUS,” supplied by Kristar Enterprises, Inc. (1-800-579-8819).
 - c. Or equivalent.

- G. Construction Site Egress Driveways: Minimize the transport of sediment and soil from the construction site or work area by vehicle wheels. Construct a crushed rock driving surface at the vehicle exit point(s). Locate the site egress driveways a minimum of 25 feet from all drainage inlets or pipes. Provide an area large enough to remove the sediment and soil from vehicle wheels before the vehicle leaves the construction site or work area. Provide wash-down stations as required to wash vehicle tires and retain all washwater on-site. Do not use limerock.

- H. Rock and Stone for Erosion Control and Pollution Control and Treatment:
1. Crushed Limerock: Limerock shall not be used under any circumstance.
 2. Acceptable Material: FDOT #4 non-calcareous aggregate, washed and meeting the requirements of FDOT Standard Specifications for Road and Bridge Construction, Section 901.
- I. Hay Bales: Hay bales shall not be used.

PART 3 - EXECUTION

- A. Design, construct, and maintain the pollution control and treatment system to minimize erosion and capture and remove pollutants from the construction site and from all other areas disturbed by construction activities.
- B. Apply polyacrylamide in strict accordance with the polyacrylamide manufacturer/supplier's recommendations and specifications.
- C. REPAIR ALL EROSION DAMAGE – At no additional cost to the OWNER and regardless of the state of completion of the Work, immediately clean all dirt and debris from all pipes and drainage structures; and repair all flooding, washouts, and all other erosion damage to the Work. This responsibility shall not end until Final Acceptance of the Work by the OWNER. Included is damage caused by erosion of any kind (e.g. wind, waves, stormwater runoff, hurricanes, etc.) including Acts of God. Restore all erosion damaged areas to design grades and elevations. Also, refer to [General Conditions 6.13.B](#).

Item of Payment

Payment for the work specified in this item shall be made under:

Bid Item No. 104-1 – Prevention, Control & Abatement of Erosion & Water Pollution - Per Lump Sum

Bid Item No. 104-10-3 – Sediment Barrier, Silt Fence Type 3 – Per Linear Foot

Bid Item No. 104-15 - SOIL TRACKING PREVENTION DEVICE- Per Each

Bid Item No. 104-15 - INLET PROTECTION SYSTEM – Per Each

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PERMITTEE’S AFFIDAVIT REGARDING POLLUTION

This sworn statement is submitted to Indian River County for the following project:

Indian River County Fire Station7

STATE OF _____

COUNTY OF _____

Personally, before me the undersigned authority, appeared

_____, who upon oath duly administered, stated as follows:

1. This sworn statement is submitted by the PERMITTEE,

_____ whose business address is

and (if applicable) its Federal Identification No.(FEIN) is _____

2. My name is _____ and my relationship to the

entity named above is _____

(if signing as Owner’s Agent, attach Letter of Authorization to Sign from Owner)

3. PERMITTEE understands and agrees that in addition to complying with the terms and conditions of the Stormwater Management System Permit issued by Indian River County, Permittee is responsible for complying with the terms and conditions of the following as applicable to the site:

- (a) State of Florida Generic Permit for Stormwater Discharge From Large and Small Construction Activities (for projects one acre or larger),
- (b) Stormwater Pollution Prevention Plan (regardless of project size),
- (c) St. Johns River Water Management District permit(s) (regardless of project size),
- (d) Florida Department of Environmental Protection permit(s) (regardless of project size),
- (e) All other permits required for this project not specifically listed herein, and
- (f) All Codes and Ordinances of Indian River County.

4. PERMITTEE understands and agrees that “pollution” as defined by Florida Statutes Chapter 403.031(7) includes: “. . . the presence in the outdoor atmosphere or waters of the state of any substances, contaminants, noise, or manmade or human-induced impairment of air or waters or alteration of the chemical, physical, biological, or radiological integrity of air or water in quantities or at levels which are or may be potentially harmful or injurious to human health or welfare, animal or plant life, or property or which unreasonably interfere with the enjoyment of life or property, including outdoor recreation unless authorized by applicable law.”

5. PERMITTEE understands and agrees that in addition to the definition set forth in Item 4 above, "pollution" is also defined by Florida Administrative Code 62-302.530 and as may be further defined in the Indian River County permit(s).
6. PERMITTEE understands that Indian River County requires the design, installation, and maintenance of proper erosion control measures at all times UNTIL Final Acceptance of the Project by the OWNER.
7. PERMITTEE understands that there are civil and criminal penalties for pollution listed in Florida Statutes Ch. 403.141 and Ch. 403.161 and that there are other penalties listed in Indian River County's permits, including but not limited to, Indian River County issuing a Cease and Desist Order for the project. CONTRACTOR understands that it may be liable for these and other penalties if offsite pollution occurs as a result of activities associated with the Project.
8. Transfer of Ownership or County Issued Permits:
 - (a) Transfer of Interest in Real Property: Within twenty-one (21) days of any transfer of ownership or control of the real property at which the permitted activity, facility, or system is located or authorized, the Permittee shall notify in writing, both the Indian River County Engineering Division and the Indian River County Stormwater Division of the transfer. Permittee shall provide the name, mailing address, and telephone number of the transferee and a copy of the instrument effectuating the transfer. Said notification is in addition to notifying the County Attorney's Office as required by County Code.
 - (b) Transfer of a County Permit. To transfer a County issued permit, Permittee must provide (1) the information required in Item 8(a); (2) a written statement from the proposed transferee that it will be bound by all terms and conditions of the permit; and (3) a new "Permittee's Affidavit" form properly executed by the transferee. Upon proper receipt of these items the County shall transfer the permit to the transferee.
 - (c) Permittee is encouraged to request a permit transfer prior to the sale or legal transfer of the real property at which a permitted facility, system, or activity is located or authorized. However, the transfer shall not be effective prior to the sale or legal transfer.
 - (d) An "Illicit Discharge Sign" must be present at the site at the time of transfer. Replacement or additional signs may be obtained from the Indian River County Public Works Department at a cost of \$30.00 per sign.

Under penalty of perjury, PERMITTEE declares that it has read the foregoing affidavit and the facts stated in it are true.

FURTHER AFFIANT SAYETH NAUGHT

CONTRACTOR: _____

Authorized Signature: _____

Printed Name: _____

Date: _____

Work Telephone: _____

Mobile Telephone: _____

STATE OF _____

COUNTY OF _____

Sworn to (or affirmed) and subscribed before me by means of physical presence or online notarization, this ____ day of _____, 20____, by _____ (name of person making statement).

(Signature of Notary Public - State of Florida)
(Print, Type, or Stamp Commissioned Name of Notary Public)

who is personally known to me or who has produced _____ as identification.

++ END OF SECTION ++

SECTION 110 - CLEARING AND GRUBBING

The work specified in this item shall conform to Section 110 of the Florida Department of Transportation Standard Specifications for Road and Bridge Construction with the following modifications:

- A. Prior to any clearing and grubbing, the contractor will stake the right-of-way. Unimproved areas shall be cleared of trees, logs, stumps, brush, vegetation, rubbish and other perishable or objectionable matter within limits shown on the plans excepting for certain trees and shrubs shown on the plans or as directed by the Engineer which are to remain undisturbed and protected. Stumps and roots between slope stakes in cuts and in embankments 3 feet or less in depth shall be removed to a depth of 18 inches below subgrade. No stumps, roots, or perishable matter of any description shall remain under concrete slabs or footing, including pavement and sidewalks.
- B. No trees shall be removed or relocated until the Engineer or his representative has marked all trees to be saved, after a review of the project site with the Contractor's representative.
- C. Where the final pavement or structural work will be close to existing trees, the Contractor shall exercise care in the vicinity of the trees. Further, the Contractor shall saw cut along the edge of the outside limits of the stabilization, structure subgrade or sidewalk to a minimum depth of 4 feet below the finish grade and paint with a commercial grade pruning paint the ends of all sawn roots. If directed by the Engineer or where shown on the drawings, work shall be done by hand in order to protect the trees.
- D. The Contractor shall exercise care when working in the vicinity of all trees to remain so as to not damage or remove major root structures. The Contractor shall not pull hair or major root structures. All severed roots shall be sawn clean and paint with pruning paint. Stumps, roots, etc., shall be completely removed and disposed of by the Contractor. Undesirable, dead, and/or damaged trees (as so designated by the Engineer) shall be removed.
- E. All trees to be removed shall be disposed off site; burning will be strictly prohibited.
- F. All trees or shrubs which are to remain shall be preserved and protected by the Contractor. Where the removal of valuable trees or shrubs specifically for transplanting is required, this work shall be done in cooperation with the Owner and at no additional expense to the Owner.
- G. All items to be removed shall be excavated to their full depth. All culverts removed from residential driveway entrances within the right-of-way shall become the property of the respective homeowner. Those homeowners not desiring the culverts may donate them to the County free of charge. (See Paragraph C, Special Provisions) The Contractor shall transport the culverts to the County's storage yard. All metal castings for catch basins, manholes, or other structures shall be carefully removed and stored in the County's Storage Yard if they are deemed salvageable by the Engineer. The excavated materials shall be removed from the job site and disposed in a location designated or approved by the Owner.

Any culverts, structures or any material excavated or removed from the project site under clearing and grubbing deemed unsalvageable by the Engineer shall be disposed of in a legal manner by the Contractor. Where required, suitable material as approved by the Engineer shall then be backfilled and compacted to restore the original contour of the ground. The fill material shall be backfilled and compacted in accordance with Section 120 of these specifications.

- H. No additional payment will be made, nor will additional work, or change orders be authorized for work needed to remove, relocate, protect, or otherwise account for in the construction of the work depicted in the plans, for any feature, or item that would be apparent from a careful inspection of the site and review of the plans, even though such feature or item is not specifically called out in the plans. It is therefore essential the contractor make such inspection and review.
- I. The unit price bid for this item shall include the cost of all labor, tools, and equipment necessary to excavate, remove, and dispose of those items as directed by the Engineer and where designated on the Drawings. The cost of restoration and backfill and compaction for the specific area of removal shall also be included under this item.

Item of Payment

Payment for the work specified in this item shall be made under:

Bid Item No. 110-1-1 – Clearing and Grubbing – Per Acre

Bid Item No. 110-4-10 - REMOVAL OF EXISTING CONCRETE (SIDEWALKS)- Per Square Yard

Bid Item No. 110-23 – Trees to be Removed (29 Pines, 21 Palms 6” – 28”) – Per Each

SECTION 120 - EXCAVATION AND EMBANKMENT

- A. Earthwork, including earthwork for drives outside the right-of-way limits, shall be paid for as embankment. Cost shall include all work specified in this section and Section 120 of the FDOT Standard Specifications for Road and Bridge Construction. Such price and payment shall specifically include all cost of any roadway, lateral ditch or canal, and final dressing operations.
- B. Earthwork quantities shall be considered as in-place material with no shrinkage or expansion factors.
- C. Subsoil Excavation - Any excavation below the proposed bottom elevation of the select fill, isolated swale bottom locations, isolated locations for pipe installations and as approved by the engineer shall be paid for as subsoil excavation. Approximately 2.0 ft of subsoil excavation is required in sublateral canals. Cost of replacement embankment shall be included in cost of subsoil excavation. Contractor shall coordinate with county representative prior to any subsoil excavation.
- D. Embankment - General Requirements for Embankment Materials: The following is added

after the first paragraph of Subarticle 120-7.2:

Roadway Design Standard Index No. 505, Embankment Utilization Details is modified by the addition of the following:

Any stratum or stockpile or soil which contains obvious pockets of highly organic material may be designated as muck or unsuitable for construction of subgrade by the Owner.

Backfill material containing more than 2.0% by weight of organic material, as determined by FM 1-T 267 and by averaging the test results for three randomly selected samples from each stratum or stockpile of a particular material, shall not be used in construction of the reinforced volume. If an individual test value of the three samples exceeds 3.0%, the stratum or stockpile will not be suitable for construction of the reinforced volume.

No A-8 material permitted in embankment.

Item of Payment

Payment for the work specified in this item shall be made under:

Bid Item No. 120-1 – Regular Excavation - Per Cubic Yard

Bid Item No. 120-6 – Embankment – Per Cubic Yard

SECTION 160 - STABILIZING

A. Section 160 is modified by the addition of the following:

"The stabilization thickness indicated on plans shall be considered a minimum thickness. Thickness will vary to conform to the lines, and grades shown in the plans." Minimum L.B.R. = 40 - No under-tolerance.

Item of Payment

Payment for the work specified in this item shall be made under:

Bid Item No. 160-4A – Type B Stabilization (Sidewalk and Pads) 6" Thick - Per Square Yard

Bid Item No. 160-4B - TYPE B STABILIZATION (PARKING LOT), 8" THICK – Per Square Yard

Bid Item No. 160-4C -Type B Stabilization (Roadway & Dumpster Pad) 12" Thick – Per Square Yard

SECTION 285 - OPTIONAL BASE COURSE

A. Sub Article 285-4 is modified by the addition of the following:

Base material, thickness and requirements are described in the construction plans. Only one type of alternate base material shall be used. No additional payment will be made for base thickness in excess of the specified thickness

Item of Payment

Payment for the work specified in this item shall be made under:

Bid Item No. 285-709– Optional Base Group 09– Per Square Yard

SECTION 334 - SUPERPAVE ASPHALT CONCRETE

The work specified in this item shall conform to Section 334 of the Florida Department of Transportation Standard Specifications for Road and Bridge Construction.

Sub article 334-8.1 through 334-8.3 – Basis of Payment shall be deleted in its entirety.

Sub article 334-8.4 – Payment shall be amended as follows:

Item of Payment

Bid Item No. 334-1-13 – Superpave Asphaltic Concrete Type C, 2-Inch Thick – Per Ton

SECTION 337 - ASPHALT CONCRETE FRICTION COURSES

The work specified in this item shall conform to Section 337 of the Florida Department of Transportation Standard Specifications for Road and Bridge Construction.

Sub article 337-12.1 through 337-12.3 – Basis of Payment shall be deleted in its entirety.

Sub article 337-12.4 – Payment shall be amended as follows:

Item of Payment

Payment for the work specified in this item shall be made under:

Bid Item No. 337-7-82 – Asphalt Concrete Friction Course FC9.5 (Traffic Level C), PG 76-22 w/Polymer, 1-inch, – Per Ton

SECTION 350 - CEMENT CONCRETE PAVEMENT

The work specified in this item shall conform to Section 350 of the Florida Department of Transportation Standard Specifications for Road and Bridge Construction

Item of Payment

Payment for the work specified in this item shall be made under:

Bid Item No. 350-4A - REINFORCED CEMENT CONCRETE PAVEMENT, (DRIVEWAY), 5" THICK – Per Square Yard

Bid Item No. 350-4B - REINFORCED CEMENT CONCRETE PAVEMENT, (SIDEWALK & PADS), 6" THICK – Per Square Yard

Bid Item No. 350-4C – Reinforced Cement Concrete Pavement, (Driveway), 8-inch thick – Per Square Yard

SECTION 425 - INLETS, MANHOLES, AND JUNCTION BOXES

The work specified in this item shall conform to Section 425 of the Florida Department of Transportation Standard Specifications for Road and Bridge Construction.

Item of Payment

Payment for the work specified in this item shall be made under:

Bid Item No. 425-1-521 – Inlets, DT BOT, Type C, <10ft – Per Each

Bid Item No. 425-1-561 – Inlets DT BOT, Type F, <10ft – Per Each

SECTION 430 - PIPE CULVERTS

The work specified in this item shall conform to Section 430 of the Florida Department of Transportation Standard Specifications for Road and Bridge Construction.

Item of Payment

Payment for the work specified in this item shall be made under:

Bid Item No. 430-175-118 – PIPE CULVERT OPTIONAL MATERIAL, ROUND, 18" S/CD (RCP)– Per Linear Foot

Bid Item No. 430-175-218 – PIPE CULVERT OPTIONAL MATERIAL, ELLIPTICAL, 18" S/CD (RCP)– Per Linear Foot

Bid Item No. 430-982-625 - MITERED END SECTION, ELLIPTICAL, S/CD, 18" – Per Each

Bid Item No. 430-982-625A – MITERED END SECTION, ELLIPTICAL, S/CD, 14"X23"– Per Each

Bid Item No. 430-984-625 – MITERED END SECTION, ELLIPTICAL, S/SD, 14"X23"– Per Each

SECTION 520 - CONCRETE GUTTER, CURB ELEMENTS, AND TRAFFIC SEPARATOR

The work specified in this section shall conform to Section 520 of the Florida Department of Transportation Standard Specifications for Road and Bridge Construction.

Item of Payment

Payment for the work specified in this item shall be made under:

Bid Item No. 520-1-10 – Concrete Curb and Gutter (Type F) – Per Linear Foot

Bid Item No 520-2-4 – Concrete Curb & Gutter, Type D – Per Linear Foot

SECTION 522 - CONCRETE SIDEWALK AND DRIVEWAYS

The work specified in this item shall conform to Section 522 of the Florida Department of Transportation Standard Specifications for Road and Bridge Construction.

Item of Payment

Payment for the work specified in this item shall be made under:

Bid Item No. 522-2 – Concrete Sidewalk (6” Thick) (Fiber Reinforced) (3000psi) – Per Square Yard

SECTION 527 – DETECTABLE WARNINGS

The work specified in this item shall conform to Section 527 of the Florida Department of Transportation Standard Specifications for Road and Bridge Construction.

Item of Payment

Payment for the work specified in this item shall be made under:

Bid Item No. 527-2 – DETECTABLE WARNINGS (SAFETY YELLOW)– Per Square Foot

SECTION 544 – CRASH CUSHIONS

The work specified in this item shall conform to Section 544 of the Florida Department of Transportation Standard Specifications for Road and Bridge Construction.

Item of Payment

Payment for the work specified in this item shall be made under:

Bid Item No. 542-70 - BUMPER GUARD, CONCRETE – Per Each

SECTION 550 - FENCING

The work specified in this item shall conform to Section 550 of the Florida Department of Transportation Standard Specifications for Road and Bridge Construction.

Item of Payment

Payment for the work specified in this item shall be made under:

Bid Item No. 550-10-222 - FENCE, TYPE B, BLACK VINYL-COATED, 6FT – Per Linear Foot

Bid Item No. 550-60-211 - FENCE GATE, TYPE B, BLACK VINYL-COATED, 0'-6'-0" OPENING – Per Each

Bid Item No. 550-60-236 - FENCE GATE, TYPE B, SLIDING/CANTILEVER, 24'-30' OPENING – Per Each

Bid Item No. 550-60-237 - FENCE GATE, TYPE B, SLIDING/CANTILEVER, >30' OPENING – Per Each

SECTION 570 - PERFORMANCE TURF

The work specified in this item shall conform to Section 570 of the Florida Department of Transportation Standard Specifications for Road and Bridge Construction.

- A. Description: Sod for the project shall be of the variety that is common to the area and of a variety approved by the Engineer. This work shall also include mowing, to be mowed at maximum 6" height with a mulching mower.
- B. Work Included: Scope of Work: The work specified in this section consists of the establishing of a stand of grass, within the project, right-of-way, easements, and other areas indicated on the Drawings, by furnishing and placing grass sod. Also included are fertilizing, watering and maintenance as required to assure a healthy stand of grass. Two applications of fertilizer will be required with the initial application being fertilizer and the second application being "weed and feed".
- C. Guarantee: All sodded areas shall be guaranteed for one year after date of final acceptance.

Replacement of Defective Sod: Any dead sod or sod showing (less than 95% of a square) indication of probable non survival or lack of health and vigor, or which do not exhibit the characteristics to meet specifications, shall be replaced within two weeks of notice from Owner or Engineer. All replacement sod shall be furnished/installed at no additional cost to the Owner and shall be guaranteed for three months. All replacement shall meet original specifications.

The Contractor shall notify the Owner and Engineer ten days prior to the end of the guarantee period and such guarantee shall be extended until notification is received.

At the end of the guarantee period, all sod that is dead or in unsatisfactory growth shall be replaced within two weeks.

- D. Fertilizer: Commercial fertilizers shall comply with the Indian River County Fertilizer Ordinance 2013-012 and Supplement Ordinance 2013-014 (see Appendix B).
- E. Water for Grassing: Contractor shall provide the water used in the sodding operations as necessary to meet the requirements of Article 570-3.6.
- F. Preparation of Ground: The area over which the sod is to be placed shall be scarified or loosened to a depth and then raked smooth and free from debris. Where the soil is sufficiently loose and clean, the Owner, at his discretion, may authorize the elimination of ground preparation.
- G. Application of Fertilizer: Before applying fertilizer, the soil pH shall be brought to a range of 6.0 - 7.0.

Contractor shall apply two (2) applications. The initial shall be fertilizer and the second application shall be "weed and feed".

The fertilizer shall be spread uniformly over the sodded area at the rate of 436 pounds per

acre, or 10 pounds per 1,000 square feet, by a spreading device capable of uniformly distributing the material at the specified rate.

Contractor shall apply applications as per manufacturer's specification. All tickets from bags shall be handed over to the County Inspector.

On steep slopes, where the use of a machine for spreading or mixing is not practicable, the fertilizer shall be spread by hand and raked in and thoroughly mixed with the soil to a depth of approximately 2 inches.

- H. Placing Sod: The sod shall be placed on the prepared surface, with edges in close contact and shall be firmly and smoothly embedded by light tamping with appropriate tools.

Where sodding is used in drainage ditches, the setting of the pieces shall be staggered so as to avoid a continuous seam along the line of flow. Along the edges of such staggered areas, the offsets of individual strips shall not exceed 6 inches. In order to prevent erosion caused by vertical edges at the outer limits, the outer pieces of sod shall be tamped so as to produce a featheredge effect.

Where sodding is placed abutting paved shoulder, the contractor is to ensure that the finished sod elevation is 1½" below paved shoulder.

On slopes greater than 3:1, the Contractor shall prevent the sod from sliding by means of wooden pegs driven through the sod blocks into firm earth, at suitable intervals.

Sodding shall not be performed when weather and soil conditions are, in the Engineer's opinion, unsuitable for proper results.

Sod shall be placed around all structures, equipment pads, etc.

- I. Watering: The areas on which the sod is to be placed shall contain sufficient moisture, as determined by the Engineer, for optimum results. After being placed, the sod shall be kept in a moist condition to the full depth of the rooting zone for at least 2 weeks. Thereafter, the Contractor shall apply water as needed until the sod roots and starts to grow for a minimum of 60 days (or until final acceptance, whichever is latest).

- J. Maintenance: The Contractor shall, at his expense, maintain the sodded areas in a satisfactory condition until final acceptance of the project. Such maintenance shall include repairing of any damaged areas and replacing areas in which the establishment of the grass stand does not appear to be developing satisfactorily.

Replanting or repair necessary due to the Contractor's negligence, carelessness or failure to provide routine maintenance shall be at the Contractor's expense.

The Contractor shall maintain the sodded area up to the final acceptance date as directed by the Engineer. Grass height shall not exceed 6" without mowing. Clippings shall be removed from sidewalk.

- K. Article 570-9. The first two paragraphs under this Article are deleted and the following is added:

The contract unit price for performance turf shall include the costs of sod, fertilizer (2

applications), sidewalk sweeping after mowing, mowing, pegging disposal of clippings, water, tools, equipment, labor and all other incidentals necessary.

Item of Payment

Payment for the work specified in this item shall be made under:

Bid Item No. 570-1-2 – Performance Turf (Match Existing)- Per Square Yard

SECTION 700 - HIGHWAY SIGNING

- A. Signing for traffic control shall conform to the requirements of the Standard Specifications, Manual on Uniform Traffic Control Devices, Supplemental Specifications, Roadway and Traffic Design Standards, manufacturer's specifications.
- B. Traffic Signs: All existing signs which are the property of the Owner shall be transported to the Indian River County Road and Bridge Maintenance Yard by the Contractor during construction if they are within the construction limits. Care shall be exercised by the Contractor during removal, storage and relocation so as not to damage the signs. If any damage occurs, as determined by the Owner's Engineer or Resident Construction Inspector, the sign shall be replaced by the Contractor with no compensation.

Item of Payment

Payment shall be made under:

Bid Item No. 700-1-11 – SINGLE SIGN POST, F&I GROUND MOUNT, UP TO 12 SF- Per Each

Bid Item No. 700-1-107 – SINGLE SIGN POST, F&I GROUND MOUNT, SHEETING AREA FOR BACK TO BACK SIGNS- Per Each

Bid Item No. 700-3-101 – SINGLE PANEL, F&I, GROUND MOUNT, UP TO 12 SF– Per Each

SECTION 710 - PAINTED PAVEMENT MARKINGS

The work specified in this item shall conform to Section 710 of the Florida Department of Transportation Standard Specifications for Road and Bridge Construction.

Item of Payment

Payment shall be made under:

Bid Item No. 710-90 - PAINTED PAVEMENT MARKINGS (ALL STRIPING ONSITE) – PER LUMP SUM

SECTION 711 - THERMOPLASTIC PAVEMENT MARKINGS

The work specified in this item shall conform to Section 711 of the Florida Department of Transportation Standard Specifications for Road and Bridge Construction.

Item of Payment

Payment for the work specified in this item shall be made under:

- Bid Item No. 711-11-121 - Thermoplastic (Standard) (White) (Solid) (6") – Per Linear Foot
- Bid Item No. 711-11-123 - Thermoplastic (Standard) (White) (Solid) (12") – Per Linear Foot
- Bid Item No. 711-11-125 - Thermoplastic (Standard) (White) (Solid) (24") – Per Linear Foot
- Bid Item No. 711-11-160 - Thermoplastic (Standard) (White), BIKE LANE – Per Each
- Bid Item No. 711-11-170 - Thermoplastic (Standard) (White) (Arrow) – Per Each
- Bid Item No. 711-11-221 - Thermoplastic (Standard) (Yellow) (Solid) (6") – Per Linear Foot

SECTION 715 – HIGHWAY LIGHTING SYSTEM

The work specified in this item shall conform to Section 715 of the Florida Department of Transportation Standard Specifications for Road and Bridge Construction.

Item of Payment

Payment for the work specified in this item shall be made under:

- Bid Item No. 715-6-100 - LIGHT POLE COMPLETE (LUMINAIRE, POLE, FOUNDATION) – Per Each

SECTION 999 - RECORDS/AS-BUILTS**GENERAL**

Maintain, prepare and provide the ENGINEER with record documents as specified below, except where otherwise specified or modified within the scope of work provided in the specific project contract documents. The Contractor and/or Developer shall be responsible for, and required to provide, Record Drawings as outlined in this section.

MAINTENANCE OF RECORD DOCUMENTS:

1. Maintain in CONTRACTOR's field office in clean, dry, legible condition complete sets of the following project documents: Drawings, Specifications, Addenda, approved Shop Drawings, samples, photographs, Change Orders, other modifications of Contract Documents, test records, survey data, Field Orders, and all other documents pertinent to CONTRACTOR'S Work.
2. Provide files and racks for proper storage and easy access.
3. Make documents available at all times for inspection by ENGINEER and OWNER.
4. Do not use record documents for any other purpose and do not remove them from the field office.
5. Label each document "RECORD DRAWING" in 2-inch high printed letters.
6. Keep record documents current at all times.
7. No work shall be permanently concealed until the required record data has been obtained.

RECORD / AS-BUILT DRAWINGS

- A. During the construction operation, the CONTRACTOR shall maintain records of all deviations from the approved Project Plans and Specifications and shall prepare therefrom "RECORD" drawings showing correctly and accurately all changes and deviations from the work made during construction to reflect the work as it was actually constructed.
- B. The Record/As-Built survey shall be performed and subsequent plans prepared by a Professional Surveyor and Mapper, registered in the state of Florida and certified to the standards set forth in Chapter 472, Florida Statutes and Chapter 5J-17.050 Florida Administrative Code (Florida Minimum Technical Standards).
- C. Field measurements of vertical or horizontal dimensions of constructed improvements shall be obtained so that the constructed facility can be delineated in such a way that the location of the construction may be compared with the construction plans. Clearly shown by symbols, notations, or delineations, those constructed improvements located by the survey.
- D. All vertical information (elevations) provided on the Record Drawings shall be referenced to the North American Vertical Datum of 1988 (NAVD 88) unless otherwise specified by the Project Engineer.
- E. The horizontal information provided on the Record Drawings shall be referenced to the State of Florida, State Plane Coordinate System, Florida East Zone as established by Global Positioning System (GPS) which meets or exceeds Third Order Class I Accuracy Standards according to current publication of the Federal Geodetic Control Committee (FGCC) procedures.
- F. All Record/As-Built drawings shall be prepared in digital format (ACAD Civil 3D 2013) and shall utilize the digital design drawings as prepared by the Project Engineer as a base for the Record/As-Built drawings. It is the responsibility of the Surveyor to request these files from the Contractor or Project Owner in order to produce the Record/As-Built drawing set.
- G. ALL improvements proposed to be constructed as shown on the approved construction plans shall be field measured upon completion and shown on the Record/As-Built survey. Any improvements that appear in both plan and profile views shall show the Record/As-Built information in both views.
- H. The following items are required to be shown on all Indian River County project Record/As-Built drawings submitted to the County:

DRAINAGE:

1. Right-of-way Swale/Drainage – All culvert inverts, elevations and station offsets; inlet grate and bottom elevations; swale beginning and end bottom elevations; and highs and lows along top of bank. Size of swale.
2. Pipe Culvert/PVC Sleeves – All inverts, pipe size, stations and offsets.
3. Outfalls – All pipe inverts, pipe size, elevations and station offsets, weir box elevations, weir elevation, bleeder elevation and sizes.
4. Roadway/Off Site Drainage – All inverts, elevations and station offsets; manhole top elevation; grate top elevations.
5. Retention Ponds – Provide perimeter elevations, grade breaks, depths and calculated pond areas at control elevation and grade breaks above and below water surface. Show as-built of typical cross section as shown on design plan.

ROADWAY:

1. Stations and offsets related to controlling baseline and elevations of all structures, side street and major driveway radius returns (edge of pavement), bends and/or change in direction of roadway alignment, minimum of 1000' intervals along roadway alignment.
2. Elevations along Profile Grade Line (PGL), of all edge of pavements on each side of Profile Grade Line (PGL), at medians at the high/low and PVI points along Profile Grade Line (PGL).
3. All final Elevations to be plotted on PGL AND Plan & Profile sheets as applicable.
4. Elevations of edge of pavement and flow line at curb inlets and on the adjacent edge of pavement at curb inlets.

WATER, FORCE, AND RECLAIMED WATER MAINS:

1. Show size and type of material used to construct mains.
2. Show horizontal location and elevation of all tees, crosses, bends, terminal ends, valves, fire hydrants, air release valves, and sampling points, etc., by distances from known reference points.
3. Show location, size and type of material of all sleeves and casing pipes.
4. Elevation and horizontal location of all storm sewers, gravity sewers including laterals, force mains, water mains, etc. which are crossed; including clearance dimension at all conflicts or crossings.
5. Top of pipe elevation and horizontal location of all water and force main stub-outs.
6. Horizontal location of all services at the property lines.
7. Horizontal and vertical location of pipe including size of all mains and ground elevation shall be obtained at one-hundred (100) foot intervals. Contractor shall place temporary PVC stand pipes (tell-tales) at each of the one-hundred (100) foot intervals and at all fittings and conflicts/crossings to facilitate the record drawing survey. The tell-tale pipes shall be constructed of 2-inch PVC pipe, shall be placed on the top of the pipes to be surveyed, and shall be removed by the Contractor after completion of the field survey by the "As-Built" Professional Surveyor.
8. Location of fire lines.
9. Dedicated easement locations, identified by O.R. Book and Page Number.

GRAVITY SEWER:

1. Manholes: Elevation of top rim, bottom elevation and invert of each influent and effluent line.
2. Show distance between manholes center-to-center and horizontal location by baseline station and offset.
3. Show material size and type used to construct sewer mains.
4. Show length (center of manhole to end of stub) distances from known reference points or baseline offsets, and elevation of stub-outs.
5. Show which services have twenty (20) foot length of DIP at water main crossings.
6. Show station and offset location of sanitary services' at property line. Particular care in dimensioning needed in special situations, i.e., cul-de-sacs and locations where services are not perpendicular to wye.
7. Show invert elevation of sanitary service at property line.
8. Any and all necessary dedicated easement locations, identified by O.R. Book and Page Number.

PUMP / LIFT STATION:

Record Drawings shall show elevations for the top and bottom and diameter of wet well along with invert of effluent line. Record Drawings should also indicate the make, model number, horsepower, impeller and condition point of pumps selected and installed, shape of wet well, location of control panel, location of pump out connection, float level settings, any deviation from the plans, and serial number(s) of the pump(s).

SURVEY CONTROL

1. Install/re-establish: It shall be the contractor's responsibility to hire a Professional Surveyor and Mapper as defined per Chapter 472, Florida Statutes, to replace any horizontal and vertical control shown on the engineering plans that was destroyed during construction.
2. New roadway alignment control points (survey baseline or controlling line and all points as indicated on the plans or control sheet) upon final roadway completion. Include all intersections and side streets. State plane coordinates and elevations for all control points.
3. If shown on plans or not: Any Public Land Corner or Governmental Survey Control point(s), vertical control (bench marks), property corners destroyed and/or disturbed during the scope of the project shall be properly re-established as per standards as set forth within Florida Statutes, Administrative code and Minimum Technical Standards for that type of survey. All said surveying mentioned above shall be performed under the

direct supervision of a registered Professional Surveyor and Mapper in the state of Florida and certified accordingly. Said Governmental agency(s) shall be notified in writing of disturbance and re-establishments.

RECORD/AS-BUILTS DRAWINGS FORMAT - SUBMITTAL

- A. ENGINEER will supply the CONTRACTOR with the electronic file of the approved construction plans for the input of the As-Built (record) information.
- B. CONTRACTOR shall deliver seven (7) certified sets of Record/As-Builts with Electronic Drawing files prepared in AutoCAD Civil 3D 2013 AND PDF format or in current version as agreed by the ENGINEER.
- C. CONTRACTOR's surveyor shall review, sign and seal As-Builts or Record drawing(s). Said drawing(s) shall clearly state type of survey, positional tolerances, adhere and be certified to by a registered Professional Surveyor and Mapper in the state of Florida, any standards set forth by Florida Statutes, Administrative code and Minimum Technical Standards for As-Built/Record surveys.
- D. All Record/As-Built drawings are subject to review and approval by County Surveyor.

ACCURACY

The CONTRACTOR will be held responsible for the accuracy and completeness of Record Drawings and Electronic As-Builts and shall bear any costs incurred in finding utilities as a result of incorrect data furnished by the CONTRACTOR.

COMPLETION OF WORK

Upon Substantial Completion of the Work, deliver Record Drawings/As-Built Drawings to ENGINEER. Final payment will not be made until satisfactory record documents are received and approved by ENGINEER.

AERIAL PHOTOGRAPH

The CONTRACTOR shall provide aerial photographs of the project every 30 days during construction. The photographs shall be done in a manner to show the construction progress for the entire length of the project. The photographs can be angled and not prepared to a particular scale, however, must be detailed enough to identify the work in detail.

Item of Payment

Payment for the work specified in this item shall be made under:

Bid Item No. 999-1 – Asbuilt Surveying and Record Drawings Preparation (by Registered Surveyor– Per Lump Sum

Board of Professional Surveyors and Mappers
Record As-Built Survey Checklist

Lic. Name _____ Date: _____

Project Name: **Indian River County Fire Station 7**

Project No.: **IRC-1911**

Chapter 61G17-6 Minimum Technical Standards F.A.C.

61G17-6.003 General Survey, Map, and Report Content Requirements

? **(1) REGULATORY OBJECTIVE: The public must be able to rely on the accuracy of measurements and maps produced by a surveyor and mapper. In meeting this objective, surveyors and mappers must achieve the following minimum standards of accuracy, completeness, and quality:**

? **(a) Accuracy of survey measurements based on the type of survey and expected use.**

? **(b) Measurements made in accordance with the United States standard, feet or meters.**

? **(c) Records of measurements maintained for each survey (check field notes.)**

? **(d) Measurement and computation records dated.**

? **(e) Measurement and computation records substantiate the survey map.**

? **(f) Measurement and computation records support accuracy statement (closure calculations or redundant measurements, if applicable.)**

(2) Other More Stringent Requirements:

? **(a) Met more stringent requirements set by federal, state, or local governmental agencies.**

(3) Other Standards and/or Requirements that Apply to All Surveys, Maps, and/or Survey Products:

? **(a) REGULATORY OBJECTIVE: In order to avoid misuse of a survey and map, the surveyor and mapper must adequately communicate the survey results to the public through a map, report, or report with an attached map.**

(b) Survey map or report identified the responsible surveyor and mapper and contain standard content. In meeting this objective, surveyors and mappers must meet the following minimum standards of accuracy, completeness, and quality:

☐ (c) Type survey stated on map and report:

As-Built Survey

Construction Layout Survey

Boundary Survey

Control Survey

Condominium Survey

Hydrographic Survey

Mean High Water Line Survey

Specific or Special Purpose Survey

Quantity Survey

Topographic Survey

Record Survey

☐ (d) Name, certificate of authorization number, and street and mailing address of the business entity on the map and report.

☐ (e) Name and license number of the surveyor and mapper in responsible charge.

☐ (f) Name, license number, and street and mailing address of a surveyor and mapper practicing independent of any business entity on the map and report.

☐ (g) Survey date (date of data acquisition.)

☐ (h) Revision date for any graphic revisions (when survey date does not change.)

☐ (i) Map and report statement “Survey map and report or the copies thereof are not valid without the signature and the original raised seal of a Florida licensed surveyor and mapper.”

☐ (j) Insurance statement in ¼” high letters “The survey depicted here is not covered by professional liability insurance” if there is no professional liability insurance.

☐ (k) Additions or deletions to survey maps or reports by other than the signing party or parties is prohibited without written consent of the signing party or parties.

☐ (l) All computed data or plotted features shown on survey maps supported by accurate survey measurements unless clearly stated otherwise.

☐ (m) Bearings, distances, coordinates, and elevations shown on a survey map shall be substantiated by survey measurements unless clearly stated otherwise.

☐ (n) Bearing reference (well established and monumented line)

☐ (o) A designated “north arrow”

☐ (p) Stated scale or graphic scale

☐ (q) Abbreviations in legend or notes.

☐ (r) Special conditions and any necessary deviation from the standards noted upon the map or report.

☐ (s) Responsibility for all mapped features stated on the map or report

☐ (t) Map or report clearly states the individual primarily responsible for the map or report when mapped features have been integrated with others.

(u) Map Accuracy.

(1) Vertical Feature Accuracy:

- ☐ **(a) Vertical Control: Field-measured control for elevation information shown upon survey maps or reports shall be based on a level loop or closure to a second benchmark.**
- ☐ **(b) Closure in feet must be accurate to a standard of plus or minus .05 ft. times the square root of the distance in miles.**
- ☐ **(c) All surveys and maps or reports with elevation data shall indicate the datum and a description of the benchmark(s) upon which the survey is based.**
- ☐ **(d) Minor elevation data may be obtained on an assumed datum provided the base elevation of the datum is obviously different than the established datum.**

(2) Horizontal Feature Accuracy:

- ☐ **(a) Horizontal Control: All surveys and maps or reports expressing or displaying features in a publicly published coordinate system shall indicate the coordinate datum and a description of the control points upon which the survey is based.**
- ☐ **(b) Minor coordinate data may be obtained and used on an assumed datum provided the numerical basis of the datum is obviously different than a publicly published datum.**
- ☐ **(c) The accuracy of control survey data shall be verified by redundant measurements or traverse closures. All control measurements shall achieve the following closures:**

Commercial/High Risk Linear: 1 foot in 10,000 feet;
Suburban: Linear: 1 foot in 7,500 feet;
Rural: Linear: 1 foot in 5,000 feet;
- ☐ **(d) When statistical procedures are used to calculate survey accuracies, the maximum acceptable positional tolerance, based on the 95% confidence level, should meet the same equivalent relative distance standards as set forth in 61G17- 6.003(3)(p)(2.)(c) F.A.C.**
- ☐ **(e) Intended Display Scale: All maps or reports of surveys produced and delivered with digital coordinate files must contain a statement to the effect of: "This map is intended to be displayed at a scale of 1/___ or smaller".**

61G17-6.004 Specific Survey, Map, and Report Requirements

(1) As-Built/Record Survey:

- ☐ (a) Obtained field measurements of vertical or horizontal dimensions of constructed improvements so that the constructed facility can be delineated in such a way that the location of the construction may be compared with the construction plans.**
- ☐ (b) Clearly shows by symbols, notations, or delineations, those constructed improvements located by the survey.**
- ☐ (c) All maps prepared shall meet applicable minimum technical standards.**
- ☐ (d) Vertical and horizontal accuracy of the measurements made shall be such that it may be determined whether the improvements were constructed consistent with planned locations.**

(END OF SECTION)

SECTION 1050 to 1080 – WATERMAIN RELOCATION**Section 1 - Water Mains – Ductile Iron Pipes (DIP) and Fittings****1.01 General**

- A. DIP shall be allowed for use as water pipe where compatible with the specific conditions of the project. The use of material other than ductile iron may be required by IRCDUS during construction permit review or by IRCDUS field personnel during construction, if it is determined that DIP is unsuitable for the particular application.
- B. All DIP shall be manufactured in accordance with AWWA Specification C150 (A21.50-96), or latest revision and shall be pressure Class 300 or 350 minimum as depicted on Table 1.1 on page 1-2. All DIP crossings under roadways and other traffic areas shall be pressure Class 350 minimum.
- C. Unless specifically indicated otherwise, restrained push-on joint underground piping shall be manufactured restrained bell and spigot and above ground piping shall be flanged.
- D. Cutting of DIP shall be by sawing only.

1.02 Pipe

- A. DIP shall be bell and spigot cast in accordance with AWWA Specification C150 (ANSI A21.50), or latest revision. Cast ductile iron shall have a minimum tensile strength of 60,000 psi with a minimum yield strength of 42,000 psi. Pipe wall thicknesses shall be computed in accordance with AWWA Specification C150 (ANSI A21.51), or latest revision, using the physical characteristics cited above with a minimum working pressure of 200 psi and a Laying Condition “Type 2.” Unless otherwise indicated or specified herein, the pipe shall have the minimum wall thickness according to class designation for diameters shown. All pipe shall be given a minimum factory hydrostatic test of 500 psi.

Table 1.1 - Pressure Class 300 and 350

Nominal Size Diameter (Inches)	Actual Outside Diameter (Inches)	300 psi Wall Thickness (Inches)	350 psi Wall Thickness (Inches)
3	3.96	---	0.25
4	4.80	---	0.25
6	6.90	---	0.25
8	9.05	---	0.25
10	11.10	---	0.26
12	13.20	---	0.28
14	15.30	0.30	0.31
16	17.40	0.32	0.34
18	19.50	0.34	0.36
20	21.60	0.36	0.38
24	25.80	0.40	0.43
30	32.00	0.45	0.49
36	38.30	0.51	0.56
42	44.50	0.52	0.63
48	50.80	0.64	0.70
54	57.56	0.72	0.79
60	61.61	0.76	0.83
64	65.67	0.80	0.87

1.03 Fittings

- A. All underground fittings shall be either push-on, restrained, or mechanical joint. Mechanical joints shall conform to AWWA Specification C110 (ANSI 21.10-98) or C153 (ANSI 21.53-00), or latest revisions. All aboveground fittings shall be flanged joint.
- B. The pressure rating shall be 350 psi (Class 350).
- C. Joint restraints, when required, shall be in accordance with IRCDUS Approved Manufacturers' Products List or an approved equal.
- D. All fittings shall be lined with the same material as specified for the pipe as per paragraph 1.04.

1.04 Lining and Coating

- A. Unless otherwise indicated, all DIP shall be factory lined and coated.
- B. All pipe shall be cement mortar lined and seal coated in accordance with AWWA Standard C104 (ANSI A21.4-95), or latest revision unless double lining is required by IRCDUS.
- C. Unless specified otherwise, all ductile iron pipe shall be bituminous coated outside to a dry film thickness of at least 1 mil.
- D. Anywhere that the coating is removed purposely or accidentally, the area shall be cleaned of any rust, grease, and dirt and re-coated to a minimum dry film as specified for the individual piece.
- E. If and where directed by IRCDUS's Engineer, a polyethylene encasement shall be provided around pipe, fittings, and valves. The material, installation, and workmanship shall conform to applicable sections of AWWA C105 (ANSI A21.5-99), or latest revision. Installation methods A or B shall be employed using flat tube polyethylene. The Contractor shall make provisions to keep the polyethylene from direct exposure to sunlight prior to installation. Backfilling following installation shall be completed without delay to avoid exposure to sunlight.
- F. All exposed (i.e. aerial crossings) DIP water mains shall be primed and painted "blue" as per IRCDUS Approved Manufacturers' Products List or equal.

1.05 Bell and Spigot Connections

- A. Joints in bell and spigot pipe shall be push-on, mechanical, or restrained joints in accordance with AWWA Standard C111 (ANSI 21.11-00), or latest revision. Pipe restraints shall also be in accordance with IRCDUS Standards or as directed by IRCDUS's Engineer.

1.06 Flanged Connections

- A. All flanged pipe barrels shall comply with the physical and chemical requirements as set forth in the Handbook of DIP of the Cast Iron Pipe Research Association, latest revisions. Flanges shall be in accordance with ANSI Specification B16.1 for Class 125 flanges. Bolts shall comply with ANSI Specification B18.2.
- B. Flanged pipe shall be faced and drilled to the American Standard Drilling, unless special drilling is called for or required. Where tap or stud bolts are required, flanges shall be tapped. Flanges shall be accurately faced and drilled smooth and true, at right angles to the pipe axis and shall be covered with zinc dust and tallow or a rust preventive compound immediately after facing and drilling.

- C. Flanged pipe with screwed-on flanges shall be furnished with long hubs, and the flanges shall be screwed on the threaded end of the pipe in the shop, and the face of the flange and end of pipe refaced together. There shall be no leakage through the pipe threads and the flanges shall be designed to prevent corrosion of the threads from outside.
- D. Flanged joints shall be made with bolts or stud bolts and nuts. Bolts, stud bolts, and nuts shall conform to American Standard heavy dimensions, semi-finished with square or hexagonal heads and cold punched hexagonal nuts, meeting the requirements of ASTM Designation A-316SS. Bolt sizes shall be American Standard for the flanges specified, and bolts and nuts shall have good, true threads.
- E. Gaskets shall be in accordance with AWWA Standard C115 (ANSI A21.15-99), latest revision.

1.07 Submittals

- A. Before starting fabrication of the DIP and fittings, the Contractor shall submit one set of complete working drawings (shop drawings) to the Engineer of Record and IRCDUS for approval. Such drawings shall show the pipe, fittings, valves, expansion joints, hangers, supports, and other appurtenances to be installed. Where special fittings are required, they shall be shown in large detail with all the necessary dimensions. The Engineer of Record shall review the drawings and notify IRCDUS of the drawings approved and not approved. IRCDUS will also review the drawings and coordinate approvals and disapprovals with the Engineer of Record and Contractor. The drawings submitted shall show flanged jointed sections placed so as to be removable without disturbance to the main pipe sections.

1.08 Marking

- A. Number 10 stranded conductor copper trace wire shall be spiral wrapped or affixed to the top of the pipe. See Trace Wire Details Drawing M-13 for specifications regarding installation.
- B. Trace wire is required over or around all pipes unless otherwise approved by IRCDUS.
- C. Location tape is required over all pipes. Tape is to be installed 12" below proposed grade and additional tape shall be adhered directly on top of the pipe if required by IRCDUS engineering.

1.09 Installation

- A. Handling and Protection of Pipe: Unless otherwise noted on the drawings or in other sections of this specification, the pipe shall be handled and installed in strict accordance with the manufacturers' instructions and with the applicable provisions

of AWWA C600-99, latest revision. If a conflict exists between the manufacturers' instructions and the AWWA Standards, the manufacturers' instructions shall govern. The Contractor shall use every precaution during construction to protect the pipe against the entry of non-potable water, dirt, wood, small animals, and any other foreign material that would hinder the operation of the pipeline. Where the groundwater elevation is above the bottom of the trench, the Contractor shall provide suitable dewatering equipment. All piping shall be placed in a dry trench, unless otherwise approved by IRCDUS.

- B. Depth of Cover and Pipe Elevation: Unless otherwise shown on the drawings, or otherwise approved by IRCDUS, all pipe shall have a minimum cover of 36 inches. Contractor shall determine top of pipe elevation and top of ground elevation for every two joints of pipe installed using a level. Pipe must have the minimum cover described above and must be within +/- 0.2 feet of the top of pipe elevation indicated on the drawings. Installed pipe, which does not meet these requirements, shall be reinstalled until it does meet these requirements. Contractor shall record top of pipe and top of ground elevations and the locations of where these elevations were determined and submit this information to IRCDUS. IRCDUS reserves the right to have Contractor excavate and check top of pipe and top of ground elevations to see if they conform to the aforementioned requirements, at no cost to IRCDUS.

END OF SECTION

Section 2 - Water Mains Polyvinyl Chloride Pipe (PVC) and Fittings

2.01 General

- A. PVC pipe shall be allowed for use as potable water pipe where compatible with the specific conditions of the project. IRCDUS may require the use of material other than PVC during construction permit review or by IRCDUS field personnel during construction, if it is determined that PVC pipe is unsuitable for the particular application.
- B. The pipe shall be identified by its nominal pipe size, plastic pipe material code, SDR class, pressure rating, ASTM Designation, manufacturers' name, production code, and the National Sanitation Foundation seal for potable water (NSF-pw).

2.02 PVC Pipe 3 Inches in Diameter and Smaller

- A. PVC pipe 3 inches and smaller in diameter intended for conveying potable water shall conform to ASTM D2241, latest revision.
- B. Pipe shall be Iron Pipe Size (IPS), and SDR 21 with a pressure rating of 200 psi.
- C. Joint design tested to the requirements of ASTM D3139.
- D. Gaskets shall conform to ASTM F477 and D1869.
- E. No solvent weld joints are permitted.
- F. The pipe shall be "blue" in color.
- G. PVC pipe shall be in accordance with IRCDUS Approved Manufacturers' Products List or equal.

2.03 PVC Pipe 4 Inches in Diameter and Larger

- A. PVC pipe intended for conveying or transmitting potable water shall conform to AWWA Standard Specifications C900-16 (or latest revision) and ASTM D1784 Cell Class 12454.
- B. Pipe shall be Ductile Iron Pipe Size (DIPS), and SDR 18 with a pressure rating of 235 psi.
- C. Joint design tested to the requirements of ASTM D3139. Gaskets shall conform to ASTM F477.
- D. Gasket material shall conform to ASTM F477.
- E. The pipe shall be "blue" in color.
- F. The pipe shall be identified by its nominal pipe size, plastic pipe material code, DR class, pressure rating, ASTM Designation, manufacturers' name, code, and the National Sanitation Foundation seal for potable water (NSF-pw).
- G. PVC pipe shall be in accordance with IRCDUS Approved Manufacturers' Products List or equal.

2.04 Joints

- A. Joints for PVC pipe shall be bell and spigot push-on rubber gasket type only unless otherwise approved by IRCDUS. No solvent weld or threaded joints will be permitted.
- B. Restraining joints, when required, shall be in accordance with IRCDUS Approved Manufacturers' Products List or equal.

2.05 Fittings

- A. All fittings shall be ductile iron mechanical joint and shall conform to AWWA Standard Specifications C110/A21.10-98 or C153/A 21.53-00, or latest revisions. Fittings shall be cement mortar lined and seal-coated in accordance with AWWA Standard Specifications C104/A21.4, or latest revision.
- B. The pressure rating shall be 350 psi (3" – 24" diameter), and 250 psi (30" – 48" diameter).
- C. Joint restraint, when required, shall be in accordance with IRCDUS Approved Manufacturers' Products List or equal.

2.06 Submittals

- A. Before starting installation of the PVC pipe and fittings, the Contractor shall submit one set of complete working drawings (shop drawings) to the Engineer of Record and IRCDUS for approval. Such drawings shall show the pipe, fittings, valves, hydrants, blow-offs, services, and other appurtenances to be installed. Where special fittings are required, they shall be shown in large detail with all the necessary dimensions. The Engineer of Record shall review the drawings and notify IRCDUS of the drawings approved and not approved. IRCDUS shall also review the drawings and coordinate approvals and disapprovals with the Engineer of Record and Contractor.

2.07 Marking

- A. Number 10 stranded conductor copper trace wire shall be spiral wrapped or affixed to the top of the pipe. See Trace Wire Details Drawing M-13 for specifications regarding installation.
- B. Trace wire is required over or around all pipes.
- C. Location tape is required over all pipes. Tape is to be installed 12" below proposed grade and additional tape shall be adhered directly on top of the pipe if required by IRCDUS engineering.

2.08 Storage

- A. PVC pipes are not to be stored where exposed to direct sunlight because of possible ultraviolet light degradation. Pipes stored on the jobsite are to be covered. PVC pipes that exhibit discoloration or fading from their original color will be rejected by IRCDUS field representatives.

2.09 Installation

- A. Handling and Protection of Pipe: Unless otherwise noted on the drawings or in other sections of these standards, the pipe shall be handled and installed in strict accordance with the manufacturers' instructions and with the applicable provisions of AWWA Standard Specifications C605-94, or latest revision. If a conflict exists between the manufacturers' instructions and the AWWA Standard Specifications, the manufacturers' instructions shall govern. The Contractor shall use every precaution during construction to protect the pipe against the entry of non-potable water, dirt, wood, small animals, and any other foreign material that would hinder the operation of the pipeline. Where the groundwater elevation is above the bottom of the trench, the Contractor shall provide suitable dewatering equipment. All piping shall be placed in a dry trench, unless approved by IRCDUS.
- B. Depth of Cover and Pipe Elevation: Unless otherwise shown on the drawings, or otherwise authorized by IRCDUS, all pipe shall have a minimum depth of cover of 36 inches. Contractor shall determine top of pipe elevation and top of finished grade elevation for every two joints of pipe installed using a level. Pipe must have the minimum cover described above and must be within +/- 0.2 feet of the top of pipe elevation indicated on the drawings. Installed pipe, which does not meet these requirements, shall be reinstalled until it does meet these requirements. Contractor shall record top of pipe and top of ground elevations and the locations of where these elevations were determined and submit this information to Engineer or his representative. IRCDUS reserves the right to have Contractor excavate and check top of pipe and top of ground elevations to see if they conform to the aforementioned requirements.

END OF SECTION

Section 3 - Water Services - Crosslinked Polyethylene (PEXa) Tubing and Water Mains - High Density Polyethylene Pipe (HDPE)

Water Services Crosslinked Polyethylene Tubing (PEXa)

3.01 General

Crosslinked polyethylene (PEXa) tubing shall be allowed for use as potable water pipe where compatible with the specific conditions of the project. IRCDUS may require the use of material other than PEXa during construction permit review or by IRCDUS field personnel during construction if it is determined that PEXa pipe is unsuitable for the particular application.

3.02 Polyethylene (PEXa) Tubing 3 inches Diameter and Smaller

- A. This specification requires PEXa to be designated as PEXa, high pressure peroxide method.
- B. PEXa tubing shall comply with applicable requirements for extrusion compound PEXa plastic material as stated in AWWA Standard Specifications C904, or latest revision, and shall comply with the following:
 - 1. Tubing shall have a working pressure of 200 psi at 73.4° F.
 - 2. Tubing surfaces shall be glass smooth, and shall be free from bumps and irregularities. Materials must be completely homogeneous and uniform in appearance.
 - 3. Tubing dimensions and tolerances shall correspond with values listed in ASTM D-2239, with a standard outside dimension ratio (SDR) of 9.
 - 4. Tubing shall carry the following markings every (3) feet: Manufacturers' name or trademark, nominal size, PEXa 3306 (material designation) SDR (standard dimension ratio), POTABLE TUBING, ASTM F876/F877/F2080, CSA B137.5, NSF-pw, UP Code 200psi/73.4°F 100psi/180°F, manufacturing date and footage mark.

3.03 Joints

- A. Joints for PEXa tubing shall be of the compression type or compression-sleeve type, utilizing a totally confined grip seal and coupling nut, unless otherwise approved by IRCDUS. Stainless steel tube stiffener inserts shall also be used for PEXa tubing services.

3.04 Installation

- A. Backfill shall be free of rocks and debris.
- B. Bending radius shall be large enough so that tubing is not crimped or damaged and so that the flow of water is not restricted. Manufacturers' minimum radius recommendations are to be utilized during installation of PEXa tubing.
- C. PEXa tubing shall have ability for kink repair using a heat gun.

3.05 Marking

- A. Number 10 stranded conductor copper trace wire shall be spiral wrapped or affixed to the top of the pipe. See Trace Wire Details M-14 for specifications regarding installation.

- B. Trace wire is required over or around all pipes.
- C. Location tape is required over all pipes. Tape is to be installed 12" below proposed grade and additional tape adhered directly on top of the pipe if required by IRCDUS engineering.

3.06 Pressure PEXa Pipe

- A. PEXa pipe shall be allowed for use as all pressure utility pipes where compatible with the specific conditions of the project. The use of material other than PEXa pipe may be required by IRCDUS during construction permit review or by IRCDUS field personnel, if it is determined that PEXa is unsuitable for the particular application.
- B. Documentation from the resin's manufacturer showing results of the following tests for resin identification:
 1. Melt Flow Index ASTM D 1238
 2. Density ASTM F876
- C. All PEXa pipe and fittings shall be from a single manufacturer on the Approved Manufacturers' Product List. The pipe shall be designed, constructed and installed in accordance with the best practices and methods and shall comply with these Specifications. See Approved Manufacturers' Product List.
- D. Finished Product Evaluation
 1. Production staff for the items listed below shall check each length of pipe produced. The results of all measurements shall be recorded on production sheets that become part of the manufacturers' permanent records.
 - a. Pipe in process shall be checked visually, inside and out for cosmetic defects (grooves, pits, hollows, etc.)
 - b. Pipe outside diameter shall be measured using a suitable periphery tape to ensure conformance with ASTM F714 or ASTM D-3035 whichever is applicable.
 - c. Pipe wall thickness shall be measured at 12 equally spaced locations around the circumference at both ends of the pipe to ensure conformance with ASTM F714 or ASTM D-3035, whichever is applicable.
 - d. Pipe length shall be measured.
 - e. Pipe marking shall be examined and checked for accuracy.
 - f. Pipe ends shall be checked to ensure they are cut square and clean.
 - g. Subject inside surface to a "reverse bend test" to ensure the pipe is free of oxidation (brittleness).
- E. Stress Regression Testing
 1. The PEXa pipe manufacturer shall provide certification that stress regression testing has been performed on the specific PEXa resin being utilized in the manufacturing of this product. This stress regression testing shall have been done in accordance with ASTM D2837 and the manufacturer shall provide a product supplying a minimum Hydrostatic Design Basis (HDB) of 1,600 psi as determined in accordance with ASTM D2837.
- F. Developer is responsible for compatibility between pipe materials, fittings and appurtenances.
- G. The pipe manufacturer shall provide a warranty against manufacturing defects of material and workmanship for a period of ten (10) years after the final acceptance of the project by

the IRCDUS. The manufacturer shall replace at no expense to IRCDUS any defective pipe material including labor within the warranty period.

3.07 High Density Polyethylene Pipe (HDPE) 4 inches in Diameter and Larger

- A. HDPE pipe intended for conveying or transmitting potable water shall conform to AWWA Standard Specifications C906-15 (or latest revision).
- B. Pipe shall be Ductile Iron Pipe Size (DIPS) and SDR 11 with a pressure rating of 200 psi.
- C. HDPE pipe shall be made from a PE 4710 resin compound conforming to ASTM D3350 with the cell classification 445574/4C/E.
- D. Dimensions and workmanship shall be as specified by ASTM F714. HDPE fittings and transitions shall meet ASTM D3261. HDPE pipe shall have a minimum density of 0.955 grams per cubic centimeter. All HDPE pipe and fittings shall have a Hydrostatic Design Basis (HDB) of 1,600 psi.
- E. If rework compounds are required, only those generated in the manufacturers' own plant from resin compounds of the same class and type from the same raw material supplier shall be used.
- F. The pipe manufacturer must certify compliance, with the above requirements.
- G. HDPE flange adapters at pipe material transitions shall be backed up by stainless steel flanges conforming to ANSI B16.1 and shaped as necessary to suit the outside dimensions of the pipe. The flange adapter assemblies shall be connected with corrosion resisting bolts and nuts of Type 316 Stainless Steel as specified in ASTM A726 and ASTM A307. All bolts shall be tightened to the manufacturers' specified torques. Bolts shall be tightened alternatively and evenly.
- H. HDPE pipe shall be striped blue for potable water, green for wastewater, and purple for reclaimed/reuse water.
- I. HDPE pipe shall be in accordance with IRCDUS Approved Manufacturers' Products List or equal.

3.08 Fittings

- A. All molded fittings and fabricated fittings shall be fully pressure rated to match the pipe SDR pressure rating to which they are made. All fittings shall be molded or fabricated by the manufacturer. No fabricated fittings shall be used unless approved by IRCDUS.
- B. The manufacturer of the HDPE pipe shall supply or specify all HDPE fittings and accessories as well as any adapters and/or specials required to perform the work as shown on the drawings and specified herein.
- C. All transitions from HDPE pipe to PVC or ductile iron shall be made per the HDPE, PVC, or ductile iron pipe manufacturers' recommendations and specifications whichever is more stringent. A molded flange connector adapter within a carbon steel back-up ring assembly shall be used for pipe type transitions. Ductile iron back-up rings shall mate with cast iron flanges per ANSI B16.1. A 316 stainless steel back-up ring shall mate with a 316 stainless flange per ANSI B16.1.
- D. The pipe manufacturer must certify compliance with the above requirements.

3.09 Joints

- A. The HDPE pipe shall be joined with butt, heat fusion joints. All joints shall be made in strict compliance with the manufacturers' recommendations.
- B. Lengths of pipe shall be assembled into suitable installation lengths by the butt-fusion process. All pipes so joined shall be made from the same class and type of raw material made by the same raw material supplier. Pipe shall be furnished in standard lay lengths not to exceed 50 feet.
- C. All above ground HDPE pipe shall have flange adapters. Below ground shall be MJ adapters. Stainless Steel inserts allowed on water main only 4" to 6". FM 4" and larger MJ adapter only with no insert. Pipe material transitions shall be backed up by stainless steel flanges conforming to ANSI B16.1 and shaped as necessary to suit the outside dimensions of the pipe. The flange adapter assemblies shall be connected with corrosion resisting bolts and nuts of Type 316 Stainless Steel as specified in ASTM A726 and ASTM A307. All bolts shall be tightened to the manufacturers' specified torques. Bolts shall be tightened alternately and evenly.

3.10 Pipe Identification

- A. The following shall be continuously indent printed on the pipe or spaced at intervals not exceeding 5-ft.
 - 1. Name and/or trademark of the pipe manufacturer.
 - 2. Nominal pipe size and OD base.
 - 3. Material Code
 - 4. Dimension ratio.
 - 5. Pressure Class
 - 6. Current AWWA C906 (if Applicable)
 - 7. Manufacturing standard reference, e.g., ASTM F714 or D-3035, as required.
 - 8. A production code from which the date and place of manufacture can be determined.
- B. Number 10 stranded conductor copper trace wire shall be spiral wrapped or affixed to the top of all pipe and fittings. See Trace Wire Details Drawing M-13 for specifications regarding installation.

3.11 Installation by Open Cut Method

- A. HDPE Pipe shall be installed in accordance with the instruction of the manufacturer, as shown on the Drawings and as specified herein. A factory qualified joining technician as designated by the pipe manufacturer shall do all heat fusion joints.
- B. Care shall be taken in loading, transporting and unloading to prevent injury to the pipe. Pipe or fittings shall not be dropped. All pipe or fittings shall be examined before installation, and no piece shall be installed which is found to be defective. Any damage to the pipe shall be repaired as directed by the Engineer of Record and IRCDUS. If any defective pipe is discovered after it has been installed, it shall be removed and replaced with a sound pipe in a satisfactory manner by the Contractor, at his own expense.

- C. Under no circumstances shall the pipe or accessories be dropped into the trench.
- D. Care shall be taken during transportation of the pipe such that it will not be cut, kinked, or otherwise damaged.
- E. Ropes, fabric, or rubber protected slings and straps shall be used when handling pipes. Chains, cables, or hooks inserted into the pipe ends shall not be used. Two slings spread apart shall be used for lifting each length of pipe.
- F. Pipes shall be stored on level ground, preferably turf or sand, free of sharp objects, which could damage the pipe. Stacking of the PE pipe shall be limited to a height that will not cause excessive deformation of the bottom layers of pipes under anticipated temperature conditions. Where necessary due to ground conditions, the pipe shall be stored on wooden sleepers, spaced suitably and of such width as not to allow deformation of the pipe at the point of contact with the sleeper or between supports.
- G. Care shall be exercised when lowering pipe into the trench to prevent damage or twisting of the pipe.
- H. Pipe shall be laid to lines and grade shown on the Drawings with bedding and backfill as shown on the Drawings.
- I. When installation of pipe is not in progress, including lunchtime, the open ends of the pipe shall be closed by fabricated plugs, or by other approved means.
- J. Pipe shall be stored on clean level ground to prevent undue scratching or gouging. The handling of the pipe shall be in such a manner that the pipe is not damaged by dragging it over sharp and cutting objects. The maximum allowable depth of cuts, scratches or gouges on the exterior of the pipe is 5 percent of wall thickness. Sections of pipe with cuts, scratches or gouges exceeding five percent of the pipe wall thickness shall be removed completely and the ends of the pipeline rejoined. The interior pipe surface shall be free of cuts, gouges or scratches.
- K. HDPE pipe shall be joined by the method of thermal butt fusion, as outlined in ASTM D2657. All joints shall be made in strict compliance with the manufacturers' recommendations.
- L. Mechanical connections of the HDPE pipe to auxiliary equipment such as valves, pumps and tanks shall be through flanged connections which shall consist of the following:
 - 1. An HDPE flange shall be thermally butt-fused to the stub end of the pipe. A stainless steel or ductile iron back-up ring shall be used on both sides of the connection prior to thermally butt-fusing the PE flange.
 - 2. A 316 stainless steel back-up ring shall mate with a 316 stainless steel flange.
 - 3. Ductile iron back-up rings shall mate with cast iron flanges.
- M. Flange connections shall be provided with a full-face neoprene gasket.
- N. All HDPE pipe must be at the temperature of the surrounding soil at the time of backfilling and compaction.
- O. No single piece of pipe shall be laid unless it is straight. The centerline of the pipe shall not deviate from a straight line drawn between the centers of the openings at the ends of the pipe by more than 1/16-in per foot of length. If a piece of pipe fails to meet this requirement check for straightness, it shall be rejected and removed from the site. Laying instructions of the manufacturer shall be explicitly followed.

- P. If a defective pipe is discovered after it has been installed, it shall be removed and replaced with a sound pipe in a satisfactory manner. All pipe and fittings shall be thoroughly cleaned before installation, shall be kept clean until they are used in the work and when laid, shall conform to the lines and grades required.
- Q. As soon as the excavation is complete to normal grade of the bottom of the trench, bedding shall be placed, compacted and graded to provide firm, uniform and continuous support for the pipe. Bell holes shall be excavated so that only the barrel of the pipe bears upon the bedding. The pipe shall be laid accurately to the lines and grades indicated on the Construction Plans. Blocking under the pipe will not be permitted. Bedding shall be placed evenly on each side of the pipe to mid-diameter and hand tools shall be used to force the bedding under the haunches of the pipe and into the bell holes to give firm continuous support for the pipe. Bedding shall then be placed to 12-in above the top of the pipe. The initial 3 feet of backfill above the bedding shall be placed in 1 foot layers and carefully compacted. Generally, the compaction shall be done evenly on each side of the pipe and compaction equipment shall not be operated directly over the pipe until sufficient backfill has been placed to ensure that such compaction equipment will not have a damaging effect on the pipe. The pipe manufacturers' representative prior to use shall approve equipment used in compacting the initial 3 feet of backfill. Pipe shall be installed per IRCDUS Drawing M-1 or M-2, Trench Details.
- R. Good alignment shall be preserved during installation. The deflection at joints shall not exceed that recommended by manufacturer. Fittings, in addition to those shown on the Drawings, shall be provided, if required, in crossing of utilities that may be encountered upon opening the trench.
- S. Each length of the pipe shall have the assembly mark aligned with the pipe previously laid and held securely until enough backfill has cramped.
- T. Before any joint is made, the pipe shall be checked to assure that a close joint with the next adjoining pipe has been maintained and that the inverts are matched and conform to the required grade. The pipe shall not be driven down to grade by striking it.
- U. Precautions shall be taken to prevent flotation of the pipe in the trench.
- V. When moveable trench bracing such as trench boxes, moveable sheeting, shoring or plates are used to support the sides of the trench, care shall be used in placing and moving the boxes or supporting bracing to prevent movement of the pipe, or disturbance of the pipe bedding and the backfill. Trench boxes, moveable sheeting, shoring or plates shall not be allowed to extend below the top of the pipe. As trench boxes, moveable sheeting, shoring or plates are moved, pipe bedding shall be placed to fill any voids created and the backfill shall again be compacted to provide uniform side support for the pipe.
- W. Sheeting and shoring will be required as determined in the field in accordance with OSHA regulations.
- X. Restrained joints shall be installed where shown on the Construction Plans, as required by IRCDUS Standards, or otherwise as directed by IRCDUS.

3.12 Marking

- A. Number 10 stranded conductor copper trace wire shall be spiral wrapped or affixed to the top of the pipe. See Trace Wire Details, M-13 for specifications regarding installation.
- B. Trace wire is required over or around all pipes.
- C. Location tape is required over all pipes. Tape is to be installed 12" below proposed grade and additional tape shall be adhered directly on top of the pipe if required by IRCDUS.

3.13 Trenchless Installation of High Density Polyethylene (HDPE) Pressure Mains by Directional Bore

- A. Description
 - 1. Portions of the pressure mains shall be installed by the directional bore method within the limits indicated of the contract plans and as specified here in. Generally, as a minimum, the pressure main is to be located within the road right-of-way and shall be installed by directional boring.
 - 2. This section includes material, performance and installation standards, and the contractor's responsibilities associated with the furnishing of labor, material, equipment, and identical required to install, complete, required trenchless installation of pressure mains, as shown on the Drawings and as specified herein.
- B. Experience
 - 1. The Contractor must demonstrate expertise in trenchless method by providing a list of ten utility references for which similar work has been performed in the last two years. The references should include a name and phone number where the contact can be made to verify the Contractor's capability. The Contractor must provide documentation showing successful completion of the projects used for reference. Conventional trenching experience will not be considered applicable.
 - 2. Supervisory personnel must be adequately trained and shall have at least four years of experience in directional boring. The Contractor shall submit the names and resumes of all supervisory field personnel prior to construction.
 - 3. Directional boring equipment shall be capable of installing the minimum pipe diameter noted on the drawings.
- C. Submittals
 - 1. Submit technical data for equipment including clay slurry material, method of installation with working drawings, and proposed sequence of construction for approval by the IRCDUS.
 - 2. Prior to approval for directional boring, the Contractor must submit the names of supervisory personnel, and history information of the directional boring experience. In addition, the Contractor must submit for approval the nameplate, data for the drilling equipment, mobile spoils removal units and Material Safety Data Sheets (MSDS) for the drilling slurry compounds.

3. The Contractor is required to bring to the attention of the engineer any known design discrepancies with actual tunneling methods that the contractor will be performing. This shall be stated in writing to the Engineer at the pre-construction meeting.

D. Installation

1. Installation shall be in a trenchless manner producing continuous bores.
2. The tunneling system shall be remotely steerable and permit electronic monitoring of tunnel depth and location. Accurate placement of pipe within a +/- 2-inch window is required both horizontally and vertically. Turning capability of 90-degrees radius in 40 feet is required. Continuous monitoring of the boring head is required, including across open water if necessary.
3. The directional boring Contractor shall submit certification, by a Professional Engineer licensed in the State of Florida, that the directional boring has been performed in accordance to the construction drawings, and shall submit signed and sealed drawings. AS-Built Record Drawings shall be provided both in electronic format and hard paper copy.
4. Tunneling shall be performed by a fluid-cutting process (high pressure-low volume) utilizing liquid clay i.e. bentonite. The clay lining will maintain tunnel stability and provide lubrication in order to reduce frictional drag while the pipe is being installed. In addition, the clay fluid must be totally inert and contain no environmental risk. The Contractor must also have a mobile vacuum spoils recovery vehicle on site to remove the drilling spoils from the access pits. The spoils must then be transported from the job site and be properly disposed off the site. The drilling spoils shall not, under any circumstances, be disposed into a sanitary sewer, storm, or other public or private drainage system. Spoils may be transported to the County's Solid Waste Facility and the cost of disposal shall be at the Contractor's expense.
5. Liquid clay type colloidal drilling fluid shall consist of at least 10 percent of high-grade carefully processed bentonite to consolidate cuttings of the soil, to seal the walls of the hole, and to furnish lubrication for subsequent removal of cuttings. The slurry that is heavier than the surrounding material, is high in colloids of the bentonite type and it will deposit a thin filter cake of low permeability material on the walls of the bore. This will allow only a small amount of the fluid to pass into the surrounding soils and will stabilize the bore. The colloidal content of the fluid imparts excellent lubricating qualities to the slurry that is a distinct aid to the removal of the soil cuttings.
6. Pneumatic or water-jetting methods will be considered unacceptable due to the possibility of surface subsidence.
7. After an initial bore has been completed, a reamer will be installed at the termination pit and the pipe shall be pulled back to the starting pit. The reamer shall be capable of discharging liquid clay to facilitate the installation of the pipe into a stabilized and lubricated tunnel.
8. A minimum of two insulated #6 stranded conductor copper tracer wire shall be wrapped or affixed to the top of the pipe and fittings along with the HDPE pipe. The tracer wire shall be tested for continuity or traceability upon completed installation. Should both tracer wires fail to test for continuity then the test shall be considered a failure and the wires shall be replaced.
9. Upon completion of boring and pipe installation, the Contractor shall remove all spoils from the starting and termination pits. All pits shall be restored to their original condition.
10. Restoration shall be as required by IRCDUS. The shoulders, ditches, banks, and slopes of roads and railroads crossed and paralleled shall not wash out before becoming accepted.

END OF SECTION

SECTION 1050 TO 1080 – WATERMAIN RELOCATION, cont.

The work specified in these items shall conform to Indian River County Department of Utility Services Standards and Specifications.

Item of Payment

Payment for the work specified in this item shall be made under:

- Bid No. 1050-31-202 - UTILITY PIPE F&I, PVC PIPE, 2" FM – Per Linear Foot
- Bid No. 1050-31-202A - UTILITY PIPE, F&I, PE PIPE, 2" WS – Per Linear Foot
- Bid No. 1050-31-202B - UTILITY PIPE, F&I, PVC PIPE, 2" SANITARY SEWER FORCE MAIN – Per Linear Foot
- Bid No. 1050-31-204A - UTILITY PIPE F&I, PVC PIPE, 4" WM– Per Linear Foot
- Bid No. 1050-31-204B - UTILITY PIPE, F&I, PVC PIPE, 4" GRAVITY SANITARY SEWER – Per Linear Foot
- Bid No. 1050-31-204C - UTILITY PIPE, F&I, HDPE PIPE, 4" FM – Per Linear Foot
- Bid No. 1050-31-204D - UTILITY PIPE F&I, PVC PIPE, 4" FM – Per Linear Foot
- Bid No. 1050-31-206 - UTILITY PIPE, F&I, PVC PIPE, 6" WM– Per Linear Foot
- Bid No. 1050-31-208A - UTILITY PIPE, F&I, PVC PIPE, 8" WM– Per Linear Foot
- Bid No. 1050-31-208B - UTILITY PIPE, F&I, HDPE PIPE, 8" WM– Per Linear Foot
- Bid No. 1055-31-108 - UTILITY FITTING, F&I, PVC ELBOWS, 8" – Per Each
- Bid No. 1055-31-208 - UTILITY FITTING, F&I, PVC TEE, 8"– Per Each
- Bid No. 1055-31-508 - UTILITY FITTING, F&I, PVC CAP, 8"– Per Each
- Bid No. 1055-31-808 - UTILITY FITTING, F&I, PVC CROSS, 8"– Per Each
- Bid No. 1055-41-108 - UTILITY FITTING, F&I, PE ELBOWS, 8"– Per Each
- Bid No. 1060-11-211 - UTILITY STRUCTURE, BELOW GROUND, F&I (500 GAL OWS), 0'-6- DEPTH – Per Each
- Bid No. 1060-21-11 - UTILITY STRUCTURE, SANITARY CLEANOUT, 4" – Per Each
- Bid No. 1080-21-102 - UTILITY FIXTURE, F&I, BACKFLOW ASSEMBLY, 2" – Per Each
- Bid No. 1080-22-102 - UTILITY FIXTURE, F&I, BACKFLOW ASSEMBLY, 2" – Per Each
- Bid No. 1080-22-106 - UTILITY FIXTURE, F&I, DDCV, 6" – Per Each
- Bid No. 1080-23-106A - UTILITY FIXTURE, F&I, TAPPING SADDLE, 4"X6" – Per Each
- Bid No. 1080-23-106B - UTILITY FIXTURE, F&I, TAPPING SADDLE, 6"X2"- Per Each
- Bid No. 1080-24-102A - UTILITY FIXTURE, F&I, VALVE ASSEMBLY, GATE VALVE, 2" – Per Each
- Bid No. 1080-24-102B - UTILITY FIXTURE, F&I, VALVE ASSEMBLY, CHECK VALVE, 2" – Per Each
- Bid No. 1080-24-102C - UTILITY FIXTURE, F&I, VALVE ASSEMBLY, CURB STOP, 2" – Per Each
- Bid No. 1080-24-104 - UTILITY FIXTURE, F&I, VALVE ASSEMBLY, GATE VALVE, 4"– Per Each
- Bid No. 1080-24-106A - UTILITY FIXTURE, F&I, VALVE ASSEMBLY, GATE VALVE, 6"– Per Each
- Bid No. 1080-24-106B - UTILITY FIXTURE, F&I, POST INDICATOR VALVE (PIV), 6" - Per Each
- Bid No. 1080-24-108 - UTILITY FIXTURE, F&I, VALVE ASSEMBLY, GATE VALVE, 8"– Per Each
- Bid No. 1080-25-102 - UTILITY FIXTURE, F&I, BLOWOFF, 2"– Per Each
- Bid No. 1080-26-104A - UTILITY FIXTURE, F&I, AIR RELIEF VALVE, IN GROUND, 4"– Per Each
- Bid No. 1080-32-102 - UTILITY FIXTURE, F&I, SAMPLE POINT, 2" – Per Each
- Bid No. 1080-32-108 - UTILITY FIXTURE, F&I, SAMPLE POINT, 8"– Per Each

+++END OF SECTION+++

SECTION 02413 - HORIZONTAL DIRECTIONAL DRILLING

PART 1 – GENERAL

1.01 SCOPE OF WORK

- A. The CONTRACTOR shall furnish all labor, equipment, and materials necessary to install carrier pipe by horizontal directional drilling (HDD) at the locations shown on the Contract Documents and as specified herein.
- B. The directional boring scope shall include, but not be limited to, steerable directional boring equipment, operator control cabin, mud plant, entry and exit pits, pumps, hoses, and other equipment, sheeting, location signs as required, and miscellaneous appurtenances to complete the entire Work as shown on the Contract Drawings. Directional boring operations shall be performed within the right-of-way and/or easements shown on the Contract Drawings.
- C. The ENGINEER has relied upon subsurface data for general information purposes only and the data are not part of the Contract Documents. The CONTRACTOR shall examine the site and or undertake his own geotechnical investigation prior to submitting his bid, taking into consideration all conditions that may affect his work. The OWNER and ENGINEER will not assume responsibility for variations of subsurface conditions at locations other than places shown and at the time the investigation was made.

1.02 RELATED WORK

- A. High density polyethylene (HDPE) pipe and fittings are included in Section 3.
- B. Trenching, backfilling and compaction are included in Section 1.

1.03 DEFINITIONS

- A. Annular Space: The space between the excavated HDD final reamed bore diameter and the pipe.
- B. Bent Sub: A section of drill pipe behind the cutting tools that is inclined at an angle at one to three degrees from the axis of the bore in the desired direction of steering. The bent sub allows steering while rotating the cutting tools.
- C. Drilling Fluid/Mud: A mixture of water, bentonite, and/or polymers continuously pumped to the drilling tools to facilitate the removal of soil cuttings, and stabilization of the bore. These fluids also cool the cutting tools and lubricate the drill pipe and product pipe string.
- D. Drill String: The total length of the drill pipe in the borehole.
- E. Drilling Tool/Bit: Any tool or system of tools which excavates at the face of a bore.
- F. Entry Pit: The location where the pilot bore initially penetrates the ground surface and where the HDD rig is positioned.
- G. Exit pit: The location where the pilot bore exists the ground surface.

- H. Horizontal Directional Drilling: A surface-launched, guided, steerable drilling system used for the trenchless installation of pipes, conduits, and cables.
- I. HDD Work Plan: Written descriptions, together with sketches, profile drawings, schedules, and other documents defining CONTRACTOR's plans and procedures for horizontal directional drilling.
- J. Inadvertent Return – Uncontrolled flow of drilling fluid/mud to the surface at a location other than the entry or exit pit. In certain conditions, this may also be known as hydrofracture or frac-out.
- K. Geotechnical Investigation Report: A report which provides the geotechnical boring locations and logs, geotechnical and environmental laboratory data results, and testing procedures.
- L. Obstruction: Any object lying completely or partially within the design pathway of the bore and pipe that prevents further advancement of the drill pipe, pre-reamer, reamer, and/or pipe, after all reasonable CONTRACTOR attempts to advance past the object or re-drill around the object have failed.
- M. Pilot Bore: The action of creating the first guided pass of the HDD process which is then reamed in one or more passes to the size required to allow pullback of the pipe.
- N. Pullback: The part of a horizontal directional drilling process in which the drill pipe, swivel, and product pipe or cable is pulled back through the bore to the entry.
- O. Pullback Loads: The loads (forces) applied to a drill string and product pipe during the pullback process. In addition to the tensile pullback loads, bending, buckling and combination loads must be considered during construction.
- P. Reamer: A cutting tool pushed or pulled through the borehole in order to enlarge the pilot bore hole to a diameter sufficient for the installation of the product pipe.
- Q. Settlement Point: A fixed point with elevation and spatial location established by survey prior to construction to monitor ground movements.

1.04 REFERENCE SPECIFICATIONS, CODES AND STANDARDS

- A. API Bulletin 13D, 1985. Bulletin on the Rheology of Oil-Well Drilling Fluids, Second Edition, Dallas, Texas, American Petroleum Institute.
- B. API Recommended Practice 13B-1, 1990. Standard Procedures for Field Testing Water-Based Drilling Fluids, First Edition, Dallas, Texas, American Petroleum Institute.
- C. API Recommended Practice 13B-1, 1990. Standard Procedures for Field Testing Water-Based Drilling Fluid Materials, Fifteenth Edition, Dallas, Texas. American Petroleum Institute.
- D. Horizontal Directional Drilling Good Practices Guidelines, Latest Edition, HDD Industry Consortium, 300pp.
- E. IADC Drilling Manual, 1992. Eleventh Edition, Houston, Texas, International Association of Drilling Contractors.
- F. Installation of Pipelines Beneath Levees Using Horizontal Directional Drilling, US Army Corps of Engineers, Waterways Experiment Station, Final Report, CPAR-GL-98-1, April 1998.
- G. Installation of Pipelines Beneath Levees Using Horizontal Directional Drilling, US Army Corps of Engineers, Waterways Experiment Station, Final Report, CPAR-GL-98-1, April 1998.
- H. Installation of Pipelines by Horizontal Directional Drilling, Pipeline Research Committee, American Gas Association, PR-227-9424, April 1995.

- I. Pipeline Design for Installation by Horizontal Directional Drilling, ASCE Manuals and reports on Engineering Practice No. 108, 2005.
- J. Pressure Pipelines Design for Water and Wastewater, American Society for Civil Engineers, 2nd ed., 1992.
- K. Tables for Hydraulic Design of Pipes and Sewers, American Society for Civil Engineers, 5th ed., 1990.

1.05 SUBMITTALS

- A. Following is the summary of information to be included in submittals required for the HDD Work. The CONTRACTOR may combine submittals at his discretion but at a minimum the following information must be addressed and provided for review.
 - 1. Risk Mitigation
 - 2. Contingency Plan for Remediation of Potential Problems
 - 3. Disposal of Spoils and Drilling Fluids Plan
 - 4. Equipment Layout Plan and confirmation of work area on design plans is acceptable.
 - 5. Inadvertent Return (Frac-Out) and Surface Spill Contingency Plan
 - 6. Horizontal Directional Drilling Work Plan
 - 7. Maximum Allowable Drilling Fluid Pressure Calculations
 - 8. Methods, Equipment, and Materials Description Plan
 - 9. Pipe Filling Methods and Testing during Pullback
 - 10. Protection of Adjacent Structures and Facilities Plan
 - 13. Qualifications of Superintendent and Key Personnel
 - 14. Radius of Curvature Confirmation
 - 15 Rig Capacity Plan
 - 16. Health and Safety Plan
 - 17. Construction Activities Schedule
 - 19. Surveying Equipment and Procedures
 - 20. Construction Progress
 - 21. Settlement Monitoring Plan
- B. In addition to other requirements indicated throughout this Specification, the following sections describe the above required submittals in more detail.
 - 1. Submittals shall be in accordance with the requirements of the Specifications, providing sufficient detail to allow the ENGINEER to judge whether or not the proposed equipment, materials, and procedures will meet the Contract requirements. The ENGINEER's review of submittal details and data will be based on considerations for the completed Work, utilities, and the possibility of necessary delays in the execution of the Work to be constructed under this Contract. Review and acceptance of the CONTRACTOR's submittals by the ENGINEER shall not be construed in any way as relieving the CONTRACTOR of its responsibilities under this Contract.
 - 2. The CONTRACTOR shall submit all Shop Drawings to the ENGINEER. Unless otherwise noted, all Shop Drawings shall have been reviewed and accepted by the ENGINEER prior to CONTRACTOR's

- mobilization. All Drawings shall be legible with dimensions accurately shown and clearly marked in English.
- C. Contingency Plan for Remediation of Potential Problems: The CONTRACTOR shall submit a Contingency Plan for Remediation of Potential Problems that may be encountered during the drilling operations. The contingency plans shall address the observations that would lead to the discovery of the problem and the methods that would be used to mitigate the problem. Potential problems that shall be addressed in this Plan include, but are not limited to, the following:
1. Loss of returns/loss of circulation of drilling fluids.
 2. Inadvertent returns (frac-out)/hydrofracture or surface spills resulting in drilling fluids entering water or reaching the surface. Stand-by equipment shall be provided by the CONTRACTOR to recover fluids. Turbidity barriers or other appropriate methods of containing and clean-up shall be part of the stand-by equipment to minimize dispersion in the event that drilling fluids reach the surface.
 3. Encountering obstruction during pilot bore or reaming/pullback.
 4. Drill pipe or product pipe cannot be advanced.
 5. Deviations from design line and grade exceed allowable tolerances.
 6. Drill pipe or product pipe broken off in borehole.
 7. Product pipe collapse or excessive deformation.
 8. Utility strike.
 9. Deviation from planned bore path.
 10. Hydrolock occurs or is suspected.
 11. Excessive ground settlement or heave.
- D. Disposal of Spoils and Drilling Fluids Plan: The CONTRACTOR shall submit Plans for disposal of waste materials resulting from the pipeline construction, including drilling fluids, cuttings, waste oil, fuel, discharge water, etc. The CONTRACTOR shall identify the disposal site and submit a letter indicating willingness and legal authority to accept the described and anticipated waste products.
- E. Equipment Layout Plan: The CONTRACTOR shall submit a plan which provides sketches depicting the layout and locations of equipment within the rig side work area and pipe side work area, including any proposed drilling fluid containment and recirculation pits. The CONTRACTOR shall confirm that all operations shall be completely contained within the permanent and Right of Way, and any temporary construction easement that may be shown on the Contract Documents.
- F. CONTRACTOR shall be responsible to for design and implementation (including all required costs, equipment and personnel) of Maintenance of Traffic (MOT) Plans necessary for the completion of the work as depicted in the design drawings, specifications and all referenced documents. MOT Plan shall be prepared submitted to the Indian River County Public Works Department for review and approval prior to any implementation or construction activities.
- G. Inadvertent Return (Frac-Out) and Surface Spill Contingency Plan: An Inadvertent Return (Frac-Out) and Surface Spill Contingency Plan shall be prepared for the installation of the pipeline using HDD. The Contractor shall submit letter signed by an authorized representative of Contractor confirming that the Plan will be followed. If required by permit conditions, Contractor shall revise the Plan as necessary to satisfy the associated regulatory agency.
- H. Horizontal Directional Drilling Work Plan: The CONTRACTOR shall submit a HDD Work Plan complete with drawings and written description identifying details of the proposed method of construction

and the sequence of operations to be performed during construction including placement, entry and exit points, and method of attachment and pullback of bundled carrier pipes.

1. The Plan shall include a detailed plan and profile of the bore showing any proposed deviations from the drawings included in design documents and plotted at a scale no smaller than one inch equals 40 feet horizontal and one inch equals four feet vertical.
 2. The drilling plan shall provide detail of the planned drilled bore path and the method for monitoring and controlling the speed, line, grade, and rate of fluids delivery. It shall include the sequence, size, and description of each reamer and capabilities of each through various geologic formations. Any drill plan should include a swabbing of the bore path prior to pipe pullback.
- I. Maximum Allowable Drilling Fluid Pressure Calculations: The CONTRACTOR shall submit calculations identifying the critical downhole pressure that would cause hydrofracture or inadvertent return of drilling fluid. The calculations shall identify the critical points in the alignment beneath the channel and near the exit point where the soil cover above the bore is low. The calculations shall identify all parameters used and state all assumptions made in the calculations.
 - J. Methods, Equipment, and Materials Description Plan: The CONTRACTOR shall submit detailed description of methods, equipment, and materials to be used for the pipeline installation. Descriptions of drilling fluid additives shall be accompanied by Materials Safety Data Sheets (MSDS) and Manufacturers' descriptions and warranties. Descriptions of equipment shall include Manufacturers' specifications, calibrations, appropriate drawing, photographs, and descriptions of any modifications since manufacture. This plan shall also include the CONTRACTORs means for complying with all local noise ordinances.
 - K. Pipe Filling Methods and Testing during Pullback: The CONTRACTOR shall submit methods and procedures for filling the pipe with water during pull back and testing.
 - L. Protection of Adjacent Structures and Facilities Plan: The Contractor shall submit a plan that provides details on measures to be taken to monitor and protect adjacent utilities, structures, roadways and sidewalks, and provide details on monitoring equipment and provisions, including the layout of all settlement points and other monitoring points. Provide two (2) copies of pre-construction survey of adjacent structures and photographs with captions to document pre-construction conditions prior to beginning HDD construction.
 - M. Qualifications of Superintendent and Key Personnel: The CONTRACTOR shall submit written documentation of HDD superintendent and key personnel experience in accordance with Paragraph 1.07A and 1.07B. Submit evidence of OSHA Certification for the Site Safety Representative.
 - N. Radius of Curvature Confirmation: The CONTRACTOR shall confirm that the bore can be completed using the radius of curvature and geometry shown on the Contract Drawings along with the calculations showing that installation stresses do not exceed allowable pipe stresses.
 - O. Rig Capacity Plan: The CONTRACTOR shall submit a plan which provides details on the capacity of the drill rig verifying that the pullback capacity is greater than the required pullback calculated and submitted by the CONTRACTOR under paragraph 1.05N.
 - P. Health and Safety Plan: The CONTRACTOR shall submit a Health and Safety Plan, including the name of the CONTRACTOR's Site Safety Representative, emergency telephone numbers for medical facilities, and precautions for handling and disposal of any hazardous or flammable materials. The Safety Plan shall include a code of safe practices and an emergency plan in accordance with OSHA and Florida/OSHA requirements.
 - Q. Construction Activities Schedule: At least fifteen (15) working days prior to mobilization for HDD operations, the CONTRACTOR shall submit a detailed schedule for the HDD installation showing all major construction activities and durations, with beginning and completion dates shown The

schedule shall be updated at least every week or more frequently, as directed by the ENGINEER, and shall include:

1. "One call" utility locate requests and visual confirmation of all crossing utilities and all parallel utilities within the vicinity of the bore centerline.
 2. Rig mobilization and setup.
 3. Pilot bore drilling.
 4. Pre-reaming and reaming.
 5. Layout and fusing of pipe.
 6. Pressure testing of pipe prior to pullback.
 7. Final reaming and pullback of pipe.
 8. Pressure testing of pipe after installation.
 9. Mandrel/pig test to confirm deformations of pipe are within allowable tolerances.
 10. Cleanup, surface restoration, and demobilization.
- R. The following shall be submitted as construction progresses and at the completion of construction.
1. Daily Logs and Records: The CONTRACTOR shall submit complete, legible, written daily logs and records as specified in Paragraph 1.07C and as directed by the ENGINEER, by noon of the following day to which the records correspond.
 2. Drilling and Reaming Rates: The CONTRACTOR shall submit maximum drilling speeds and reaming rates for pilot bore and each reaming pass and confirm that the pump capacity is adequate for these anticipated drilling rates for the mud and/or drilling fluid weights and viscosities anticipated. These shall be submitted to the ENGINEER on a daily basis.
 3. Drilling Fluid Viscosity and Density (Mud Weight): The CONTRACTOR shall submit measured mud and/or drilling fluid weights used during pilot boring and reaming of the bore measured at a minimum of three times per shift or at least once per 200 feet of drilled or reamed length, whichever is more frequent, with at least two (2) hours between readings.
 4. Pilot Bore As-Built Profile: The CONTRACTOR shall submit an as-built profile of the pilot bore within 24 hours of completion of the pilot bore.
 5. Pressure Test Records: The CONTRACTOR shall submit all pressure test records for both the pre-installation and post-installation tests. These shall be submitted within 24 hours of completion of such tests.
 6. Variations in Plan and Profile: The CONTRACTOR shall document any variations between the actual Contract Drawings and profile of the bore path and the location shown on the Contract Drawings. The CONTRACTOR shall notify in writing and by telephone the ENGINEER immediately upon discovery of any deviations.
- S. Settlement Monitoring Plan: The Contractor shall submit a settlement monitoring plan showing location of proposed settlement points and frequency of readings.
- T. Risk Mitigation: At least seven (7) working days prior to each major operations milestone, the CONTRACTOR and HDD superintendent shall attend a risk mitigation meeting with representatives of the ENGINEER and OWNER for each HDD crossing. The major operations milestones shall include the following as a minimum:
1. Rig mobilization and setup.

2. Pilot bore drilling.
 3. Pre-reaming and reaming.
 4. Layout and fusing of pipe.
 5. Pressure testing of pipe prior to pullback.
- U. CONTRACTOR to provide Record Drawings of the completed Directional Drill including a vertical record of the location of the drilling head at a minimum of 20 Ft. horizontal increments along the path of the Bore.

1.06 PERFORMANCE REQUIREMENTS

- A. The CONTRACTOR shall provide all equipment, materials, and personnel necessary for completing the installation as shown on the Contract Drawing and specified herein. The equipment and materials shall include but are not limited to:
1. Directional drilling rig with all ancillary equipment, including drill pipe, drilling fluid, cutting tools, reaming bits, swivels, expanders, motors, pumps, hoses, mixing equipment, drilling fluid processing equipment (cuttings separation equipment), downhole survey equipment, energized surface grid tracking system, fluid pressure and flow rate monitoring equipment, spare parts, pipe handling equipment (cranes, backhoes, rollers, side boom tractors) control equipment, and office equipment.
 2. Drilling fluids, water, fuel, lubricant, polymers, or other additives.
 3. Any other expendable or reusable materials, supplies, and equipment needed for the installation.
- B. The drilling equipment shall be capable of advancing through the geologic conditions to be encountered at the site, as presented in the Contract Documents, the Geotechnical Report and as anticipated by the CONTRACTOR.
- C. The drilling fluid shall be designed for the geologic conditions to be encountered at the site and as anticipated by the CONTRACTOR.
- D. The drilling system shall include a fluid pump and separation plant that can achieve the rates of drilling fluid pumping, spoil separation, and slurry cleaning required by the CONTRACTOR to achieve planned production rates for the soils described in the Geotechnical Report, and as anticipated by the CONTRACTOR. Shaker screens and hydrocyclones may be required for efficient separation of spoils. The CONTRACTOR is advised that the separation plant must fit within the allowable Work areas shown on the Contract Drawings.
- E. All spoil and slurry must be contained in trucks, tanks, approved recirculation pits, or other containers at all times. Dumping of spoil or slurry on the ground, discharge into sewers, or discharge into the water bodies will not be permitted. All spoils will be transported and disposed of off-site at an approved disposal facility that meets all State of Florida and local requirements.
- F. Perform all Work within Work areas shown on the Contract Drawings.
- G. The pipeline shall be installed using the radii of curvature and entry and exit angles shown on the Contract Drawings; unless deviations are approved in writing by the ENGINEER.
- H. Pipe rollers and lifters will be required to help the transition of the carrier pipe into the bore and to minimize the pull force. The number of pipe rollers and lifters shall be determined by the Contractor in accordance with the pipe supplier's recommendations. Location and spacing of the rollers and lifters will be done in accordance with the pipe manufacturer's recommendations based on bend radius.

- I. It shall be the CONTRACTOR's sole responsibility that all Work is done in conformance with all applicable federal, state, and local safety requirements. Required safety equipment and procedures shall be employed by the CONTRACTOR at all times. All materials and methods of construction shall meet the applicable requirements of the State of Florida Administrative Code.
- J. The pipe shall be certified by the CONTRACTOR as meeting all requirements of the Contract Documents. The fabricated pipe will be pressure-tested by the CONTRACTOR prior to pullback and after installation is completed.
- K. The CONTRACTOR shall allow access to the OWNER and/or ENGINEER and shall furnish necessary assistance and cooperation to aid the ENGINEER in observations and data and sample collection, including, but not limited to the following:
 - 1. The OWNER and/or ENGINEER shall have full access to the operator control center prior to, during, and following all HDD operations. This shall include, but not be limited to, providing visual access to real-time operator control screens, gauges, and indicators.
 - 2. The OWNER and/or ENGINEER shall have full access to the slurry separation plant prior to, during, and following all HDD operations. This shall include, but not be limited to, full access to shaker screens, hydrocyclones, conveyor belts, and slurry and spoil holding tanks. The ENGINEER shall be allowed to collect soil samples from the shaker screens and/or spoil holding tanks on the slurry separation plant a minimum of once per installed pipe section, and whenever changes in conditions are observed or suspected. If requested, the CONTRACTOR shall assist in the collection of these samples as directed by the ENGINEER.
- L. CONTRACTOR shall comply with all local noise ordinances. Sound levels in excess of these values are sufficient cause to have the Work halted until equipment can be quieted to these levels. Work stoppage for excessive noise shall not relieve the CONTRACTOR of the portions of this Specification including, but not limited to completion of all Work within specified Contract Time and Contract Price. The CONTRACTOR shall submit a Plan prior to construction identifying all noise reduction/abatement procedures. The Plan will be reviewed by the ENGINEER prior to construction.
 - 1. If mufflers cannot achieve the necessary noise reduction, noise abatement shall be accomplished by the CONTRACTOR's installation of baffles (or other acceptable means) positioned to break line-of-sight from the noise source to affected residences and/or commercial structures. Minimum noise abatement measures shall consist of equipping all engines with hospital grade mufflers or silencers.

1.07 QUALITY ASSURANCE

- A. Contractor Qualifications and Experience: The Contractor shall meet the following minimum qualifications:
 - 1. Contractor must be licensed in the State of Florida as an underground utility Contractor for a minimum of five (5) years.
 - 2. The Contractor shall have at least five (5) years of demonstrated successful experience installing pipelines by the means of HDD.
 - 3. The Contractor must have successfully completed three (3) water or sewer projects where the pipe was installed with HDD techniques, each (unless otherwise noted) meeting the following criteria.
 - a. Minimum carrier pipe nominal diameter of at least 16-inches.
 - b. Minimum length of 600 linear feet in a single pull through soil.

- c. The carrier pipe must be high density fusible polyethylene (HDPE) pipe.

And provide the following for each project.

- a. Project Description.
 - b. Pipe-Size, Length, Material.
 - c. Bore Length.
 - d. Soil Types.
 - e. OWNER's Contact Information.
 - f. ENGINEER's Contact Information.
 - g. Change Orders.
 - h. Scheduled Completion Date and Actual Completion Date.
4. The Contractor will be required to employ skilled, experienced superintendent(s), equipment operator(s) and personnel throughout the project. The superintendent for this project shall have at least five (5) years of successful experience using the HDD process, with at least two (2) projects meeting the criteria identified in Paragraph 1.07A.3.
 5. The HDD equipment operator for this project shall have at least five (5) years of successful experience using the HDD process, with at least one (1) project meeting the criteria identified in Paragraph 1.07A.3.
- B. The Contractor shall furnish resumes of the superintendent(s) and key personnel. Personnel experience records should include project names, locations, pullback lengths, ground conditions, pipe materials, project description, project Owner, Engineer, and references with names, addresses, and telephone numbers. The superintendent listed in the submittal shall be on site during all construction related activities required for the HDD installation for this project.
- C. Daily Logs and Records: Daily logs and records shall be maintained by the Contractor and shall include the following
1. drilling lengths,
 2. location of drill head,
 3. drilling fluid pressures and flow rates,
 4. drilling fluid losses,
 5. inadvertent returns (Frac-out),
 6. drilling times required for each pipe joint,
 7. any instances of retraction and re-drilling of the pilot bore or segments thereof, and
 8. any other relevant observations, including any observed settlement, heave, frac-outs, or surface spills.

The downhole annular drilling fluid pressures shall be measured and recorded throughout the pilot hole drilling. These records shall be maintained and provided daily to the Engineer. The position of the drill head shall be continuously tracked and recorded by a downhole tracking locator system. A plot of actual locations of the bore path shall be maintained and updated daily, or more frequently, as directed by the Engineer. These records shall be maintained and provided daily to the Engineer.

- D. Advance Notices and Inspections: The Contractor shall provide at least 24 hours advance written notice to the Engineer of the planned inspection of major drilling activities, including pilot bore launch, pre-reaming, reaming, and pipe pullback. The Contractor shall immediately notify the Engineer, in writing, when any significant problems are encountered or if ground conditions are considered by the Contractor to be materially and significantly different than those represented with the Geotechnical Report. All Work by the Contractors shall be performed in the presence of the Engineer unless Engineer grants prior written approval to perform such Work in Engineer's absence.
- E. Surveying Equipment and Procedures: All surveying equipment used for downhole surveying and tracking of the bore path and drill head shall be inspected and calibrated by the equipment manufacturer prior to use. Proof of this inspection and calibration shall be provided to the Engineer prior to commencement of drilling operations.

PART 2 – PRODUCTS

2.01 DRILLING FLUIDS

- A. The CONTRACTOR shall select drilling fluid mixture proportions to ensure continuous circulation, bore stability, reduce drag on the pipe, and completely fill the annular space between the bore and the pipe to control settlement. Management and disposal of drilling fluids shall be the CONTRACTOR's responsibility. Drilling fluids shall not be disposed of on-site or discharged to sanitary or storm sewers, or the waterways or adjacent wetlands.

2.02 DRILL PIPE

- A. The CONTRACTOR shall provide high quality drill pipes that have been inspected and determined to be adequate for the project requirements. Bent, racked, or fatigued drill pipes shall not be used. Threads must be in good condition. The length of each drill pipe shall be measured and recorded.

2.03 PIPE

- A. The CONTRACTOR shall provide and HDPE pipe in accordance with Section 3.
- B. The pipe thickness must conform to the most conservative design with respect to design calculations for the critical combination of internal and external pressure, pullback and bending. The carrier pipe shall meet the dimension ratio (DR-11) or greater as depicted in the design drawings.

2.04 WATER

- A. Testing and construction water will be provided via construction water connection as detailed on the design drawings and located on the 12" Dia. bypass connection to be installed on the existing 30" Dia. DIP watermain at the north end of the project.
- B. Water required for the HDD operations shall be provided by the OWNER

PART 3 - EXECUTION

3.01 GENERAL

- A. The CONTRACTOR shall provide adequate control of surface water and drilling fluids drainage and runoff, and provide silt fences, hay bales, and wattles to prevent surface water or drilling fluids from being transported off-site.

- B. The CONTRACTOR shall not initiate HDD until all submittals as specified in Paragraph 1.05 are received, reviewed, and approved by the ENGINEER.
- C. The CONTRACTOR shall not initiate HDD until all required permits are obtained. Copies of all permits shall be provided to the ENGINEER prior to construction.
- D. It is the CONTRACTOR's responsibility to provide barricades, fencing, or other safety measures to prevent public access into Work and staging areas.

3.02 PROTECTION OF UNDERGROUND UTILITIES

- A. The Contract Drawings show existing buried utilities that are believed to be near the directional drill alignment. There is no guarantee that these utilities are located as shown or that other utilities are not present. It will be the CONTRACTOR's responsibility to field locate all nearby utilities or other potential subsurface obstructions that may interfere with the Work.
- B. The CONTRACTOR shall notify "One Call" system to request marking of utilities that subscribe to One Call, at least 72 hours (excluding Saturdays, Sundays and Legal Holidays) before excavating in any public way and shall individually notify all other known or suspected utilities to request marking of these utilities. The CONTRACTOR shall confirm that all requested locates are made prior to commencing drilling operations. CONTRACTOR shall make all diligent efforts to locate any unmarked or abandoned utilities using all available information, maps, and drawings. The CONTRACTOR shall visually confirm and stake all existing lines, cables, or other underground facilities including exposing all crossing utilities and utilities within twenty (20) feet laterally of the centerline of designed drilled path at the discretion of the ENGINEER.
- C. The CONTRACTOR shall control drilling practices to prevent damage to existing utilities, existing pavement and sidewalks.
- D. The CONTRACTOR shall make diligent effort to locate surface evidence of any other potential subsurface obstructions, such as piers and piles.
- E. The CONTRACTOR shall be responsible for all losses and repairs occasioned by damage to underground utilities, structures and pavement/sidewalks resulting from drilling operations.

3.03 WORK STAGING AREA

- A. Barricades, Warning Signs, and Lights: The CONTRACTOR shall, in accordance with FDOT Standards erect appropriate barriers, warning lights, and signs, painted with approved colors, warnings, and graphics to ensure adequate warnings to personnel and the public.
- B. Combustible Materials: Combustible materials (fuel, oil, lubricants, etc.) shall be stored off-site or in a well-ventilated storage facility removed from the immediate vicinity of the drilling area by at least twenty (20) feet.
- C. Construction Impacts: The CONTRACTOR shall maintain the Work area in a manner that shall minimize adverse impacts on other public use activities. The CONTRACTOR shall proceed with Work in a safe, orderly manner, while maintaining the Work site free of debris and unnecessary equipment and materials.
- D. Control of Drilling Fluids: The CONTRACTOR shall follow all requirements of the Inadvertent Return (Frac-Out) and Surface Spill Contingency Plan as submitted and approved and shall control operational pressures, drilling mud weights, drilling speeds, and any other operational factors required to avoid hydrofracture fluid losses to formations, and control drilling fluid spillage. This includes any spillages or returns at entry and exit locations or at any intermediate point. All

inadvertent returns (Frac-Outs) or spills shall be promptly contained and cleaned up by the CONTRACTOR. The CONTRACTOR shall maintain on-site mobile spoil removal equipment during all drilling, pre-reaming, reaming, and pullback operations and shall be capable of quickly removing spoils. The CONTRACTOR shall immediately notify ENGINEER of any inadvertent returns (Frac-Outs) or spills and immediately contain and clean up the return or spill.

- E. Removal of Temporary Facilities: At the completion of construction, the CONTRACTOR shall remove all temporary facilities installed by the CONTRACTOR. Unused soil, aggregate, and other materials shall be removed and disposed of at approved sites in accordance with Federal, State, and Local regulations. Any damage to streets, lawns, common areas, and sidewalks shall be restored to original or better conditions. All disturbed areas shall be re-vegetated.
- G. Temporary Lighting: The CONTRACTOR shall procure and maintain all temporary lighting needed for CONTRACTOR's operations, safety, testing, and inspection. Temporary lighting shall be removed immediately after completion of construction.
- H. Work Staging: The CONTRACTOR shall limit staging and Work operations to the areas shown on the Contract Drawings, or as otherwise accepted in writing by the ENGINEER and all necessary approvals and permits for storage of equipment and materials, parking, drilling and other Work.
- I. Pipe Layout Staging Areas:
 1. The Contractor shall visit and fully evaluate the proposed work areas prior to submitting a bid for this work.
 2. CONTRACTOR is responsible for securing all necessary permits and approvals for the use of the temporary staging area layout of the pipe. All costs associated with this shall be included in the CONTRACTOR's bid price.

3.04 MOBILIZATION

- A. The CONTRACTOR shall mobilize all equipment, materials, and personnel necessary to construct the casing and carrier pipes using the HDD process at the locations shown in the Contract Drawings.
 1. Entry Area: The CONTRACTOR shall set up temporary workspace within the areas delineated on the Contract Drawings. Appropriate precautions and measures shall be employed by the CONTRACTOR to prevent erosion, surface drainage, and spillage of drilling fluids or other materials that could adversely impact the environmental quality of the site. Silt fences, hay wattles, and hay bales shall be used to line the Work area to minimize erosion and contain any spillage or runoff. Shovels, brooms, buckets, and barrels shall be kept on-site to facilitate containment and cleanup. A vacuum truck or trailer unit will be on standby and capable of responding within one hour to any spill or inadvertent return incident.
 2. Exit Area: The exit area shall have appropriate precautions and measures for containing drilling fluids and cuttings. The CONTRACTOR shall use appropriate methods to minimize erosion and runoff. Containment and cleanup equipment shall be available to contain and clean up any surface spills and frac-outs.
 3. Pipe Layout Area: Layout area shall be free of stones, wood, debris, and obstructions. Pipe rollers shall be provided by the CONTRACTOR during the fusion process to facilitate pipe fusion and pullback. The pipe layout area may not allow the entire length to be fused in a single length before start of pull-in. CONTRACTOR will plan work accordingly.

3.05 HORIZONTAL DIRECTIONAL DRILLING

- A. Drill Rig Capacity: The capacity of the directional drilling system used by the CONTRACTOR shall be adequate to install the specified pipes.
- B. Pump Capacity: The pumps used by the CONTRACTOR shall be adequate to supply the required flow rate and pressures at the anticipated drilling fluid viscosity at all times. Drilling speeds shall not exceed pump capacity. Drilling speeds shall be monitored continuously during HDD operations.
- C. Bore Tracking and Monitoring: At all times during the pilot bore the CONTRACTOR shall provide and maintain a bore tracking system that is capable of accurately locating the position of the drill head in the x, y, and z axes. The CONTRACTOR shall record these data at least once per drill pipe length or every thirty (30) feet, whichever is less.
 - 1. Downhole and Surface Grid Tracking System: CONTRACTOR shall monitor and record x, y, and z coordinates relative to an established surface survey benchmark from downhole survey data. The data shall be continuously monitored and recorded at least once per drill pipe length.
 - 2. Deviations between the recorded and design bore path shall be calculated and reported on the daily log. If the deviations exceed tolerances specified, such occurrences shall be reported immediately to the ENGINEER. The CONTRACTOR shall undertake all necessary measures to correct deviations and return to design line and grade.
 - 3. Drilling Fluid Pressures and Flow Rates: Drilling fluid pressures and flow rates shall be continuously monitored and recorded by the CONTRACTOR. The pressure shall be monitored at the pump. These measurements shall be made during pilot bore drilling, reaming, and pullback operations.
 - 4. Drilling Speeds: Maximum allowable drilling speeds shall be calculated by the CONTRACTOR for pilot boring and each reaming pass and shall not be exceeded for pilot boring or reaming passes. Measurements shall be taken every thirty (30) feet or thirty (30) minutes, whichever is more frequent.
 - 5. Drilling Fluid Viscosity and Density (Mud Weight): The CONTRACTOR shall measure and record drilling fluid viscosity and density at least three (3) times per shift or at least once per 200 feet of drilled and reamed length, whichever is more frequent with at least two (2) hours between readings, using calibrated Marsh funnel and mud balance. These measurements shall be included in daily logs submitted to the ENGINEER. The CONTRACTOR shall document modifications to the drilling fluids, by noting the types and quantities of drilling fluid additives and the dates and times when introduced. The reason for the addition of drilling fluid additives or other modifications shall be documented and reported.
- D. Location of Entry and Exit Points: Entry and exit points shall be as shown on the Contract Drawings, unless otherwise approved in writing by the ENGINEER or as shown on the approved HDD Work Plan. The CONTRACTOR shall employ experienced licensed surveyors registered in the state of Florida to locate the entry and exit points, and to establish horizontal and vertical datum for the bore and the pipe layout and fabrication areas.
- E. Entry and Exit Angles: Drill entry and exit angles shall be as shown on the Contract Drawings, unless otherwise approved in writing by the ENGINEER.
- F. Pilot Bore: The pilot bore shall follow the design path of the bore shown on the Contract Drawings.
 - 1. Horizontal and Vertical Tolerances: Horizontal and vertical deviations shall be less than plus or minus two (2) feet from the design path centerline. The CONTRACTOR shall continuously monitor horizontal and vertical position and record the position at least once per drill pipe length, or at thirty (30) feet, whichever is less.

2. Radius of Curvature: The radius of curvature shall not be less than that shown on the Contract Drawings. The radius of curvature shall be calculated over the distance of three (3) drill pipe sections.
 3. Entry and Exit Tolerances: The location of the entry and exit points shall be in accordance with the approved HDD Work Plan. The CONTRACTOR shall be solely responsible for all Work necessary to correct excessive deviations from line and grade, including redrilling, redesigning connections, and acquiring additional easement, at no additional cost to the OWNER and without schedule extension.
- G. Pre-reaming and Reaming: The pilot bore shall be pre-reamed and reamed using equipment and methods submitted by the CONTRACTOR. The CONTRACTOR shall completely pre-ream the bore to the final diameter prior to pullback.
- H. Hydrostatic Pretest: CONTRACTOR shall perform a low hydrostatic water pressure test per Section 1. Test shall be at a reduced pressure (Minimum 50 psig) prior to pipe pullback.
- I. Pipe Pullback:
1. A final swabbing of the bore path prior to pipe pullback is required, unless otherwise approved by the ENGINEER prior to the start of drilling operations, pipe pullback of new pipe without prior swabbing of the bore path to the furnished bore path inside diameter will not be permitted. The pipe shall be installed by pulling it into the reamed bore path in a continuous operation, behind a final reaming tool selected by the CONTRACTOR.
 2. The pipe shall be isolated from excessive torsional and axial stresses by a swivel device.
 3. All measurements shall be made, recorded, and submitted on the daily logs during final reaming and pipe pullback.
 4. Pulling Loads: The maximum pull (axial tension force) exerted on the carrier pipeline shall be measured continuously in the control center and at the pulling head and limited to the maximum allowed by the pipe Manufacturer so that the pipe or joints are not overstressed. A factor of safety over the maximum allowable is not required.
 5. Pipeline Support: The pipelines shall be adequately supported during installation so as to prevent overstressing or buckling. The CONTRACTOR shall provide adequate support/rollers along the stringing area to support the required length of the carrier pipe for each bore. Such support/rollers shall be spaced according to the pipe supplier, and the rollers be comprised of a non-abrasive material arranged in a manner to provide support to the bottom and bottom quarter points of the pipeline allowing for free movement of the pipeline during pullback. The pipe layout area shall be cleared of all large stones, construction debris, or other foreign objects that could damage the piping during pullback.
 6. The pipe shall have ballast during pullback (filled with water).
 7. The leading end of the pipe shall be closed during the pullback operation, in accordance with the pipe supplier's recommendations. A pulling head shall be used that is rated at the allowable pull force capability of the pipe section being installed, in accordance with the pipe supplier's recommendations.
 8. Each length of pipe shall be inspected and cleaned as necessary to be free of debris immediately before joining.
 9. Two separate and complete runs of tracer wire will be attached to the leading end of the pipe pulling head and shall extend the full length of the installed pipe. No mid span splices will be permitted. Tracer wire and continuity testing shall be in accordance with IRCDUS construction standards and specifications.

10. The CONTRACTOR shall at all times handle the pipe in a manner that does not overstress or otherwise damage the pipe. Vertical and horizontal curves shall be limited to manufacturer's recommended bend radius so that wall stresses do not exceed the allowable bending radius as recommended by the pipe supplier. If the pipe is buckled or otherwise damaged due to CONTRACTOR's acts or omissions, the damaged section shall be removed and replaced by the CONTRACTOR at his expense. The CONTRACTOR shall take appropriate steps during pullback to ensure that the carrier pipe and tracer wires will be installed without damage.
 11. If the pipe has mid-welds, the CONTRACTOR shall engage the pipe supplier to provide a fusion technician to ensure Quality Assurance and Quality Control (QA/QC) of the mid-welds during the pullback operation.
 12. The CONTRACTOR shall monitor and inspect pipe rollers and method for suspending pipe at entry during the pullback operation to avoid damage to the pipe.
 13. The CONTRACTOR shall cease operations if the pipe is damaged and shall remove the pipe from the bore and repair the pipe using the Manufacturer's recommended procedure or replace the damaged pipe before resuming installation.
 14. Damage to the pipe resulting from installation or contact grouting is the responsibility of the CONTRACTOR, including costs for replacement and labor and materials at no cost to the OWNER. To confirm no damage to the pipe, upon completing of pullback and grouting, the CONTRACTOR shall perform the following test on the completed pipeline.
 - a. A mandrel or pig, one inch less in diameter than the internal diameter (including fusion beads) of the product pipe, which is capable of allowing water to pass through it, complete with a pulling cable on either side of mandrel or pig, shall be pulled through the entire length of the pipeline. If the pig or mandrel cannot pass through the pipe, it shall be considered collapsed and damaged and the CONTRACTOR shall be responsible for replacement of the carrier pipe and all costs associated with the replacement. Check Manufacturer's tolerance and fuse bead size.
 15. After the casing pipe is completely pulled through the bore, a sufficient period as recommended by the pipe Manufacturer shall be provided before the final pipe tie-in.
 16. Final Hydrostatic Test: The CONTRACTOR shall conduct a final hydrostatic test of the installed pipeline. Final test shall be in accordance with Section 3. The CONTRACTOR shall repair any defects discovered during the test, and repeat until the pipe passes the test.
 17. Upon completion of the installation and successful pressure testing of the directional bore and ancillary piping, CONTRACTOR shall provide bacteriological testing of the main in accordance with FDEP standards for certification.
- K. Obstructions: The CONTRACTOR shall notify the ENGINEER immediately in the event that any obstruction is encountered that prevents further advancement of the drill pipe, or pullback of the pre-reamer, reamer, and/or pipe. The CONTRACTOR shall make all diligent and reasonable efforts to advance past the object by drilling slowly through the object, pulling back, and drilling along a new bore path that avoids the object, or excavating and exposing and removing the object, and all other reasonable attempts to continue the bore. The CONTRACTOR shall notify the ENGINEER or proposed measures to attempt to advance past the object, prior to initiating the attempt. If the CONTRACTOR attempts to pullback and re-drill, the CONTRACTOR shall adhere to line and grade tolerances established in this Specification section, unless the ENGINEER approves variance, in writing, prior to the CONTRACTOR's attempt to re-drill. The CONTRACTOR and ENGINEER shall investigate the cause and together determine an appropriate response. Appropriate response may include revisions to equipment or methods, retraction and re-drilling of a portion of the bore, or abandonment of the hole. If abandonment is deemed necessary, the CONTRACTOR shall recover, to the extent

practicable, any drill pipe, product pipe, and tools in the bore, and properly abandon the bore by contact grouting unless otherwise directed in writing by the ENGINEER. If the bore is abandoned, the CONTRACTOR shall be allowed to begin a second attempt to install the pipeline at an alternate location subject to approval, in writing, by the ENGINEER. The CONTRACTOR shall take all reasonable actions to complete the installation with minimal delays. The extra costs and payments associated with encountering a confirmed obstruction shall be negotiated between the Owner and Contractor, based on reasonable time and materials.

- L. Site Restoration and Demobilization: The CONTRACTOR shall remove all equipment, materials, drilling fluids, muck, waste, and debris from the site and restore the site to its original condition upon completion of the installation. Restoration and demobilization shall be completed by the CONTRACTOR within seven (7) calendar days of the completion of the pipeline installation.

* * END OF SECTION * *

SECTION 18 Approved Manufacturers' Products List

Air Release Valves – Sewer

- A.R.I.

Air Release Valves – Water

- APCO
- A.R.I.
- GA Industries
- Val-Matic

Backflow Preventer (RPZ) and Double Detector Check Valves with RPZ Assembly

- AMES Fire and Waterworks -Silver Bullet Series
- FEBCO
- Watts
- Wilkins

Blow-Off Valves

- John C. Kupferle Foundry Co. – Model Eclipse #85 or approved equal

Bronze Gate Valves

- American Valve Inc.
- East Jordan
- NIBCO
- Red-White Valve Corp.
- United Brass Works

Casing Spacers/Insulators

- APS- Advance Product &Systems
- Cascade Waterworks Mfg.
- GPT
- Raci North America

Check Valves- Weight & Lever Resilient Seat

- American Darling
- Clow Valve Company
- Kennedy Valve
- M&H Valve
- Mueller Co.
- Val-Matic

Corporation Stops

- A.Y. McDonald Mfg. Co
- The Ford Meter Box Co. Inc. - FB1100 x G-NL Style, FB1700
- Mueller Co. Part #'s H-15028 & H10046

Couplings

- EBAA-Iron
- Krausz-HYMAX
- Smith-Blair (Pump Stations EZ with Seal and Restraint)
- Wal-Rich Dresser™ Pipeline Solutions

Curb Stops

- The Ford Meter Box Co. Inc. - KV43-342WG, KV43444WG, BA43342WG, BA43444WG, B41666WG, B41777WG, BFA43-666WG * & BFA43777WG
- AY McDonald: (Equal to Ford Part Numbers)

- Mueller: (Equal to Ford Part Numbers)

Ductile Iron Pipe

Water: Cement Lined Class 350/50

Sewer/Force Main: Protecto 401 Lines Class 350/50

- American
- Clow Valve Co.
- Griffin Pipe Products Co.
- McWane
- U.S. Pipe

Ductile Iron Fittings

Water: Cement Lined Class 350/50

Sewer/Force Main: Protecto 401 Lines Class 350/50

- American Valve
- Clow
- McWane Ductile
- Star Pipe Products
- Tyler
- U.S. Pipe

Electrical Equipment as listed or approved equal

- Crouse-Hinds
 1. Cable Connectors "CGB" Series
 2. Emergency Power Receptacle – 3W, No. AR1042-S22 with AR610 Panel Adaptor for pumps less than 25hp, AR2042-S22 with AR610 Panel Adaptor for pumps greater than 25hp
- Eagle Signal Bulletin 705
 1. HK series Elapsed Timer Meter
- Square D
 1. Unfused Safety Switch
 2. Thermal Magnetic Air Circuit Breaker
 3. Magnetic Motor Starter
 4. Reduced Voltage Motor Starter
 5. Pump Mode Selector Switch
 6. Indicator Lamps

Fire Hydrants 5 ¼" Valve Opening

- Clow – Medallion F2545
- East Jordan Iron Works – Part no. 5CD250
- Mueller-Centurion 250

Generator Sets

1000 KW or Greater

- Caterpillar
- Cummins/Onan
- Detroit Diesel

1000 KW or Less

- Atlas-Copco
- Katolight
- Kohler Power
- Tradewinds Power
- Winco

Lift Station Access Door

- Bilco – Type J-AL Single Leaf with Stainless Steel Hardware-Waterproof
- Halliday Products – Single Leaf with Stainless Steel Hardware-Waterproof

Lift Station Control Panels

- ECS (Economy Control Systems, Jacksonville, FL)

Lift Station Joint Sealer

- Marbri Supply Co.
 1. Embeco 636 Grout
 2. Embeco 885 Grout

Lift Station and Manhole Sealant and Coatings

- Pro-Tech EW-1 Water Base Epoxy
- CANUSA WRAPID SEAL

Lift Station Submersible Pumps

- ABS Pump - If a grinder pump is proposed, only ABS type grinder pumps under 5.0 hp are permitted. ABS V2 Pirana Grinder Pumps are not permitted
- Xylem Flygt.

Lift Station Valve Pit Access Door

- Bilco
- Halliday Products

Lift Station Valve Pit Quick Disconnect

- Kamloc Male Kwik Disconnect
- Kamloc Coupler 4"

Lift Station Valve Pit Safety Gate

- Halliday Products
- Bilco

Line Setter for Meter Boxes

6" – Part # Retro-2BVBHH-NL
5/8" X 3/4" Meter Retrosetter

12" – Part # VHH42-12W-NL
5/8" X 3/4" Meter Retrosetter
No Lead 3/4" Key Valve
By Dual Check Valve

- Ford Meter Box

Marker Balls Electronic

- 3M – Water 3M 1403XR, Sewer 3M 1404XR

Manhole Frames and Covers

- U. S. Foundry – Drawing No. 420-C
- PAM –Pamrex Hinged Manhole Cover and Frame

Manholes Flexible Plastic Gaskets

- Press Seal Gasket Corp
- Ram-Nek

Manhole and Lift Station Linings

- AP/M Permaform
- Associated Fiberglass Enterprises
- GU Florida
- LF Manufacturing Co. Inc.

Manhole Pipe Connection (Boot)

- Kor-N-Seal –Neoprene Boot with Stainless Steel Accessories
- PBX (Press Seal Gasket Corp)

Manhole Watertight Rain Guard Boot

- LF Manufacturing Co. Inc.
- Parson Environmental Products

Mechanical Joint Restraints

- EBAA –Megalugs and Bell Restraints
- SIGMA Corp
- Star Pipe Products
- U.S. Pipe – Field Lock Gaskets

Meter Boxes

Polymer Concrete & Fiberglass sizes 11”X18”, 13”X24”, 17”X30”, 24”X36”

- CDR Systems Corp.
- GlasMasters, Pre-Plumbed Box
- Hubbell

Meters for Sewer Force Mains and Reuse Mains

- Mag-Meter (on a case by case basis)
- The Abb Group/Fisher Porter

PE Pipe & Tubing

3/4” to 2” SDR 9 CTS

3” to 48” DR11 DIPS

- Chevron-Phillips

- Flying W Plastics Inc.
- JM Eagle
- Municiplex
- Polypipe

Plug Valves

- Clow Valve Co
- DeZurik-Series 100
- Henry Pratt Co.
- Kennedy Valve
- M&H Valve Co.
- Val-Matic-Series 1500

PVC Pipe & Fittings

Water/Force Main - DR18 C900/C909 (for Fittings, see Ductile Iron Fittings on Page 18-2)

Sewer - SDR 26 3034 (for Fittings, see Sewer Fittings ASTM D-3034 on Page 18-7)

- Diamond Plastics
- ETI Pipe and Supply
- Freedom Plastics
- J-M Manufacturing Co. Inc.
- National Pipe and Plastic
- North American Pipe Corp.

Reduce Pressure Backflow Preventer Assembly

- AMES Fire and Waterworks - 400SS & 400SS
- Wilkins –Part No. 975
- FEBCO- Part No. LF825Y
- Watts – Part No. LF909

Remote Telemetry Unit

- DataFlow Systems Inc. - Model TAC II telemetry unit, complete with Model PCU-001 pump control module, BPR backpack radio/TAC pack, power supply with battery backup, Model RTU-03 enclosure, cable and antenna

Resilient Seat Gate Valves

- American Flow Control
- Clow Valve Co.
- Kennedy Valve
- M&H Valve Co.
- Mueller Co.

Service Saddles-Stainless Steel Straps

- The Ford Meter Box Co.
- JCM Industries
- Romac Industries Inc.

Sewer Fittings ASTM D-3034

- The Harrington Corp./HARCO

- Multi Fittings
- Royal Building Products

Sleeve Type Couplings

- The Ford Meter Box Co.
- Smith-Blair - Style 413
- JCM Industries

Tapping Sleeves- Stainless Steel

- The Ford Meter Box Co. – Style FTSS
- JCM Industries- Model 432
- Smith-Blair – Style 663
- Romac Industries Inc.

Tie Rods

All tie rods shall be stainless steel all-thread rods

Trace Wire Covering

- King Innovation –Dryconn Weatherproof Connectors
- SKRINK WRAP
- 3M-ScotchKote Weatherproofing Compound
- 3M- Scotch 33 tape

Trace Wire Port

- Snake Pit (Cast Iron Cover)

Valve Boxes (Domestic Heavy Duty)

- East Jordan Iron Works – Long Throat Lid General Foundries Inc
- Russell
- Star Pipe Products
- Tyler Union
- U. S. Foundry

Valve Name Plate

- LF Mfg. Co
- Shiedow Bronze Corp.
- Wager Co.

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SECTION 1644-800 - FIRE HYDRANT (RELOCATION)

The work to be performed for utility work shall conform to the applicable technical specifications of the “Indian River County Department of Utility Services, Water, Wastewater, and Reclaimed Water Utility Construction Standards” March, 2018 or the current version.

Item of Payment

Payment for the work specified in this item shall be made under:

Bid Item No. 1644—111-08 – FIRE HYDRANT ASSEMBLY (INC.G.V.) - Per Each

Project:

Indian River County
EMS Station #7

Located at:

2700 98th Avenue
Fellsmere, FL 32948

PROJECT MANUAL / TECHNICAL SPECIFICATIONS

Prepared By:

Edlund, Dritenbas, Binkley Architects & Associates, P.A.
65 Royal Palm Pointe, Suite-D
Vero Beach, Florida 32960
AR #AAC000886

Architect's Commission Number
#050219VB

OWNER:

Indian River County
1801 27th Street
Vero Beach, FL 32960

DATE: 5 July 2022

SECTION 03100 - CONCRETE FORMWORK

PART 1 - GENERAL

1.01 QUALITY ASSURANCE

A. Qualifications of Workmen:

1. Provide at least one person who shall be present at all times during execution of this portion of the work and who shall be thoroughly familiar with the type of materials being installed, the referenced standards, and the requirements of this work, and who shall direct all work performed under this Section.

B. Codes and Standards:

1. Comply with applicable provisions of the latest edition of Building Code that has jurisdiction and Occupational Safety and Health Act.
2. Where provision of pertinent codes and standards conflict with the requirements of this Section of these Specifications, the more stringent provisions shall govern.
3. Product Standard PS 1-83 for Construction and Industrial Plywood.
4. American Concrete Institute Standard recommended practice for concrete formwork, ACI 347-latest edition.

PART 2 - PRODUCTS

2.01 FORM MATERIALS

A. Form Lumber:

1. All form lumber in contact with exposed concrete shall be new except as allowed for under Re-use of Forms in Part 3 of this Section of the Specifications. All form lumber shall be one of the following, a combination thereof, or an equal approved in advance by the Engineer.
 - a. "Plyform", Class I 5/8" or 3/4" PS 1066, C-D exterior plywood, bearing the label of the Douglas Fir Plywood Association.
 - b. Douglas Fir-Larch, number two grade, seasoned, surfaced four (4) sides.

2.02 OTHER MATERIALS

- A. All other materials, not specifically described but required for proper completion of concrete formwork, shall be as selected by the Contractor subject to the advance approval of the Engineer.

PART 3 - EXECUTION

3.01 SURFACE CONDITIONS

A. Inspection and Soil Treatment:

1. Prior to all work of this section, carefully inspect the installed work of all other trades and verify that all such work is completed to the point where this installation may properly commence.
2. Verify that forms may be constructed in accordance with all pertinent codes and regulations, the referenced standards, and the original design.
3. Treat underlying soil to prevent vegetation growth and insect infestation.

3.02 CONSTRUCTION OF FORMS

A. General:

1. Construct all required forms to be substantial, sufficiently tight to prevent leakage of mortar, and able to withstand pressures without excessive deflection when filled with wet concrete.

B. Embedded Items:

1. Set all required steel frames, angles, grilles, bolts, inserts, and other such items required to be anchored in the concrete before the concrete is placed.

C. Bracing:

1. Properly brace and tie the forms together so as to maintain position and shape and to ensure safety to personnel.
2. Construct all bracing and supporting members of amply size and strength to safely carry, without excessive deflection, all dead and live loads to which they may be subjected.
3. Space the forms the proper distance apart and securely tie them together, using metal spreader ties that provide positive tying and accurate spreading.

3.03 RE-USE OF FORMS

A. General:

1. Re-use of forms shall be subject to advance written approval of the Structural Engineer or his designer.

B. Requirements:

1. Except as specifically approved in advance by the Structural Engineer, re-use of forms shall in no way delay or change the schedule of placement of concrete from the schedule obtainable if all form were new.
2. Except as specifically approved in advance by the Structural Engineer, re-use of forms shall in no way impart less structural stability to the forms no less acceptable appearance to finished exposed concrete.

3.04 REMOVAL OF FORMS

A. General:

1. Minimum periods to form removal after concrete placement shall be as follows:

Slabs and curbs	24 hours
Vertical walls (4'-0" Ht.)	36 hours
Vertical walls (over 4'-0" Ht.)	7 days
2. Removal of formwork may be extended if deemed necessary by the Structural Engineer.

B. Removal:

1. Remove metal spreader ties on exposed concrete by removing or snapping off inside the wall surface and point up and rubbing the resulting pockets to match the surrounding areas.
2. Flush all holes resulting from the use of spreader rods and sleeve nuts, using water, and then solidly pack throughout the wall thickness with cement grout applied under pressure by means of a grouting gun; grout shall be one (1) part Portland cement and two and one-half (2-1/2) parts sand; apply grout immediately after removing forms.

*****END OF SECTION*****

SECTION 03200 - CONCRETE REINFORCEMENT

PART 1 - GENERAL

1.02 QUALITY ASSURANCE

A. Qualifications of Workmen

1. Provide at least one person who shall be present at all times during execution of this portion of the Work and who shall be thoroughly familiar with the type of materials being installed and the best methods for their installation and who shall direct all Work performed under this Section.

B. Codes and Standards

1. Comply with applicable provisions of the latest edition of the Florida Building Code that has jurisdiction.
2. Where provisions of pertinent codes and standards conflict with this Specification, the more stringent provisions shall govern.

1.03 SUBMITTALS

A. Shop Drawings

1. Within thirty-five (35) days after award of Contract, and before any concrete reinforcement materials are fabricated and/or delivered to the job site, submit (4) four sets of Shop Drawings to the Architect.
2. Do not fabricate and/or deliver concrete reinforcement to the job site until receipt of Shop Drawings review and approval from the Architect.

1.04 PRODUCT HANDLING

A. Protection

1. Use all means necessary to protect concrete reinforcement before, during, and after installation and to protect the installed work and materials of all other trades.
2. Store in a manner to prevent excessive rusting and fouling with dirt, grease, and other bond-breaking coatings.

B. Placements

In the event of damage, immediately make all repairs and replacements necessary to the approval of the Architect and at no additional cost to the Owner.

PART 2 - PRODUCTS

2.01 CONCRETE REINFORCEMENT

- A. All concrete reinforcement materials shall be new, free from rust, and complying with the following reference standards unless otherwise specified on the drawings.
1. Bars for reinforcement: "Specifications for Deformed Billet-Steel Bars for Concrete Reinforcement", ASTM A-615, latest editions, Grade 60.
 2. Wire for reinforcement: "Specifications for Cold-Drawn Steel Wire for Concrete Reinforcement", ASTM A-82.
 3. Wire fabric: "Specifications for Wire Fabric for Concrete Reinforcement", ASTM A-185, latest edition. Carefully review the structural drawings for sizes of specified wire fabrics. Do not confuse standard 6X6 10/10 WWF (a rolled product) with specific 6X6 6/6 "road mesh" (a sheet product).

2.02 OTHER MATERIALS

- A. All other materials, not specifically described but required for a complete and proper installation of concrete reinforcement, shall be as selected by the Contractor subject to the approval of the Architect.

2.03 LEED REQUIREMENTS FOR RECYCLED MATERIAL

- A. All reinforcing steel shall be a minimum of 90% recycled as manufactured by utilizing an electric arc furnace (EAF). Manufacturer shall provide documentation clarifying the percentages of post-consumer and pre-consumer recycled content. Manufacturer shall be located within 500 miles of the site.

PART 3 - EXECUTION

3.01 SURFACE CONDITIONS

A. Inspection

1. Prior to installation of the Work of this Section, carefully inspect the installed work of all other trades and verify that all such work is complete to the point where this installation may properly commence.

2. Verify that concrete reinforcement may be installed in strict accordance with all pertinent codes and regulations, the approved Shop Drawings, and the original design.

B. Discrepancies

1. In the event of discrepancy, immediately notify the Architect.
2. Do not proceed with installation in areas of discrepancy until all such discrepancies have been fully resolved.

3.02 BENDING

A. General

1. Fabricate all reinforcement in strict accordance with the approved Shop Drawings and ASTM A-615.
2. Do not use bars with kinks or bends not shown on the Drawings or on the approved Shop Drawings.
3. Do not bend or straighten steel in a manner that will injure the material.

3.03 PLACING

A. General

1. Before the start of concrete placement, accurately place all concrete reinforcement, positively securing and supporting by means of approved metal chairs, spacers, and metal hangers.

B. Clearance

1. Preserve clear space between bars of not less than one and one-half (1-1/2) times the nominal diameter of round bars.
2. Provide minimum concrete covering of reinforcement as shown or noted on the Structural Drawings.

3.04 CLEANING REINFORCEMENT

- A. Steel reinforcement, at the time concrete is placed around it, shall be free from rust scale loose mill scale, oil paint, and all other coatings which will destroy or reduce the bond between steel and concrete.

END OF SECTION

SECTION 03300 - CAST IN PLACE CONCRETE

PART 1 - GENERAL

1.01 RELATED WORK SPECIFIED ELSEWHERE

A.	Concrete Formwork	Section 03100
B.	Concrete Reinforcement	Section 03200
C.	Unit Masonry	Section 04200
D.	Underslab Vapor Retarder	Section 07160
E.	Metal Building Systems	Section 13122
F.	Plumbing	Section 15000
G.	Electrical	Section 16000

1.02 QUALITY ASSURANCE

A. ASTM Standards (Latest Editions):

1. C-31 Standard Method of Making and Curing Concrete Test Specimens in the Field
2. C-33 Standard Specification for Concrete Aggregates
3. C-39 Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens
4. C-42 Standard Method of Obtaining and Testing Drilled cores and Sawed Beams of Concrete
5. C-94 Standard Specification for Ready Mixed Concrete
6. C-143 Standard Test Method for Slump of Portland Cement Concrete
7. C-150 Standard Specification for Portland Cement
8. C-172 Standard Method of Sampling Freshly Mixed Concrete

B. ACI standards (Latest Editions):

1. ACI-318, Building Code Requirements for Structural Concrete
2. Concrete work shall conform to all requirements of ACI-301 (Latest Editions), Specifications for Structural Concrete for Buildings, except as modified by the supplemental requirements herein.
3. ACI 318 Detailing Standards.

4. ACI 315 Specifications for structural Concrete for Buildings
5. CRSI 347R Recommended Practice for Placing reinforcing bars.

1.03 TESTS AND INSPECTIONS

- A. All tests shall be made in accordance with ASTM recommendations referred to herein.
- B. Tests shall be performed by an independent laboratory approved by the Architect.
- C. Contractor will pay for testing, including tests which indicated failure; in which case that test and all costs incurred as a result thereof, shall be paid for by the Contractor.
- D. Standard slump tests shall be taken of the concrete sample for each strength test and whenever consistency of concrete appears to vary. The maximum slump of concrete shall be 4" plus/minus 1", unless specifically otherwise noted.
- E. Concrete that fails by test shall be replaced at no cost to Owner.
- F. Test for strength shall be made as follows:
 1. **Slump Test:** One test for each load of concrete at the point of discharge taken out of a wheelbarrow and not out of the chute. Maximum slump measurements as stated above.
 2. **Compressive Strength Test:** Randomly test cylinders taken at each major pour; footings, floor slabs, columns and tie-beams. Two (2) specimens are to be tested at 7 days and two (2) specimens tested at 28 days. Hold one cylinder for future use if test does not comply at 28 days.
 3. All test results are to be reported, in writing, to the Owner, and the Architect. Test results should stipulate the day the tests were performed.
 4. Samples for testing shall be taken at 1/4 and 3/4 points of the load discharged from the mixer.
 5. If necessary, comply with Architect or Engineer's request for additional cylinders, slump or load test.

PART 2 - PRODUCTS

2.01 CONCRETE

- A. Cement shall be Portland cement, ASTM C-150.
- B. Aggregates for normal weight concrete shall meet the requirements of ASTM C-33.
- C. Mixing water for concrete shall be potable and meet the requirements of ASTM C-94.

2.02 ACCESSORIES

- A. Anchor slots, reglets and inserts of type, size and spacing required by trades involved, and shown on plans.
- B. Vapor Barrier: 6 mil Polyethylene Film, such as "visqueen". Refer to the Building Plan Sections for specific applications.
- C. Vapor Retarder: 10 mil vapor retarder such as Perminator by WJ Meadows. Refer to the Building Plan Sections for specific applications.
- D. Chemical Curing Compound: Application of a curing compound shall be made to all slabs and such application shall conform to ASTM C-309. The compound shall be applied in accordance with the recommendations of the manufacturer immediately after any water sheen which may develop after finishing has disappeared from the concrete surface. It shall not be used on any surface against which additional concrete or other material is to be bonded unless it is proven that the curing compound will not prevent bond, or unless positive measures are taken to remove it completely from areas to receive bonded applications.

Acceptable materials shall be one of the following:

- | | |
|---------------------|--------------------|
| 1. Burke Company | Aqua resin Cure |
| 2. Sika Corporation | Sikagard Cure/Hard |
| 3. Sonneborn | Hydrocide |
- E. Expansion Joint Water Stops: Continuous, pre-formed, finned, center bulb type, polyvinyl chloride, of sufficient width to provide 3" minimum embedment in concrete each side. Equal to Greenstreak #703.
 - F. Pre-molded Joint Filler: Bituminous Fiber Type, ASTM D-1751-83 and D 545-77 equal to "Celotex Flexcell" of thickness and width indicated or required.

G. Reinforcement shall be cleaned of all scale and excessive rust. All reinforcement shall be set with the standard accessories as per ACI 315-74. Minimum coverage of reinforcement shall be as follows:

1. Footings – 3” minimum.
2. Slabs – ¾” minimum.
3. Beams and Columns – 1-1/2” minimum.

PART 3 - EXECUTION

3.01 PROPORTIONING AND MIXING

A. Concrete Mix:

1. All cast-in-place concrete shall be ready mixed and in accordance with ASTM Specifications C-94 (Latest Edition).
2. Minimum 5 bags cement per yard of concrete.

B. Concrete Strength:

1. Unless specifically noted otherwise, all concrete shall have a minimum compressive strength of $f'c = 3000$ psi.
2. A design mix shall be prepared by a Florida Registered Professional Engineer employed by the concrete supplier.
3. The Contractor shall submit to the Architect/Engineer the concrete materials and the concrete mix designs proposed for use with a written request for acceptance. This submittal shall include the results of all testing performed to qualify the materials and to establish the mix designs.

C. Job Tempering:

1. All Concrete shall be placed within 1½ hours after introduction of water to the mix.
2. Under no condition may additional water be added that exceeds the allowable gallons stipulated on the batch ticket.
3. Submit time stamped batching tickets on delivery of concrete to job site.
4. All concrete where water has been added will be removed and replace with proper concrete at no cost to the Owner.

5. When air temperature is between 85 and 90 degrees F, reduce mixing and delivery time to 75 minutes. When air temperature is higher than 90 degrees, reduce mixing and delivery time to 60 minutes.

3.02 PLACING OF CONCRETE

- A. Review: No concrete shall be placed until all reinforcing steel, pipes, sleeves, inserts, etc. have been set in place and reviewed by the Owner's representative. **Contractor shall notify the Architect of scheduled pours 24 hours prior to pouring.**
- B. Placing: Concrete shall be placed in properly cleaned and prepared forms in accordance with the requirements of ACI-301. Concreting should be carried on at such a rate that the concrete is at all times plastic.
- C. Conveying: Concrete shall be handled from the mixer to the place of final deposit as rapidly as practicable by methods which will prevent segregation or loss of ingredients and in a manner which will assure that the required quality of the concrete is maintained. All other requirements of ACI-301 shall be followed.
- D. Depositing: Concrete shall be deposited continuously or in layers of such thickness that no concrete will be deposited on concrete which is hardened sufficiently to cause the formation of seams or planes of weakness within the section.
- E. Consolidation: All concrete shall be consolidated by vibration, spading, rodding, or forking so that the concrete is thoroughly worked around the reinforcement, around embedded items, and into corner of forms eliminating all air or stone pockets which may cause honeycombing, pitting, or planes of weakness.
- F. All slabs on grade are to be Regular $\frac{3}{4}$ rock concrete at 3000 psi ultimate strength at 28 days. NO PUMP MIX (pea rock) WILL BE ACCEPTED for any slab on prepared grade. This does not prohibit the pumping of the regular $\frac{3}{4}$ rock mix.

3.03 JOINTS

- A. Construction Joints:
 1. Locate as shown on the drawings or near points of minimum shear and as approved by Architect/Engineer for beam or slabs. Construction joints shall be straight saw-cut by a walk behind motorized saw, tooled, mechanical or actual cold joints as called out on the plans.
 2. Locate joints in vertical members, walls at underside of floors or beams, and at tops of footings.

3. Floor slabs keyed joints maximum spacing 20' plus or minus each direction unless otherwise noted.

A. Expansion Joints:

1. Locate as shown on drawings.
2. Joints in walkways maximum at 20' o.c., snap lines and saw-cut 1/8" wide by 1" deep between expansion joints in equal bays at not over 5' o.c., within 24 hours of concrete placement or until concrete is trafficable with power saw.
3. Joints shall be straight and smooth. They shall have hardened before fresh concrete is deposited against them.
4. Do not place expansion joints where slabs are up against the exterior of masonry walls, unless otherwise detailed on plans. Do not place any expansion material on the inside face of masonry walls where slabs are poured against same walls.
5. After concreting has been started, it should be carried on as a continuous operation until placing of a panel or section, as determined by its boundaries or joints, is completed.

3.04 CURING

- A. Begin curing of concrete as soon as practicable after placing, but not more than 3 hours thereafter. Provide a total wet cure time of 7 days minimum at 50 degrees F minimum temperature.
- B. Curing of structural members shall begin immediately after removal of forms.
- C. Apply curing compounds as specified above, clear for exposed slabs. Compound used on floors that are to receive tile or other additional finish shall be compatible with adhesives and finish materials. Apply first coat of curing compound as soon as possible after pouring.

3.05 FINISHES

A. Formed Surfaces:

1. Finishes - Defined:

- a. Rough Form Finish: Reasonable true to line and place. Tie holes and defects shall be patched and fins exceeding 1/4" in height shall

be chipped off or rubbed off. Otherwise, surfaces may be left with the texture imparted by the forms.

- b. Smooth Form Finish: The form facing material shall produce a smooth, hard, uniform texture on the concrete. It may be plywood, tempered concrete-form-grade hardboard, metal, or other material capable of producing the desired finish. The arrangement of the facing material shall be orderly and symmetrical, with the number of seams kept to the practical minimum. It shall be supported by studs or other backing capable of preventing excessive deflection. Material with raised grain, torn surfaces, worn edges, patches, dents, or other defects which will impair the texture of the concrete surface shall not be used. Tie holes and defects shall be patched. All fins shall be completely removed. It is the intention of this surface to produce an Architectural Surface suitable for public view as a completed surface to receive paint. Strict quality control of this surface shall be required. See ACI 301.
- c. Smooth Rubbed Finish: To be applied to all smooth form finishes. (All

work will conform with ACI Standard 301-latest edition) to produce a smooth architectural effect.

- 2. Finishes - Unspecified Buildings: If the finish is unspecified, the following finishes shall be used as applicable.
 - a. Rough Form Finish: For all concrete surfaces not exposed to public view, including concrete to receive stucco.
 - b. Smooth Form Finish: For all concrete surfaces exposed to view.
 - c. Smooth Rubbed Finish: Concrete shall have a Smooth Rubbed Finish applied to produce an architectural effect.
- 3. Patching: Immediately after stripping forms patch all defective areas with mortar similar to the concrete mix except that coarse aggregate shall be omitted. Bulges, minor honeycomb and other minor defects, as designated by the Architect, shall be patched only where exposed to view. Clean, dampen, and fill tie holes with patching mortar. All patching shall follow procedures and conform to ACI 301.
 - a. Major defective areas, as judged by the Owner's representative including those resulting from leakage of forms, excessive honeycomb, large bulges and large offsets at form joints, shall be

chipped away down to sound concrete. The patching mortar shall be pressed in for a complete bond and finished to match adjacent areas, or where defective areas impair the strength of the member in question, as judged by the Owner's representative, the member shall be removed or united as determined by the Owner's representative.

- b. Minor defective areas, as judged by the Owner's representative including honeycomb, air bubbles, holes resulting from removal of ties, and those resulting from leakage of forms shall be patched with grout without resorting to chipping. Minor bulges and offsets at form joints shall be finished as specified herein below.

B. Uniform Surfaces – Flatwork:

1. General: Grade and screed the surfaces to the exact elevation, or slope shown or required. Make proper allowances for setting beds for ceramic tile. After screeding tamp mixture thoroughly to drive the coarse aggregate down from the surfaces and apply the applicable finish specified hereinafter. Always slope exterior walks away from the building at 1/8" per foot. Uncovered walks slope at 1/8" per foot or crown. Covered walks between buildings always slope to drain to the exterior and away from the buildings. At cross intersections of the walks, and at exterior doors, warp the surfaces to drain water from the walls. Provide control joints as indicated on drawings. Follow the requirements and procedures of ACI 301.
2. Finishes - Definitions (See also ACI 301):
 - a. Scratched Finish: After concrete has been placed, struck off, consolidated and leveled to a Class B tolerance, surface shall be roughened with stiff brush, rates or metal lath roller, before final set.
 - b. Floated Finish: After concrete has been placed, struck off, consolidated and leveled, concrete shall not be worked further until water sheen has disappeared and/or when mix has stiffened sufficiently to permit proper operations of a power driven float. Consolidate with power driven float, check trueness of surface, fill low spots and cut down high spots to achieve Class B tolerance. Then, re-float to uniform, smooth, granular texture.
 - c. Troweled Finish: Finish same as above for floated finish and in addition, steel trowel the surface by hand to produce a smooth, glassy, impervious surface free of trowel marks to a Class A tolerance. On surfaces intended to support floor coverings, defects of sufficient magnitude to show through the floor covering shall be removed by grinding.

- d. Broom Finish: Finish same as above for floated finish to a Class B tolerance and then draw a broom or burlap belt across surface transversely.

Finishes - Unspecified

1. When type of finish is not specified, the following shall be applicable:
 - a. Scratched Finish: For surfaces to receive bonded cementitious application, i.e. ceramic tile, single ply epoxy flooring etc., refer to drawings for locations of specific floor coverings.
 - b. Troweled Finish: For surfaces intended as smooth walking surfaces or for receipt of floor coverings.
 - c. Broom Finish: For exterior walks, loggias, curbs and where indicated on drawings.
 - d. Float Finish: Exterior platforms, steps, stairways, landings, and ramps.

Specific Finish Locations:

1. Slab areas to receive ceramic tile, resilient floor coverings, specialized gymnasium flooring, or slabs within a minimum of 2 feet each side of accordion doors shall be "dead level" - Class A. All other slab areas - Class B.

Tolerances for finishes as specified shall be as follows:

1. Class A - True planes within 1/8" in 10 ft.
2. Class B - True planes within 1/4" in 10 ft.

NOTE: Tolerances shall be measured by placing a 10-ft. straightedge anywhere in any direction.

*****END OF SECTION*****

SECTION 03420 - PRECAST CONCRETE LINTELS

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

Furnish and install all required Precast Lintels and Door Headers in the locations called out on the architectural and structural drawings as manufactured by WEKIWA CONCRETE PRODUCTS, INC. or an approved equal. Lintels available through CSR Rinker (Cemex Corp.).

1.02 RELATED WORK SPECIFIED ELSEWHERE

Concrete Formwork	Section 03100
Concrete Reinforcement	Section 03200
Cast in place Concrete	Section 03300

1.03 QUALITY ASSURANCE

A. ASTM Standards (Latest Editions):

1. ASTM A615 (Grade 60) for reinforcing bars.
2. ASTM A416, 7 wire for prestress strands.

B. ACI Standards (Latest Editions):

1. ACI 315, Detail Reinforcement.
2. Concrete Operations shall comply with ACI Standards.
3. Design and Construction shall conform to the specification of the national concrete masonry association and ACI 530.
4. ACI 318-95, Building Code Requirements for Structural Concrete.

C. Florida Building Code, latest edition.

D. American Society of Civil Engineers minimum design loads for Buildings and Other Structures (ASCE 7-95).

PART 2 - PRODUCTS

2.01 CONCRETE

A. Concrete Compressive Strength at 28 days:

1. Pre-cast w/standard reinforcement- 3500 PSI.
2. Pre-cast w/prestress reinforcement- 5000 PSI.
3. Concrete Fill (placed in field)- 3000 PSI.

2.02 MASONRY

- A. Minimum masonry unit strength fm 1500 PSI.
- B. Mortar shall be type-M.

2.03 REINFORCING MATERIALS

- A. Reinforcing bars: ASTM A615 (grade 60).
- B. Prestress Strands: ASTM A416, 7-wire.
- C. Steel is placed in the precast lintel at time of fabrication.
- D. Minimum coverage of steel to be 3/4 inch for top bars and 1.5 inches for bottom bars.

PART 3 - EXECUTION

3.01 DELIVERY, STORAGE, AND HANDLING

- A. Deliver precast concrete units to project site in such quantities and at such times to assure continuity of installation.
- B. Store units at project site to ensure against cracking, distortion, staining, or other physical damage, and so that markings are visible.

3.02 INSTALLATION

- A. Lift and support units at designated lift points. Shoring of precast units shall be installed and removed solely by the contractor under the direct supervision of the manufacturer.
- B. Minimum bearing required at each end is 4 inches. Bearing preferred is 8 inches.
- C. Do not install any damaged units.

3.03 DEFECTIVE WORK

- A. Precast concrete units which do not conform to specified requirements, including strength, tolerances, and finishes, shall be replaced with precast concrete units that meet requirements of this section. The contractor shall also be responsible for the cost of corrections to any other work affected by or resulting from corrections to precast lintels.

*****END OF SECTION*****

SECTION 04230 - REINFORCED UNIT MASONRY

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to work of this Section.

1.02 DESCRIPTION OF WORK

- A. Extent of each type of masonry work is indicated on drawings and schedule.

1.03 QUALITY ASSURANCE

- A. ASTM Standards (Latest Edition)

ASTM C90	Hollow Load Bearing Concrete Block
ASTM C270	Type-M mortar
ASTM C150-98	Type I Portland cement
ASTM C207-97	Hydrated Lime

- B. Construction Tolerances:

1. Variation from Plumb:
For vertical lines and surfaces of columns, do not exceed 1/4".
2. Variation in Cross-Sectional Dimensions:
For columns and thickness of walls, from dimensions shown, do not exceed minus 1/4" nor plus 1/2".

1.04 SUBMITTALS

- A. Product Data: Submit manufacturer's specifications and other data for each type of masonry unit, accessory, and other manufactured products, including certifications that each type complies with specified requirements. Include instructions for handling, storage, installations and protection.

1.05 JOB CONDITIONS

- A. Protection of Work: During erection, cover top of walls with heavy waterproof sheeting at end of each day's work to protect completed work that has not had enough time for the mortar to cure and is still subject to rain damage.
- B. Extend cover a minimum of 24 inches down both sides and hold cover securely in place.

- C. Staining: Prevent grout or mortar from staining the face of masonry to be left exposed or painted. Remove immediately grout or mortar in contact with such masonry.
- D. Protect sill, ledges, finished door and window frames and projections from droppings of mortar.

PART 2 - PRODUCTS

2.01. MATERIALS

Hollow Load Bearing Concrete Block:	ASTM C90- Grade N, Type II, cured 28 days
Mortar:	Type "M", ASTM C270
Cement:	ASTM C150-98, Type I
Hydrated Lime:	ASTM C 207-97
Sand:	Clean Masons Sand
Water:	Potable

2.02 CONCRETE BLOCK

- A. Provide units complying with characteristics indicated below for Grade, Type, face size, exposed face and, under each form of block included, for weight classification.
 - 1. Grade N, Type II C.M.U., normal weight unit, *fm* ' 1500 psi.
 - 2. Size: Manufacturer's standard units with nominal face dimensions of 16" long X 8" high (15-5/8" x 7-5/8" actual) X thicknesses indicated. Splits and halves as appropriate for coursing in vertical and horizontal directions.
 - 3. Hollow Load-Bearing Block: ASTM C-90 and as follows:
 - a. Weight Classification: Normal weight.
 - b. Refer to the Architectural Drawings for specific block types when fire rated walls occur.
 - c. Refer to the Architectural Drawings for specific block types for finished block to receive paint or standard stucco block to receive stucco.

2.03 MORTAR AND GROUT MATERIALS

- A. Portland Cement: ASTM C-150, Type I, except Type III may be used for cold weather construction. Provide natural color or white cement as required to produce required mortar color.

- B. Hydrated Lime: ASTM C-297, Type S.
- C. Aggregate for Mortar: ASTM C-144, except for joints less than 1/4" use aggregate graded with 100% passing the No. 16 sieve.
- D. Aggregate for Grout: ASTM C-404.
- E. Mortar: ASTM C270, Type-M, 2,500 p.s.i.
- F. Joint Reinforcement: ASTM A951, provide welded-wire units prefabricated with deformed continuous side rods and plain cross rods into straight lengths of not less than 10', with prefabricated corner and tee units, and complying with requirements indicated below:
 - 1. Width:
Fabricate joint reinforcement in units with widths of approximately 2" less than nominal width of walls and partitions as required to provide mortar coverage of not less than 5/8" on joint faces exposed to exterior and 1/2' elsewhere.
 - 2. Wire Size for Side Rods: 9 gauge galvanized.
 - 3. Wire Size for Cross Rods: 9 gauge galvanized.
 - 4. For single-wythe masonry provide type as follows with single pair of side rods:
 - a. Truss design, as manufactured by Dur-o-wall, (or approved equal), with diagonal cross rods spaced not more than 16" o.c. Units to be 9 gauge hot dipped galvanized.

2.04 MISCELLANEOUS MASONRY ACCESSORIES

- A. Reinforcing Bars:
Deformed steel, ATSM A-615, Grade 60 for bars No. 3 to No. 18.
- B. Non-Metallic Expansion Joint Strips:
Material as indicated below, designed to fit standard sash block and to maintain lateral stability in masonry walls: size and configuration as indicated.
 - 1. Styrene-butadiene rubber compound complying with ASTM D 2000, Designation 2AA-805.
- C. Bond Breaker Strips:
Asphalt-saturated organic roofing felt complying with ASTM D-226, Type I (No. 15 asphalt felt).

D. Metal cavity caps in lieu of waste mortar shipping bags.

2.05 MORTAR AND GROUT MIXES

A. General:

Do not add admixtures including coloring pigments, air-entraining agents, accelerators, retarders, water repellent agents, anti-freeze compounds or other admixtures, unless otherwise indicated. Do not use calcium chloride in mortar or grout.

B. Mixing:

Combine and thoroughly mix cementitious, water and aggregates in a mechanical batch mixer: comply with referenced ASTM standards for mixing time and water content.

C. Mortar for unit Masonry:

Comply with ASTM C780, proportion Specification, for types of mortar required, unless otherwise indicated.

D. Grout for Unit Masonry:

Comply with ASTM C476, 2,500 p.s.i., for grout for use in construction of reinforced and non-reinforced unit masonry. Use grout of consistency indicated or if not otherwise indicated, of consistency (fine or coarse) at time of placement which will comply completely fill all spaces intended to receive grout.

1. Use fine grout in grout spaces less than 2" in horizontal direction, unless otherwise indicated.

2. Use coarse grout in grout spaces 2" or more in least horizontal dimension, unless otherwise indicated.

E. Masonry Compressive Strength: *fm* ' 1,500 p.s.i. (Minimum).

PART 3 - EXECUTION

3.01. INSTALLATION, GENERAL

A. See Structural and Architectural Drawings for notes and details and masonry opening requirements. Coordinate all door and window masonry openings with the scheduled manufacturers per the plans. Tolerances are critical to meet the wind load performance testing for said openings within the 130 and 140 mph wind speed zones.

B. Set blocks with 3/8" full, flush joints in running bond. Use a masonry interlock (50% masonry bond) at all intersecting walls where possible. All work not plumb, true and accurate shall be replaced.

- C. Store all materials off the ground and protect from all dirt and foreign material.
- D. Do not retemper any mortar. Discard the mortar if it has begun to set.
- E. Provide Dur-O-Wall, (or approved equal), truss-type, horizontal reinforcing at every other block course. At door and window openings, provide continuous Dur-O-Wall horizontal reinforcing at the first and second block courses above and below the opening or extend the reinforcing back a minimum of two (2) feet from the opening. Extend Dur-O-Wall reinforcing 1-1/2" into concrete columns. Lap splices shall not be less than 6". Cut or interrupt joint reinforcement at control and expansion joints, unless otherwise indicated.
- F. All cells designated on the drawings to be filled with concrete are to be kept clean of any and all debris. Provide inspection/clean-out holes at the bottom course. Inspection holes in finish block shall be neatly saw-cut.
- G. All lintels shall have minimum bearing as called out on the Structural Drawings.
- H. Do not wet concrete masonry units during installation.
- I. Cleaning Reinforcing: Before placing, remove loose rust, and other coatings from reinforcing.
- J. Thickness: Build walls to the actual thickness of the masonry units, using units of nominal thickness indicated.
- K. Build chases and recesses as shown and required for the work of other trades. Provide not less than 8" of masonry between chase or recess and jamb of openings, and between adjacent chases and recesses. See plans for specific conditions.
- L. Leave openings for specialty equipment to be installed before completion of masonry work. After installation of equipment, complete masonry work to match work immediately adjacent to the opening.
- M. Cut masonry units using motor-driven saws to provide clean, sharp, unchipped edges. Cut units as required to provide continuous pattern and to fit adjoining work. Use full-size units without cutting where possible.
- N. Use inspection and clean-out holes at bottom of wall reinforced vertical cells, for grouting lifts over 5 feet high. C
- O. lean-out holes should be 4"w X 8" h minimum. See ACI 530-92, Section 4.3.2.3.

3.02 CONSTRUCTION TOLERANCES

A. Variation from Plumb:

For vertical lines and surfaces of columns, walls and arises do not exceed $\frac{1}{4}$ " in 10' or $\frac{3}{8}$ " in a story height not to exceed 20', nor $\frac{1}{2}$ " in 40' or more. For external corners, expansion joints, control joints, and other conspicuous lines, do not exceed $\frac{1}{4}$ " in any story of 20' maximum, nor $\frac{1}{2}$ " in 40' or more. For vertical alignment of head joints do not exceed plus or minus $\frac{1}{4}$ " in 10', $\frac{1}{2}$ " maximum.

B. Variation from Level:

For bed joints and lines of exposed lintels, sills, parapets, horizontal grooves and other conspicuous lines, do not exceed $\frac{1}{4}$ " in any bay or 20' maximum, nor $\frac{1}{2}$ " in 40' or more. For top surface of bearing walls no not exceed $\frac{1}{8}$ " between adjacent floor elements in 10' or $\frac{1}{16}$ " within width of a single unit.

C. Variation of Linear Building Line:

For position shown in plan and related portion of columns, walls and partitions, do not exceed $\frac{1}{2}$ " in any bay or 20' maximum, nor $\frac{3}{4}$ " in 40' or more.

D. Variation in Cross-Sectional Dimensions:

For columns and thickness of walls, from dimensions shown, do not exceed minus $\frac{1}{4}$ " nor plus $\frac{1}{2}$ ".

E. Variation in Mortar Joint Thickness:

Do not exceed bed joint thickness indicated by more than plus or minus $\frac{1}{8}$ ", with a maximum thickness limited to $\frac{1}{2}$ ". Do not exceed head joint thickness indicated by more than plus or minus $\frac{1}{8}$ ".

3.03 LAYING MASONRY WALLS

A. Layout walls in advance for accurate spacing of surface bond patterns with uniform joint widths and to accurately locate openings, movement-type joints, returns and offsets. Avoid the use of less-than-half-size units at corners, jambs and wherever possible at other locations.

B. Lay-up walls to comply with specified construction tolerances, with courses accurately spaced and coordinated with other work.

C. Stopping and Resuming Work:

Rack back $\frac{1}{2}$ -unit length in each course: do not tooth. Clean exposed surfaces of set masonry, wet units lightly (if required) and remove loose masonry units and mortar prior to laying fresh masonry.

D. Built-in Work:

As the work progresses, build-in items specified under this and other sections of these specifications. Fill in solidly with masonry around built-in items.

1. Do not fill space between hollow metal frames and masonry with mortar, unless otherwise indicated. Where built-in items are to be embedded in cores of hollow masonry units, place a layer of metal lath in the joint below and rod mortar or grout into core.
2. Fill cores in hollow concrete masonry units with grout 3 courses (24") under bearing plates, beams, lintels, posts and similar items, unless otherwise indicated.

3.04 MORTAR BEDDING AND JOINTING

- A. Lay hollow concrete masonry units with full mortar coverage on horizontal and vertical face shells. Bed webs in mortar in starting course on footings and in all courses of piers, columns and pilasters, and where adjacent to cells or cavities to be reinforced or filled with concrete or grout. For starting course on footings where cells are not grouted, spread out full mortar bed including areas under cells.
- B. Maintain joint widths shown, except for minor variations required to maintain bond alignment. If not shown, lay walls with 3/8" joints.
- C. Cut joints flush for masonry walls which are to be concealed or to be covered by other materials, unless otherwise indicated.
- D. Tool exposed joints slightly concave using a jointer larger than joint thickness, unless otherwise indicated.
- E. Remove masonry units disturbed after laying, clean and reset in fresh mortar. Do not pound corners or jambs to shift adjacent stretcher units which have been set in position. If adjustments are required, remove units, clean off mortar and reset in fresh mortar.
- F. Collar Joints:
After each course is laid, fill the vertical longitudinal joint between wythes solidly and with mortar for all exterior walls.
- G. Corners:
Provide interlocking masonry unit bond in each course at corners, unless otherwise shown.
 1. For horizontally reinforces masonry, provide continuity at corners with prefabricated "L" units, in addition to masonry bonding.
- H. Intersecting and Abutting Walls:
If carried up separately, block or tooth vertical joint with 8" maximum offsets and provide rigid steel anchors spaced not more than 4'-0" o.c., vertically, or omit blocking and provide rigid steel anchors at not more than 2'-0" o.c. vertically.

Form anchors of galvanized steel not less than 1-1/2" x 1/4" x 2'-0" long with ends turned up not less than 2" or with cross-pins. If used with hollow masonry units, embed ends in mortar-filled cores.

I. Non-bearing Interior Partitions:

Build full height of story to underside of solid floor or roof structure above, unless otherwise shown.

1. Wedge non-bearing partitions against structure above with small pieces of tile, slate or metal. Fill joint with mortar after dead load deflection of structure above approaches final position.

3.05 LINTELS

- A. Provide precast or formed-in-place masonry lintels. Cure precast lintels before handling and installation. Temporarily support formed-in-place lintels.
- B. For hollow concrete masonry unit walls, use specially formed U-shaped lintel units with reinforcement bars placed as shown filled with coarse grout.
- C. Provide minimum bearing of 8" at each jamb, unless otherwise indicated.

3.06 FIELD QUALITY CONTROL

- A. When field observation by the Architect or the Owner's Agent which generates questions relating to tolerance or quality control, the Contractor shall employ, at his own expense, a testing laboratory experienced in performing types of masonry field quality control tests for masonry indicated. Comply with requirements for qualification and acceptance per tolerances stipulated within this section.
- B. Unit Test Method: For each block type specified per ASTM C90.
- C. Mortar Tests:
For each type indicated, test mortar by methods of sampling and testing of ASTM C-780. Conduct tests no less frequently than that required to evaluate mortar used to install each increment of masonry units indicated above from which samples are taken for testing.
- D. Prism Test Method:
 1. Compression Test:
If required by Architect, test masonry prisms by methods of sampling and testing of ASTM E-447, Method B.

2. Evaluation of Quality Control Tests:
Masonry work, in absence of other indications of noncompliance with requirements, will be considered satisfactory if results from construction quality control tests comply with minimum requirements indicated.
3. Protection:
Provide final protection and maintain conditions in an acceptable manner to ensure that the final unit masonry work is without damage and deterioration at time of substantial completion.

*****END OF SECTION*****

SECTION 05400 - LIGHT GAGE METAL FRAMING

PART 1 - GENERAL

1.01 RELATED DOCUMENTS IN OTHER SECTIONS

Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to work specified in this section.

1.02 DESCRIPTION OF WORK

Extent of lightgauge metal framing (LtGMFrm) is shown on drawings.
Types of lightgauge metal framing units include the following: "C" shaped steel studs.

1.03 QUALITY ASSURANCE

- A. Components Design: Compute structural properties of studs and joists in accordance with AICS "Specification for design of Cold-Formed Steel Structural Members".
- B. Fire-Rated Assemblies: Where framing units are components of assemblies indicated for a fire-resistance rating, including those required for compliance with governing regulations, provide units which have been approved by governing authorities having jurisdiction.
- C. Manufacturers offering products complying with requirements for lightgauge metal framing components include the following:
 - Shaped load bearing studs, 1-5/8" flange:
 - Alabama Metal Industries
 - Marino Ware
 - Dietrick
 - Roll Form Products, Inc.
 - U.S. Steel Corp.
 - Wheeling Corrugating Co.

1.04 SUBMITTALS

- A. Products data: Submit manufacturer's product information and installation instructions for each items of lightgauge framing and accessories.
- B. Shop Drawing: Submit shop drawings for special components and installations not fully dimensioned or detailed in manufacturer's product data. Signed and sealed Shop Drawings required by a Florida Registered Structural Engineer. Include placing drawings for framing members showing size and gage designations, number, type, locations and spacing. Indicate supplemental strapping, bracing, splices, accessories, and details required for proper installation.

1.05 DELIVERY AND STORAGE

- A. Protect metal framing units from rusting and damage. Deliver to protect site in manufacturer's unopened containers or bundles, fully identified with name, brand, type and grade. Store off ground in a dry ventilated space or protect with suitable waterproof coverings.

PART 2 - PRODUCTS

2.01 METAL FRAMING

- A. System Components: With each type of metal framing required, provide manufacturer's standard steel runners, tracks, blocking, lintels, clip angles, shoes, reinforcements, fasteners and accessories recommended by manufacturer for applications indicated as needed to provide a complete metal framing system.

- B. Materials and Finishes

For 16 gage and heavier units, fabricate metal framing components of structural quality steel sheet with a minimum yield point of 40,000 psi; ASTM A 446, A 570, or A 611.

For 18 gage and lighter units, fabricate metal framing components of commercial quality steel sheet with a minimum yield point of 33,000 psi; ASTM A 466, A 570, Or A 611. Provide galvanized finish to metal framing components complying with ASTM A 525 for minimum G 60 coating at exterior wall panel studs. Provide prime coated finish with one coat of shop-applied red oxide, zinc-chromate, or other similar rust-inhibitive primer for interior studs. "C"-Shape Studs: Manufacturer's standard load-bearing steel studs of size shape, and as located on the drawings with 1-5/8" (1.625") flange and flange return to lip.

GAGES AS DETERMINED BY THE FOLLOWING CHART:

(Interior Framing: Limiting Heights - ST Style Studs. Stud gages apply for single and double layers of gypsum application on walls using L/360 allowable deflection) with no midspan wall blocking, cats, lateral bracing, or cold rolled channel bracing run through stud perforations. Allowable heights can be exceeded by 20% when continuous wall bracing or blocking is provided.

<u>STUD WIDTH</u> <u>GA</u>	<u>STUD SPACING</u>	<u>MAX. HGT. 25 GA</u>	<u>MAX. HGT. 22 GA</u>	<u>MAX. HGT. 20</u>
3-5/8"	16" o/c	10'-0"	12'-0"	14'-0"
3-5/8"	24" o/c	8'-0"	10'-0"	12'-0"
6"	16" o/c	15'-0"	17'-0"	19'-0"
6"	24" o/c	13'-0"	15'-0"	17'-0"

2.02 FABRICATION

- A. General: Framing components may be prefabricated into panels prior to erection. Fabricate panels plumb, square, true to line and braced against racking with joints welded. Perform lifting of prefabricated panels in a manner to prevent damage or

distortion. Stud panels to be rechecked for plumbness after installation.

- B. Fastenings: Attach similar components by welding. Attach dissimilar components by welding, bolting, or screw fasteners, as standard with manufacturer.

PART 3 - EXECUTION

3.01 INSPECTION AND PREPARATION

Pre-Installation Conference: Prior to start of installation of metal framing systems, meet at project site with installers of other work including metal panels, door and window frames and mechanical and electrical work. Review areas of potential interference and conflict, and coordinate layout and support provisions for interfacing work.

3.02 INSTALLATION

- A. Manufacturer's Instructions: Install metal framing systems in accordance with manufacturer's printed or written instructions and recommendation, and Engineered Shop Drawings, unless otherwise indicated.
- B. Runner Tracks: Install continuous tracks sized to match studs. Align tracks accurately to layout at base and tops of studs. Secure tracks as recommended by stud manufacturer for type of construction involved, except do not exceed 24" o.c. spacing for nail or power-driven fasteners, nor 16" o.c. for other types of attachment. Spacing of studs at metal wall panels to be as per panel manufacturers request. Provide fasteners at corners and ends of tracks.
- C. Set studs plumb, except as needed for diagonal bracing or required for non-plumb walls or warped surfaces and similar requirements.
- D. Where stud system abuts structural columns or walls, including masonry walls, anchor ends of stiffeners to supporting structure.
- E. Install supplementary framing, wood blocking and bracing at metal framing system wherever walls or partitions are indicated to support fixtures, equipment, services, casework, heavy trim and furnishing, wall mounted door stops, bathroom grab bars and similar work requiring attachment to the wall or partition. Where type of supplementary support is not otherwise indicated, comply with stud manufacturer's recommendations and industry standards in each case, considering weight or loading resulting from item supported.
- F. Installation of Wall Stud System: Secure studs to top and bottom runner tracks by either welding or screw fastening at both inside and outside flanges.
- G. Frame wall openings larger than 2'-0" square with double stud at each jamb of frame except where more than 2 are either shown or indicated in manufacturer's instructions. Install runner tracks and jack studs above and below wall openings.

Anchor tracks to jamb studs with stud shoes or by welding, and space jack studs same as full height studs of wall. Secure stud system wall opening frame in manner indicated.

*****END OF SECTION*****

SECTION 06076 - PRESERVATIVE TREATMENT (PRESERVATIVE TREATED WOOD)

PART 1 GENERAL

Installer Note: Osmose Advance Guard Borate PTW, when treated to a .42 DOT retention, is highly effective in resisting decay, subterranean termites, dry wood termites, Formosan termites, carpenter ants, wood-boring beetles and many other insects. Advance Guard PTW is noncorrosive, easy to handle and workable with common tools. It is available for aboveground, weather protected applications where insect and decay resistant construction materials are recommended. Advance Guard PTW is intended to be used for framing and applications where the wood is not in direct contact with the ground and is continuously protected from liquid water during its service life. Normal exposure to weather during ordinary construction will not adversely affect the treatment in the product. Advance Guard PTW is not recommended for use in decks or other outdoor structures exposed to weathering.

1.01 SUMMARY

A. Section Includes: Insect and decay protection treatment for wood products specified in other Division 6 sections, including:

1. Sill plates in contact with masonry.
2. Wood blocking and furring in contact with masonry.

B. Related Sections: Section(s) related to this section include:

1. Rough Carpentry: Section 06100
2. Finish Carpentry: Section 06200
3. Fabricated Wood Trusses: Section 06192

1.02 REFERENCES

A. General: Standards listed by reference, including revisions by issuing authority, form a part of this specification section to extent indicated. Standards listed are identified by issuing authority, authority abbreviation, designation number, title or other designation established by issuing authority. Standards subsequently referenced herein are referred to by issuing authority abbreviation and standard designation.

B. Advance Guard PTW does not need to meet American Wood-Preservers' Association (AWPA) standards but it does nonetheless meet:

1. AWPA C9 Plywood - Preservative Treatment by Pressure Treatment.
2. AWPA C31 Lumber Used Out of Contact with the Ground and Continuously Protected from Liquid Water – Treatment by Pressure Processes.
3. AWPA P5 Standard for Waterborne Preservatives.

C. National Evaluation Services, Inc. (NES).

1. National Evaluation Report (NER): Report No. NER-648.

1.03 SYSTEM DESCRIPTION

A. Performance Requirements: Provide borate wood preservative treatment which will perform in accordance with manufacturer's stated performance criteria without defects, damage or failure.

1.04 SUBMITTALS

A. General: Submit listed submittals in accordance with Conditions of the Contract and Division 1 Submittal Procedures Section.

B. Product Data: Submit product data, including manufacturer's SPEC-DATA™ product sheet, for specified products.

C. Quality Assurance Submittals: Submit the following:

1. Test Reports: Certified test reports showing compliance with specified performance characteristics and physical properties.
2. Evaluation Report: NER-648
3. Certificates: Certification from treating plant certifying wood treatment applied complies with the criteria and physical requirements for borate preservative treated wood products as specified herein.
4. Warranty: Warranty documents specified herein.

1.05 QUALITY ASSURANCE

A. Source Quality: Obtain borate preservative treated wood products from a single approved source.

B. Wood Treatment Plant Qualifications: Wood treatment plant experienced in performing work of this section which has specialized in the treatment of wood similar to that required for this project, licensed by the manufacturer.

C. Independent third-party inspection.

D. Kiln Dried After Treatment (KDAT), if required.

E. Regulatory Requirements: Provide borate preservative treatment that complies with local regulatory requirements.

1. FBC 2001 requirements for insect and decay preservative treated wood.

F. Quality Mark: All borate preservative treated wood members shall bear a permanent ink stamp indicating the following:

1. Manufacturer's name.
2. Treatment plant name.
3. Quality mark of an AWWA approved independent inspection agency.

4. Symbol "SBX" (sodium borate), preservative retention level and date of treatment.
5. AWP treatment standard, wood species and the words "Above Ground and Continuously Protected from Liquid Water."

1.06 DELIVERY, STORAGE & HANDLING

- A. General: Comply with Division 1 Product Requirements Sections.
- B. Exposure: Prevent exposure to precipitation during shipping, storage or installation. Store material off ground and under cover. Allow materials exposed to incidental moisture to dry thoroughly prior to covering with vapor or moisture retarding finish materials.

1.07 WARRANTY

- A. Project Warranty: Refer to Conditions of the Contract for project warranty provisions. Osmose, Inc., offers a 20-year limited warranty against structural damage due to termites, carpenter ants and fungal decay under the Advance Guard Residential Limited Warranty when treated to .42 DOT retention. Consult manufacturer for complete details.
- B. Manufacturer's Warranty: Submit, for Owner's acceptance, manufacturer's standard warranty document executed by authorized company official. Manufacturer's warranty is in addition to, and not a limitation of, other rights Owner may have under Contract Documents.
 1. Warranty Period: Twenty (20) years.

PART 2 PRODUCTS

2.01 BORATE PRESERVATIVE TREATED WOOD PRODUCTS

- A. Manufacturer: Osmose, Inc. - Wood Preserving Division.
 1. Contact: PO Drawer O, 1016 Everee Inn Road, Griffin, GA 30224-0249;
Telephone: (800) 241-0240, (770) 233-4200;
Fax: (770) 229-5225; E-mail: treatedwood@osmose.com; Web site:
www.osmose.com, www.timberspecialties.com.

Note: Advance Guard borate preservative treated wood products are intended for aboveground, weather protected applications only. They are not to be used in areas subject to precipitation, wetting, dampness or condensation. Advance Guard wood products must be typically kiln dried after treatment (KDAT) to a maximum moisture content of 19% for lumber and 18% for plywood. Wood treated with Advance Guard's EPA registered Tim-bor® Industrial Wood Preservative is easy to work with common tools. The product is colorless and nonblooming. It will not darken or discolor most woods.

B. Proprietary Product(s)/System(s): Advance Guard Preservative treated wood Products.

C. Borate Preservative Treatment: Disodium octaborate tetrahydrate (DOT) treatment for insect and decay protective pressure treatment of wood as produced by manufacturer's licensed treatment plants, producing material meeting the following minimum standards:

1. Preservative Treatment Standard: AWPA P5.
2. Structural Lumber Treatment Standard: Comply with AWPA C31.
3. Plywood Treatment Standard: Comply with AWPA C9.
4. Treatment Level: Provide borate preservative treatment retention level recommended by manufacturer to provide the following minimum protection, as indicated on wood product quality stamp specified in Quality Assurance article:

.42

DOT retention if warranty is required or expected.

- a. Protection against North American subterranean termites, decay and insects, and Formosan termites: 0.42 pcf (6.7 kg/m³) DOT retention (0.28 pcf (4.5 kg/m³) B₂O₃) minimum retention (required for warranty).

2.02 PRODUCT SUBSTITUTIONS

A. Substitutions: No substitutions permitted.

2.03 RELATED MATERIALS

Note: Wood species qualifying under Advance Guard warranties include a variety of softwood lumber and plywood. Approved softwood lumber types are Douglas fir, hem-fir, Southern pine and spruce-pine-fir. Approved plywood types are: Southern yellow pine and Douglas fir.

A. Wood Materials: Refer to Division 6 Sections for related wood materials required to be treated as specified herein.

B. Field Applied End Coat: Preservative solution approved by preservative treated wood manufacturer for application:

1. Osmose, Inc., Tim-bor disodium octaborate tetrahydrate (DOT), 10% solution.
2. Copper Naphthenate, 2% solution, copper metal basis.
3. Other preservative approved by Advance Guard manufacturer.

2.04 SOURCE QUALITY

A. Tests, Inspections: Do not conceal applied treated material with subsequent trades work until the Architect has approved the installation.

PART 3 EXECUTION

3.01 MANUFACTURER'S INSTRUCTIONS

A. Compliance: Comply with manufacturer's product data, including product literature, technical bulletins, product wraps and labels and product catalog installation instructions for installation.

3.02 INSTALLATION

A. Select borate preservative treated wood members in accordance with appropriate untreated lumber and plywood span tables. Provide ventilation of building cavities as required by code.

B. Install borate preservative treated wood in accordance with requirements of applicable codes and related Division 6 sections. Avoid milling operations that could adversely affect preservative characteristics of borate preservative treated wood.

C. End Cut Treatment: Treat end cuts of borate preservative treated wood members over 2 inches (51 mm) in thickness with field applied end coat prior to installation for Spruce-Pine-Fir (SPF) and Douglas Fir (DF) only.

D. Sill Plate: Where applicable, provide sill plate of Borate preservative treated wood or CCA pressure treated wood.

E. Install using fasteners required by applicable code for use with untreated lumber and plywood.

3.03 FINISHING

A. For painting or staining of Advance Guard PTW, a light sanding or brushing is all that is necessary to ensure proper coating adhesion. Complete application recommendations are available from the manufacturer. Avoid frequent or prolonged inhalation of sawdust from treated wood. When sawing and machining treated wood, wear a dust mask. When power sawing or machining, wear goggles to protect eyes from flying particles. Surfaces must be clean and dry before application.

B. Prepare borate preservative treated wood for application of finishes in accordance with manufacturer's recommendations. Sand surfaces lightly, clean and check for moisture prior to finishing.

C. Apply paint or stain in accordance with Section 09900 "Painting."

3.04 PROTECTION

A. Protection: Protect borate preservative treated wood from damage during construction. Protect from moisture prior to installation of finishes.

*****END OF SECTION*****

SECTION 06100 - ROUGH CARPENTRY

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

Documents and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to work of this section.

1.02 DESCRIPTION OF WORK

A. Definition: Rough carpentry includes carpentry work not specified as part of other sections and which is generally not exposed, except as otherwise indicated. Types of work in this section include, but are not limited to, rough carpentry for:

1. Nailers & dead wood
2. Cant strip
3. Wood roof curb supports
4. Door frame bracing
5. Chalk, tack board, backing
6. Casework backing
7. Plumbing backing - (Supports)
8. Projection screen backing
9. Window stripping
10. Recessed clock/speakers (framed opening)
11. Recessed fire extinguisher cabinets (framed opening) RWL - Access to clean out.
12. Toilet partition backing
13. Recessed electrical panels backing
14. Mirror backing
15. Acoustical backing
16. Ceiling trim backing

B. Finish carpentry is specified in another section within Division 6.

1.03 SUBMITTALS

A. Wood treatment Data: Submit treatment manufacturer's instructions for proper use of each type of treated material.

B. Pressure Treatment: For each type of specified, include certification by treating plant stating chemicals and process used, net amount of preservative retained and conformance with applicable standards.

C. For water-borne preservatives, include statement, that moisture content of treated materials was reduced to a maximum of 15% prior to shipment to project site.

- D. Fire-retardant treatment: Include certification by treatment plant that treatment material complies with governing ordinances and that treatment will not bleed through finished surfaces.

1.04 PRODUCT HANDLING

Delivery and Storage: Keep materials dry at all times. Protect against exposure to weather and contact with damp or wet surfaces. Stack lumber and plywood, and provide air circulation within stacks.

1.05 JOB CONDITIONS

Coordination: Fit carpentry work to other work; scribe and cope as required for an accurate fit. Correlate location of furring, nailers, blocking, grounds and similar supports to allow proper attachment of other work.

PART 2 - PRODUCTS

2.01 WOOD PRODUCT QUALITY STANDARDS

- A. Lumber Standards: Comply with PS 20.
- B. Plywood Standards: Comply with PS 1.
- C. Factory mark each piece of lumber and plywood with type, grade, mill and grading agency, except omit marking from surfaces to be exposed with transparent finish or without finish.

2.02 MATERIALS

- A. Nominal sizes are indicated, except as shown by detail dimensions. Provide actual sizes as required by PS 20, for moisture content specified for each use. Provide dressed lumber, S4S, unless otherwise indicated. Provide seasoned lumber with 10% maximum moisture content at time of dressing.
- B. Framing Lumber: (2" through 4" thick)
- C. For light framing (less than 6" wide), provide the following grade and species:
Construction grades, any species.
- D. Miscellaneous Lumber: Provide wood for support or attachment of other work including cant strips, bucks, nailers, blocking, furring, grounds, stripping, and similar members. Provide lumber of sizes shown or specified, worked into shapes shown, and as follows.

Moisture content: 19% maximum for lumber items not specified to receive wood preservative treatment.

- E. Grade: Construction Grade light framing size lumber of any species or board size lumber as required. Provide construction grade boards (RIS or WCLB) or No. 2 boards (SPIB or WWPB).
- F. Plywood: Where plywood will be exposed in finished work supply the following:
 - 1. Where painted finish is indicated, provide A-C/EXT-APA plywood with Grade A face exposed and Grade C concealed, for exterior use; and provide A-D/INT-APA plywood with Grade A face exposed and Grade D concealed, for interior use.
 - 2. Concealed Plywood: Where plywood will be concealed by other work, provide C-D Plugged/INT-APA.
 - 3. For backing panels for electrical or telephone equipment, provide 3/4" fire-retardant treated plywood with exterior glue.

2.03 MISCELLANEOUS MATERIALS

- A. Fasteners and Anchorages: Provide size, type, material and finish as indicated and as recommended by applicable standards, complying with applicable Federal Specifications' for nails, staples, screws, bolts, nuts, washers and anchoring devices. Provide metal hangers and framing anchors of the size and type recommended by the manufacturer for each use including recommended nails.

Where rough carpentry work is exposed to weather, in ground contact, or in area of high relative humidity, provide **stainless steel fasteners type 305 or 316**.

Interior work shall utilize hot dipped galvanized.

- B. Building Paper Interior Use Only: Asphalt saturated felt, non-perforated, 15# or 30 #, ASTM D226.

2.04 WOOD TREATMENT

- A. Preservative treatment: Where lumber or plywood is indicated as "Trt-Wd", "P.T." or "Treated", or is specified herein to be treated, comply with applicable requirements of AWPB Standards C2 (Lumber) and C9 (Plywood) and of AWPB standards listed below. Mark each treated items with the AWPB Quality Mark Requirements.
- B. Pressure-treat above-ground items with water-borne preservatives complying with AWPB LP-2. After treatment, kiln-dry to a maximum moisture content of 15. Treat indicated items and the following:

Wood cants, nailers, cures, blocking, stripping, and similar members in connection with roofing, flashing, vapor barriers and water proofing. Wood sills, sleepers, blocking furring, stripping and similar concealed members in contact with masonry or concrete.

- C. Fire-Retardant Treatment: Where "FR-S" lumber or plywood is specified or otherwise indicated, provide materials which comply with AWWA standards for pressure impregnations with fire-retardant chemicals, and which have a flame spread rating of not more than 25 when tested in accordance with UL Test 723 or ASTM E84, and show no increase in flame spread and significant progressive combustion upon continuation of test for an additional 20 minutes.

Kiln-dry treated items to maximum moisture content of 19%.

Provide UL label on each piece of fire-retardant lumber or plywood.

- D. Inspect each piece of treated lumber or plywood after drying and discard damaged or defective pieces.

PART 3 - EXECUTION - INSTALLATION

3.01 GENERAL

- A. Discard units of material with defects which might impair quality of work, and units which are too small to fabricate work with minimum joints or optimum joint arrangement.
- B. Set carpentry work accurately to required levels and lines, with members plumb and true and accurately cut and fitted.
- C. Securely attach carpentry work to substrate by anchoring and fastening as shown and as required by recognized standards. Countersink nail head on exposed carpentry work and fill holes.
- D. Use common wire nails, except as otherwise indicated. Use finishing nails for finish work. Select fasteners of size that will not penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections between members. Install fasteners without splitting of wood; pre-drill as required.

3.02 WOOD GROUNDS, NAILERS, BLOCKING, AND SLEEPERS

- A. Provide wherever shown and where required for screeding or attachment of other work. Form to shapes as shown and cut as required for true line and level of work to be attached. Coordinate location with other work involved.

- B. Attach to substrates as required to support applied loading. Countersink bolts and nuts flush with surfaces, unless otherwise shown. Build into masonry during installation of masonry work. Where possible, anchor to formwork before concrete placement.
- C. Provide permanent grounds of dressed, preservative treated, key-beveled lumber not less than 1 ½" wide and thickness required to bring face of ground to exact thickness of finish material involved. Remove temporary grounds when no longer required.

3.03 WOOD FURRING

- A. Install plumb and level with closure strips at edges of openings. Shim with wood as required for tolerance of finished work.
- B. Furring to Receive Plywood Paneling: Unless otherwise shown, provide 1"x 3" furring at 2 'o.c., horizontally and vertically. Structural framing to receive furring will dictate the spacing, size and type of furring. Refer to drawings and details.

3.04 WOOD FRAMING, GENERAL (WD-FRM)

- A. Provide framing members of sizes and on spacings shown, and frame openings as shown, or if not show, comply with recommendations of "Manual for House Framing" of National Forest Productions Association. Do not splice structural members between supports.
- B. Anchor and nail as shown, and to comply with "Recommended Nailing Schedule" of "Manual for Housing Framing" and other recommendations of the N.F.P.A.

3.05 INSTALLATION OF PLYWOOD (PWD)

- A. Comply with recommendations of the American Plywood Association (APA), for the installation of plywood and per the current edition of the Florida Building Code nailing patterns.

3.06 GENERAL REQUIREMENTS

1. All work shall comply with the standards of the American Institute of Timber Construction, AWI, API, AWP, and local codes and regulations.
2. All framing shall be square, plumb and true.
3. All furring shall be shimmed to a plumb, true surface.
4. All lumber in contact with masonry shall be #2 yellow pine, pressure treated.
5. Coordinate blocking and backing requirements of all trades and provide where indicated and required.

6. Provide solid blocking behind all shower valves.
7. Provide rough openings for all manufactured items such as medicine cabinets, fire extinguisher cabinets, etc.
8. Provide wood fire cats in all **interior and exterior** wood framed walls where vertical cavity exceeds 8 feet and where soffits adjoin vertical walls.
9. Construct 3/4 inch BC plywood plenum bases, including vertical sides, for all Closet Mounted Air-Handling Units. Line interiors with 5/8" type "X" gypsum board and rigid foil faced insulation board to comply with non-combustible plenum requirements.

*****END OF SECTION*****

SECTION 06192 -FABRICATED WOOD TRUSSES

PART 1 - GENERAL

1.01 Work Included

- A. Fabricate, supply and erect wood trusses as shown on the drawings and as specified. Work to include anchorage, blocking, curbing, miscellaneous framing and bracing.

1.02 Definitions

- A. TRUSS: The terms “truss” and “wood truss component” refer to open web load carrying assemblies suitable for support of roof decks or floors in buildings.
- B. MANUFACTURER: A manufacturer who is regularly engaged in design and fabrication of wood truss components.
- C. TRUSS INSTALLER: Builder, general contractor, contractor or sub-contractor who is responsible for the field storage, handling and installation of trusses.

1.03 Design

- A. Trusses shall be designed in accordance with these specifications and where any applicable design feature is not specified herein, design shall be in accordance with applicable provisions of latest edition of National Design Specifications for Wood Construction (NDS) American Forest and Paper Association (AFPA), and Design Specifications for Metal Plate Connected Wood Trusses (ANSI/TPI 1) Truss Plate Institute (TPI), and code of local jurisdiction.
- B. Manufacturer shall furnish design drawings bearing seal and registration number of a civil or structural engineer licensed in the state where trusses are to be manufactured and installed. The truss fabrication/shop drawings shall be reviewed by the Architect prior to fabrication.
- C. Truss design drawings shall include as minimum information:
 - 1. Span, depth or slope and spacing of trusses;
 - 2. Required bearing width within 1/8 of an inch;
 - 3. Design loads as applicable:
 - a) Top chord live load;
 - b) Top chord dead load;
 - c) Bottom chord live load;
 - d) Bottom chord dead load;
 - e) Concentrated loads and their points of application; and
 - f) Wind uplift reactions at a typical truss and all girders.
 - 4. Adjustment to lumber and plate design loads for condition of use;
 - 5. Reactive forces, their points of occurrence and direction;
 - 6. Truss Plate Manufacturer’s plate type, gage, size and location of plate at each joint;

7. Lumber size, species and grade for each member;
8. Location of any required continuous later bracing, i.e. T-backs, lateral or diagonal bracing;
9. Calculated deflection ratio and/or maximum deflection for live and total load;
10. Maximum axial compression forces in truss members;
11. Location of joints. NOTE: provide splice blocks at all bottom chord splices that do not occur at panel points;
12. Connection requirements for:
 - a) Truss to truss girders;
 - b) Truss ply to ply; and
 - c) Field splices.

PART 2 - PRODUCTS

2.01 Materials

A. Lumber:

1. Lumber used for truss members shall be in accordance with published Values of Lumber rules writing agencies approved by board of review of American Lumber Standards Committee. Lumber shall be identified by Grade mark of a lumber inspection bureau or agency approved by that Board, and shall be as shown on design drawings.
2. Moisture content of lumber shall be no less than 7 percent nor greater than 19 percent at time of fabrication.
3. Adjustment of values for duration of load or conditions of use shall be in accordance with National Design Specifications for Wood Construction (NDS).
4. Fire retardant treated lumber, if applicable, shall meet specifications of truss design and ANSI/TPI 1-1995, par 9.1.5 and shall be redried after treatment in accordance with AWWA Standard C20. Allowable values must be adjusted in accordance with NDS par 2.3.6. Lumber treater shall supply certificate of compliance.

B. Metal Connector Plates:

1. Metal connector plates shall be manufactured by MITEK or ALPINE/LUMBERMATE/CLARY and shall be not less than .036 inches in thickness (20 gage) and shall meet or exceed ASTM A653-94 grade 37, and shall be hot dipped galvanized according to ASTM A653-94, coating designation G60. Working stresses in steel are to be applied to effective ratios for plates as determined by test in accordance with Appendix E and F of ANSI/TPI 1-1995.
2. In highly corrosive environments, special applied coatings or stainless may be required. See plans for specific description of plates.
3. The truss manufacturer shall furnish a certified record that materials comply with

steel specifications.

2.02 Fabrication

1. Trusses shall be fabricated in a properly equipped manufacturing facility of a permanent nature. Trusses shall be manufactured by experienced workmen, using precision cutting, jiggling and pressing equipment meeting requirements of ANSI/TPI 1-1995, Section 4. Truss members shall be accurately cut to length angle and true to line to assure proper fitting joints within tolerances set forth in ANSI/TPI 1-1995, Section 4, and proper fit with other work.

PART 3 - EXECUTION

3.01 Handling, Installation and Bracing

- A. Trusses shall be handled during fabrication, delivery and at jobsite so as not to be subjected to excessive bending.
- B. Trusses shall be unloaded on smooth ground to avoid lateral strain. Trusses shall be protected from damage that might result from on-site activities or environmental conditions. Prevent toppling when banding is removed.
- C. Handle during installation in accordance with Handling, Installing and Bracing Wood Trusses (HIB-91), TPI, and ANSI/TPI 1-1995. Installation shall be consistent with good workmanship and good building practices and shall be the responsibility of the Truss Installer.
- D. Apparent damage to trusses, if any, shall be reported to Manufacturer prior to installation.
- E. Trusses shall be set and secured level and plumb, and in correct location. Trusses shall be held in correct alignment until specified permanent bracing/strapping is installed.
- F. Cutting and altering of trusses is not permitted.
- G. Concentrated loads shall not be placed atop trusses until all specified bracing has been installed and decking is permanently nailed in place. Specifically avoid stacking full bundles of decking or other heavy materials onto unsheathed trusses.
- H. Erection bracing is always required. Professional advice should always be sought to prevent toppling or dominoing of trusses during installation. Safety is the sole responsibility of the Truss Installer.
- I. The Contractor is responsible for obtaining and furnishing the materials used for installation and permanent bracing.

*****END OF SECTION*****

SECTION 07190 - VAPOR BARRIER

PART 1 - GENERAL

1.01 RELATED WORK FOUND IN OTHER SECTIONS

Soil conditions under vapor barrier - Section 02010
Concrete - Section 03010

PART 2 - PRODUCTS

2.01 VAPOR BARRIER:

- A. 6 Mil Polyethylene film under concrete slabs.
- B. Anti-tear visqueen on lower face of joists on elevated manufactured buildings.
- C. Tape: As recommended by manufacturer of vapor barrier.
- D. Staples: Monel or stainless when exposed to weather.

PART 3 - EXECUTION

3.01 INSTALLATION:

- A. Apply vapor barrier over entire area to receive slab; lap edges 12 inches and seal with tape. Turn edges up to top of slab or down to bottom of footings. Where expansion joints are indicated at adjacent vertical surfaces, extend vapor barrier beyond expansion joint filler and turn up to top of slab. Where expansion joints are indicated within the slab, lay vapor barrier continuous under expansion joint filler.
- B. Apply anti-tear visqueen to underside of joists of manufactured buildings with monel or stainless steel staples at 6 inches on center perpendicular to tension of visqueen. Lap all edges a minimum of 6 inches. Seal around all mechanical, electrical, or similar penetrations to prevent moisture and rodent infiltration. Provide solid backing adjacent to and around said penetrations to receive moisture barrier.

3.02 PROTECTION:

- A. Protect vapor barrier from damage. Repair punctures and tears using patches of the material which overlaps a minimum of 12 inches. Seal with tape or secure with staples.

*****END OF SECTION*****

SECTION 07200 - INSULATION

PART 1 - ROOF/CEILING ASSEMBLIES:

1.01.1 When Wood Trusses in combination with Vented Soffits:

When called out and detailed on the wall sections- Provide (R-19, R-28 or R-30) fiberglass or rockwool Batt Insulation installed between the bottom chords of the pre-engineered roof trusses. Install in all ceiling spaces as shown on the drawings and building sections. Provide the clear air space above insulation at tails of trusses as required by the Florida Model Energy Code.

1.02 When Wood Trusses in combination with Non-Vented Soffits:

When called out and detailed on the wall sections- Provide sprayed insulation to the underside of the plywood decking as manufactured by **Icynene, or an approved equal with a similar perm rating**, to a minimum R-Rating of 20.0. Refer to Section 07205 Icynene Insulation for manufacturer's data and the plans for actual placement.

1.03 When nominal Wood Rafters, Heavy Timber framing or Engineered Glu-Lam framing with exposed tongue and groove wood decking or exterior plywood:

When called out and detailed on the wall sections- Provide rigid foam insulation board above the wood deck with high performance dry-in and roofing membranes per manufacturer's requirements.

1.04 When Steel Joists: (Three methods- When called out and detailed on the wall sections)

- A. Provide R-19 nailable rigid roofing deck secured to pan-deck as per drawings.
- B. Provide (R-19) Batt insulation - suspended by clips and nylon mesh between the joists bottom chord when no insulation is provided on the metal roof decking. Refer to drawings for placement. Do not lay insulation on top of suspended acoustic ceiling panels.
- C. Provide (R-19 overall average) EPS roof deck insulation integral with the lightweight concrete or cellcore deck pour. Refer to drawings for placement, thicknesses and slopes.

1.04 When Concrete Joists and Deck:

Provide roof top insulation board per plans for uppermost floor. No ceiling insulation for all lower floor/ceiling assemblies.

1.05 When Ceiling Assembly is used as a return air plenum:

Insulation within the plenum space must meet flame spread and smoke development ratings of the current FBC and Life Safety Codes for an exposed installation.

PART 1 - EXTERIOR WALLS:

2.01 When Concrete Block Walls:

(Two Methods: Refer to plan section and details for final system)

- A. Provide furring on the interior face of the block walls as per plans and place rigid insulation of thickness called out on the wall sections.
- B. Fill the exterior block cells with **CoreFill 500** amino-plast, Class-A, Foam insulation, (or an approved equal product). The thermal properties for an 8" block/60 lbs. Density wall assembly is R-14.2. Install in strict compliance with manufacturers application procedures. **Thermco Foam Insulation** and **CoreFoam, Inc.** are approved equal products.

2.02 When Wood Frame or Steel Assembly Walls:

R-11 in 3 ½" walls, and R-19 in 5 ½" walls. Utilize foil faced or waxed Kraft paper faced fiberglass batt insulation. V.B. to weather side.

2.03 When Insulated Concrete Tilt-wall Sandwich Panels:

Provide extruded Dow STYROFOAM Brand rigid blue board insulation with heat formed, regular spaced holes identifying connector plate locations. Thicknesses per the plan with a minimum of 1 ½ inch thickness in all applications.

PART 3 - INTERIOR WALLS:

3.01 Framed Walls, Wood or Metal Stud:

3-1/2" Sound Batt insulation where shown on the plans.
Staples or Adhesive: As recommended by the insulation manufacturer.

PART 4 - ATTIC BARRIERS:

4.01 When called out on the plans, provide a roll foil perforated vapor barrier as manufactured by **Fi-Foil**. Location, type, and application method as called out on the sections and details. Staples, pins and tape as recommended by the insulation manufacturer.

PART 5 - SUSTAINABLE (GREEN) PROJECT REQUIREMENTS

- 5.01 For all projects seeking a sustainable green certification, such as USGBC LEED or an equivalent rating system, utilize only ecologically recognized products such as:
- A. Knauf Ecobatt (or equal) to replace standard fiberglass batt insulation products.
 - B. Thermafiber SAFB (or equal) mineral wool with special 90% green fiber recycled content.
 - C. Homasote 440 SoundBarrier w/ 98% Post-Consumer by weight recycled product.
 - D. BioBased 501w or 502 spray foam insulation at underside of roof decks.

PART 6 - INSULATION PRODUCTS MANUFACTURERS

- 6.01 For the insulation products specified on the plans utilize one of the following approved manufacturers:

Johns Manville
Owens Corning
Celotex
Knauf Ecobatt
Thermafiber
Homasote
BioBased
Icynene
Dow

PART 7 - INSTALLATION:

7.01 Allow proper air space for thermal insulation, using flanges provided, in accordance with manufacturer's printed instructions.

7.02 When utilizing a vented soffit assembly, provide a minimum of a 2" air space at all perimeter overhangs between the insulation face and the underside of roof decking. Utilize vinyl or cardboard prefab vent sleeves as required to maintain said clearance.

7.03 Concealed Installation: in buildings **of any type construction**, shall have a flame spread rating of not more than 75 and a smoke development rating of not more than 450.

7.04 Exposed Installation: in buildings **of any type construction**, shall have a flame spread rating of not more than 25 and a smoke development rating of not more than 450.

7.05 Vapor Retarders: in order to prevent indoor air quality problems in hot, humid climates, vapor retarders such as asphalt impregnated felts, polyethelenes, or "Tyvics", should be placed on the outside, or weather side, of the insulation as a complete building wrap.

*****END OF SECTION*****

SECTION 07205 - ICYNENE INSULATION SYSTEM

1.01 PRODUCT NAME

- A. Icynene® and The Icynene Insulation System® are registered trademarks for polyicynene insulation manufactured by Icynene Inc. Icynene® spray formula is a 1/2 lb density free rise, open celled material.

2.01 MANUFACTURER

- A. Icynene® is made on site from liquid components manufactured by Icynene Inc. Installation and on-site manufacturing is supplied by independent Icynene Licensed Dealers.

3.01 PRODUCT DESCRIPTION

- A. Icynene® insulates and air seals at the same time. Its performance is less installation sensitive than factory manufactured insulation materials. It is an effective “breathing” air barrier that can adjust with the building to maintain a seal against energy-robbing air leakage for the life of the building. Convective air movement inside cavities is virtually eliminated, providing more uniform temperatures throughout the building. The result is superior quality construction, with higher comfort levels and lower heating and cooling costs. Energy savings vary depending on building design, location, etc. Icynene® is applied by spraying liquid components onto an open wall, crawl space or ceiling surface. There they expand 100: 1 in just seconds to provide a flexible foam blanket of millions of tiny air cells, filling building cavities and sealing cracks and crevices in the process. It adheres to virtually all surfaces, sealing out air infiltration. Excess material is easily trimmed off, leaving a surface ready for drywall or other finish.

4.01 TECHNICAL DATA (Based on Core Samples)

Thermal Performance

Thermal resistance R/in. (RSI/25mm)

ASTM C518: R3.6 hr. ft² °F/BTU

RSI 0.62 m² °C/W

Average insulation contribution in stud wall:

2" x 4" = R13 2" x 6" = R20

The Icynene Insulation System® provides more effective performance than the equivalent R-value of air permeable insulation materials. Icynene® is not subject to loss of R-value due to aging, windy conditions, settling, convection or air infiltration; nor is it likely to be affected by moisture related conditions. A FACT SHEET with R-value data is available upon request.

Air Permeance/Air Barrier /Air Seal

The Icynene Insulation System® fills any shaped cavity, and adheres to all materials,

creating assemblies with very low air permeance. No additional interior or exterior air infiltration protection is necessary.

Air permeability of core foam:

ASTM E283 data

0.0049 L/S-m² @75 Pa for 5.25"

0.0080 L/S-m² @75 Pa for 3.25"

In all buildings, adequate mechanical ventilation/air supply should be provided for optimum IAQ (Indoor Air Quality).

See ASHRAE Guidelines.

Water Vapor Permeance Icynene® is water vapor permeable and allows structural moisture to diffuse and dissipate. It will not entrap moisture in materials to which it is applied.

Water vapor transmission properties:

ASTM E96 data

16 perms 941 ng/(Pa•s•m²) @ 3" (76mm) thick

10 perms 565 ng/(Pa•s•m²) @ 5" (127mm) thick

Because of its low air permeance, Icynene® is not infiltrated by moisture laden air.

Computer modeling of moisture movement in walls using a program (MOIST) developed by Doug Burch of the National Institute of Standards and Technology (NIST) suggested that a 1.0 perm rating was not required when Icynene® insulation was used, except in climates as cold or colder than Madison, Wisconsin (7500 Heating degree days).

This conclusion was in general agreement with other computer modeling of moisture movement in building envelopes performed in Canada. In those situations that warrant a vapor barrier, the use of low vapor permeable paint on the interior drywall is adequate.

Water Absorption Properties

Icynene® is hydrophobic and does not exhibit capillary properties. It does not wick and is water repellent. Water can be forced into the foam under pressure because it is open celled. Water will drain by gravity rather than travel horizontally or vertically through the foam. Upon drying, thermal performance is fully restored.

Acoustical Properties

Performance in a 2"x4" wood stud wall:

STC Sound Transmission Class - 37

Hz. Freq. 125 250 500 1000 2000 4000

ASTM E90 19 30 31 42 38 46

NRC Noise Reduction Coefficient - 70

Hz. Freq. 125 250 500 1000 2000 4000

ASTM C423 .11 .43 .89 .72 .71 .67

Actual performance is superior than reported test results because of Icynene®'s ability to control air leakage. Burn Characteristics Icynene® will be consumed by flame, but will

not sustain flame upon removal of the flame source. It leaves a charcoal residue. It will not melt or drip. It should be applied in accordance with applicable building codes.

U.S.A. Specifications

Surface Burning Characteristics of Icynene® ASTM E84

Flame Spread <20

Smoke Development <400

Fuel Contribution 0

Oxygen Index ASTM D2863 23%

N.Y. State Fire gas toxicity LC50 –12

CANADA Specifications

Corner Wall Test CAN4-S102 FSC3

Flame Spread 510-530

Smoke Development 95-150

ICYNENE® – Spray Formula

*****END OF SECTION*****

SECTION 07210 - FIREPROOFING PROTECTION

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to work of this section.

1.02 DESCRIPTION OF WORK

- A. Extent of fireproofing protection work is shown on drawings and indicated by provisions of this section.
- B. Work includes providing all labor, materials, and equipment necessary for, and incidental to, the complete and proper installation of all sprayed abrasion resistant fireproofing protection. To exposed second floor main steel framing bents, from 10'-6" above gym floor to ridge. Abrasion resistant protection is applied over fireproofing.

1.03 RELATED WORK OF OTHER SECTIONS

- A. Coordinate work in this section with work of other sections as required to maintain satisfactory progress of the work of other sections, including:

1.04 QUALITY ASSURANCE

- A. **Applicator Qualifications:** Two years' experience installing spray protection and licensed by the material manufacturer.
- B. A representative surface of not less than 50 square feet shall be sprayed and approved by the Architect and/or Owner prior to proceeding.
- C. **Single source responsibility:** Engage a single contractor for the installation of abrasion resistant coating and spray on fireproofing (Section 07250).

1.05 SUBMITTALS

- A. **Product Data:** Submit manufacturer's product literature and installation instructions for each type of material required and condition of application.
- B. **Test Data:** Independent laboratory test results shall be submitted for performance criteria as specified.

1.06 DELIVERY, STORAGE AND HANDLING

- A. Deliver materials to the project site in manufacturer's unopened packages, fully identifying as to trade name, type and other identifying data and bearing the UL labels for fire hazard and fire-resistance classifications.
- B. Store materials above ground in a dry location which shall be protected from the weather. Damaged packages found unsuitable for use will be rejected and removed from the jobsite.

1.07 PROJECT/SITE CONDITIONS

General Contractor shall provide ventilation to allow for proper drying of the fireproofing protection during and after its application.

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

The abrasion resistant fireproofing protection material shall be spray type manufactured under the "Porotek-13" brand-name, by International Cellulose Corporation or approval equal.

2.02 MATERIALS

- A. Materials shall be manufacturers standard white color water-based spray on abrasion resistant protective coating.
 - 1) The protective coating shall have a flame spread rating not to exceed 5 when tested in accordance with ASTM E-84.
 - 2) NRC rating shall be .55 or greater per ASTM C-423.

PART 3 - EXECUTION

3.01 INSPECTION - PREPARATION - INSTALLATION

- A. The installing contractor shall examine all surfaces and report all unsatisfactory conditions in writing to the General Contractor and Architect. The work shall not proceed until unsatisfactory conditions are corrected.
- B. Provide masking, drop cloths or other satisfactory coverings for all materials/surfaces which are not to receive protective coating to prevent damage from over spray.
- C. Installation of protective coating is as follows:

- 1) The surface to receive the protective coating shall be firmly adhered to the substrate and free of loose material, oil, scale or other such material that would impair bonding. When applying protective coating to sprayed insulation or fire proofing material, these products must be properly installed and fully cured prior to installation.
- 2) Install coating as per manufacturer's instructions.
- 3) Apply at a rate sufficient to obtain uniform coverage of the substrate. Multiple opposing passes may be required depending on surface texture.
- 4) Provide natural or mechanical ventilation to properly dry the coating.

D. The work shall be coordinated with other trades whose work may be affected or have an effect on the installation of the sprayed protective coating.

3.02 CLEAN-UP

After the completion of the work in this section, equipment shall be removed from that area, and all surfaces not to be sprayed shall be cleaned of all deposits of sprayed material.

*****END OF SECTION*****

SECTION 07250 - FIREPROOFING

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

Drawings and general provisions of Contract, including General and supplementary Conditions and Division-1 Specification sections, apply to work of this section.

1.02 DESCRIPTION OF WORK

A. Extent of insulation work is shown on drawings and indicated by provisions of this section.

B. Work includes providing all labor, materials and equipment necessary for, and incidental to, the complete and proper installation of all sprayed fireproofing and related work.

1.03 RELATED WORK OF OTHER SECTIONS

Coordinate work of this section with work of other sections as required to properly execute the work and as necessary to maintain satisfactory progress of the work of other sections, including:

Structural Steel	Section 05120
Metal Decking	Section 05300
Insulation	Section 07200
Gypsum Drywall Systems	Section 09250
Lay-in Panel Ceilings	Section 09510
Painting	Section 09900
Metal Building Systems	Section 13122
Mechanical, Electrical & Plumbing Work	Division 15 & 16 Sections

1.04 QUALITY ASSURANCE

A. Applicator Qualifications: Two year's experience installing UL classified fire protection and licensed by the material manufacturer.

B. Performance: The material and installation shall conform to the applicable building code requirements of all authorities having jurisdiction.

C. Materials shall have been tested to provide fire ratings equal to or exceeding the assemblies specified.

1.05 SUBMITTALS

A. Product Data: Submit manufacturer's product literature and installation instructions for each type material required and condition of application.

B. Certified Test Reports: With product data, submit copies of certified test reports showing compliance with specified densities, compression strengths, fire performance characteristics, cohesion/adhesion, deflection, bond impact, and similar properties.

1.06 DELIVERY, STORAGE AND HANDLING

A. Deliver materials to the project site in manufacturer's unopened packages, fully identified as to trade name, type and other identifying data and bearing the UL labels for fire hazard and fire resistance classifications.

B. Store materials above ground in a dry location which shall be protected from the weather. Damaged packages found unsuitable for use will be rejected and removed from the jobsite.

1.07 PROJECT/SITE CONDITIONS

A. When the prevailing outdoor temperature at the building is less than 40 degrees F (4 degrees C), substrate and ambient temperature of 40 degrees F (4 degrees C) shall be maintained for 24 hours before, during and 24 hours after application of the fireproofing. If necessary for job progress, General Contractor shall provide enclosures with heat to maintain temperatures.

B. General Contractor shall provide ventilation to allow for proper drying of the fireproofing during and subsequent to its application.

1.08 SEQUENCING/SCHEDULING

A. All fireproofing work on a floor shall be completed before proceeding to the next floor.

B. The contractor shall cooperate in the coordination and scheduling of fireproofing work to avoid delays in job progress.

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

The sprayed fireproofing material shall be sprayed fiber type manufactured under the CAFCO or GRACE brand names, by authorized producers, or equal.

2.02 MATERIALS

A. Materials shall be asbestos-free Blaze-Shield or Deck-Shield (ULI Designations: Type D C/F and Type C/F respectively), applied to conform to the drawings, specifications and following test criteria.

B. Deflection: When tested in accordance with ASTM E759, the material shall not crack or delaminate from the surface to which it was applied.

GIRDERS
COLUMNS

2HR.
2HR.

- D. Potable water shall be used for the application of sprayed fireproofing materials.
- E. Sprayed fireproofing materials shall be free of all forms of asbestos and asbestos contamination, including actinolite, amosite, anthophyllite, chrysolite, crocidolite and tremolite. Material manufacturer shall provide certification of such, upon request.

PART 3 - EXECUTION

3.01 PREPARATION

- A. All surfaces to receive fireproofing shall be free of oil, grease, loose mill scale, dirt, paints/primers or other foreign materials which would impair satisfactory bonding to the surface. Any cleaning of the surface to receive sprayed fireproofing shall be the responsibility of the General Contractor.
- B. Clips, hangers, supports, sleeves and other attachments to the substrate are to be placed by others, prior to the application of sprayed fireproofing.
- C. The installation of ducts, piping, conduit, or other suspended equipment shall not take place until the application of sprayed fireproofing is complete in an area.

3.02 APPLICATION

- A. Equipment, mixing and application shall be in accordance with the manufacturer's written application instructions.
- B. Sprayed fireproofing shall not be applied to steel floor decks prior to the completion of concrete work on the deck.
- C. The application of sprayed fireproofing to the underside of roof deck assemblies shall not commence until the roofing is completely installed and tight and after roof traffic has ceased.
- D. Proper temperature and ventilation shall be maintained as specified in 1.06 (A) and (B).
- E. Provide masking, drop cloths or other suitable coverings to prevent overspray from resting on surfaces not intended to be sprayed.
- F. Adhesive (CAFECO BOND SEAL or GRACE FIREBOND) shall be applied as per the appropriate UL Design Number to the surface of roof deck sections (without concrete fill), cellular floor decks and beneath bottomless trench headers. The manufacturer's application instructions shall be followed.

G. The application of sprayed fireproofing shall not commence until certification has been received by the General Contractor indicating that surfaces to receive sprayed fireproofing have been inspected by the applicator and are acceptable to receive sprayed fireproofing.

3.03 REPAIRING AND CLEANING

A. All patching of and repair to sprayed fireproofing, due to damaged by other trades, shall be performed under this section and paid for by the trade responsible for the damage.

B. After the completion of the work in this section in an area, equipment shall be removed from that area, and all surfaces not to be sprayed shall be cleaned of all deposits of sprayed fireproofing material. All floor areas shall be broom cleaned.

3.03 INSPECTION AND TESTING

The sprayed fireproofing shall be tested for thickness and density in accordance with one of the following procedures:

ASTM E605 - Standard Test Methods for Thickness and Density of Sprayed Fire Resistive Materials Applied to Structural Members.

AWCI - Inspection Procedure for Field-Applied Sprayed Fire Protection Materials.

U.B.C. STANDARD NO.43.8

Thickness and density determination for Spray-Applied Fireproofing.

*****END OF SECTION*****

SECTION 07500 - FIBERGLASS-BASED ASPHALT SHINGLES

PART 1 – GENERAL

- 1.01 The roofing shingles shall be manufactured by one of the following companies:
G.A.F., ELK, CertainTeed, Owens Corning, Pabco or TAMKO.
Shingles shall carry Underwriter’s Laboratories and ASTM Labels:

Wind Resistance of Asphalt Shingles shall be in accordance with Section 1507.2.1 of Chapter 15 of the Florida Building Code. Shingles shall be classified in accordance with ASTM D3161, TAS107 or ASTM D7158 to resist the basic wind speed per the wind map found in Chapter 16 (Figure 1609). Shingles classified as ASTM D3161 Class D or ASTM D7158 Class G are acceptable for use in the 100 mph wind zone. Shingles classified as ASTM D3161 Class F, TAS107 or ASTM D7158 Class H are acceptable for use in all wind zones. Asphalt Shingle wrappers shall indicate compliance with one of the required classifications as shown below per Table 1507.2.1.

**TABLE 1507.2.1
CLASSIFICATION OF ASPHALT SHINGLES**

MAXIMUM BASIC WIND SPEED FROM FIGURE 1609A, B, C or ASCE-7	V_{wd}	ASTM D 7158	ASTM D 3161
110	85	D, G or H	D or F
116	90	D, G or H	D or F
129	100	G or H	D or F
142	110	G or H	F
155	120	G or H	F
168	130	H	F
181	140	H	F
194	150	H	F

UL Class A fire rating ASTM E-108, Class A UL 790, ASTM D-3462
Install shingles to meet requirements of published Manufacturer’s instructions.

- 1.02 **Submittals:** Color and style sample showing three or four-tab design with a full range of colors available per manufacturer. Product literature and installation procedures.
Manufacturer’s warranty.
- 1.03 **Deliver materials** to site in manufacturer’s unopened bundles with labels intact and legible. Handle and Store materials properly and adequately to protect from damage and entrapped water. Store roll goods on end.
- 1.04 **Project Conditions:** Proceed with installing shingles only when the weather is appropriate for a quality installation. Do not install underlayment or shingles on wet surfaces.
- 1.05 **Warranty:** Warranty terms and conditions apply per Manufacturer with a minimum **30** year limited transferrable warranty.

Workmanship: Applicator warranty covering defects in material and workmanship for a minimum of **One Year**.

PART 2 - PRODUCTS

- 2.01 Fiberglass/ Asphalt Shingles: as manufactured by G.A.F., ELK, CERTAINTEED, OWENS CORNING or TAMKO. Fiber glass-based asphalt shingles complying with ASTM specifications listed above. Shingles shall have factory applied self-sealing strips or be interlocking. ASTM D3462 is the standard for shingles made with fiberglass felt. Shingles shall be Algae Resistant. Weight per 100 square sq. ft.- **acceptable range is 300 to 355 pounds per square**. Four (4) or five (5) bundles per square. Weight will vary with style and manufacturer. Refer to wall section on the drawings for additional design information.
- 2.02 Underlayments - **As called out on the wall section** on the drawings and meeting or exceeding these specifications.
- A. **No. 30 UL** premium quality TAMKO, or approved equal, organic felt (non-perforated) that is saturated with asphalt. Acceptable for use as an underlayment felt to be applied over the deck prior to the installation of fiberglass/asphalt shingles. UL Laboratories Built-up Type 30 Label in accordance with U.L.55A. ASTM D-226, Type II. 72' X 36" 216 sq. ft. Per roll. Laying lines 2", 12" and 17".
 - B. **No. 30 ASTM** premium quality TAMKO, or approved equal, organic felt that is saturated with asphalt. Acceptable for use as an underlayment felt to be applied over the deck prior to the installation of fiberglass/asphalt shingles. ASTM D-226, Type II. 72' X 36" 216 sq. ft. Per roll.
 - C. **No. 30 - Non-UL Saturated Felt** features a premium quality TAMKO organic felt (non-perforated) that is saturated with asphalt. Acceptable for use as an underlayment felt to be applied over the deck prior to installation of fiberglass/asphalt shingles. Underwriters Laboratories Prepared Roofing Accessory. 72' X 36" 216 sq. ft. Per roll. Laying lines 2", 4", 12", and 17".
- 2.03 Hip and Ridge Shingles: Site cut shingles of same color as field of roof or manufactured Hip and Ridge.
- 2.04 Fasteners: Nails to be hot dipped galvanized or Aluminum with minimum 12-gauge shank and a minimum 3/8 inch head. Nails must be long enough to penetrate at least 3/4 inch into solid decking, or extend a minimum of 1/8 inch through any specified APOA rated sheathing. NO STAPLES will be accepted. Pneumatically applied rotary nailers are acceptable using zinc-coated, 12gauge shank nails.
- 2.05 Accessories: All accessories must be of compatible materials to the fiber glass-based shingles.

PART 3 - INSTALLATION

3.01 Install roofing systems per the manufacturer's specifications, and in accordance with The Standard Building Code, Current Edition.

3.02 Installers shall be certified installers, certified by the manufacturer of the respective roofing systems. Written proof of certification shall be provided to the Architect prior to installation.

3.03 Upon completion of the roofing system installation, an inspection will be made by a roofing system representative. Corrections to the installation of the roofing system, as deemed necessary by the roofing system representative, will be made at no additional cost to the Owner in order that the Warranty may be issued.

3.04 Shiners (nails applied from above through the plywood deck that missed the trusses or joists, and are visible from below the roof deck), shall be removed by the General Contractor prior to installing any underlayments or finished roofing.

*****END OF SECTION*****

SECTION 07600 - FLASHING & SHEET METAL

PART 1 - FABRICATED SHEET METAL

1.01 GENERAL

- A. Conform to profiles and sizes shown on plans, and comply with “Architectural Sheet Metal Manual” by SMACNA, for each general category of work required.
- B. Drip Edge – bent to the configuration and dimensions shown on the drawings. Finish as defined on the wall section. If Aluminum Drip, utilize ESP White. If Galvanized Drip prime and paint per Section 09900. If a manufactured metal roofing supplier drip assembly, the metal drip color shall match the metal roofing specified.
- C. Seal all seams with epoxy, metal seam cement and, where required for strength, rivet seams and joints.
- D. Coat backside of flashing with 15-mil sulfur-free bituminous coating, FS TT-C 494, where required to separate metals from corrosive substrates including cementitious materials, wood or other absorbent materials; or provide other permanent separation.
- E. Provide for thermal expansion of running metal work, by overlaps or expansion joints in fabricated work. Where required for watertight construction, provide hooked flanges filled with polyisobutylene mastic for 1" embedment of flanges. Space joints at intervals of not more than 30' for aluminum. Conceal expansion provisions where possible.

1.02 INSTALLATION REQUIREMENTS:

- A. Anchor work in place with non-corrosive fasteners, adhesives, setting compounds, tapes and other materials and devices as recommended by manufacturer of each material or system. Provide for thermal expansion and building movements. Comply with recommendations of “Architectural Sheet Metal Manual” by SMACNA.
- B. Seal moving joints in metal work with elastomeric sealants, complying with FS SS-T-00227 - 00230, or 001543.
- C. Clean metal surfaces of soldering flux and other substances which could cause corrosion.
- D. Performance: Water-tight/weatherproofing performance of flashing is required.
- E. Do not install metal flashings over any pressure treated wood without first separating the two with 15# or 30# felt secured with stainless or monel staples.

1.03 SUBMITTALS

- A. Contractor to submit manufacturers catalog cuts or shop drawings of all flashing systems as called out on the drawings, for approval by the Architect.

*****END OF SECTION*****

SECTION 07711 - LIGHT DUTY GUTTERS AND DOWNSPOUTS

1.01 GENERAL:

- A. The seamless gutter and downspout system shall be a Residential or Light Commercial Series as manufactured by Gutter Supply, Alcoa/Reynolds, Tyco or an approved equal.
 - B. Furnish and install a perimeter gutter and downspout system as located on the drawings.
 - 1. The size of gutters shall be 5", 6" or 7" as per the details on the drawings.
 - 2. The size of the downspouts shall be 2" X 3", 3" X 4" or 4" X 5" as per the details on the drawings.
 - 3. The gutter and downspouts shall be manufactured of galvalume or aluminum. Verify the required materials as called out on the drawings. Utilize 26 gauge, .0188 thickness for aluminum and galvalume gutters and downspouts.
 - 4. Refer to plans for required styles, sizes, and profiles. Standard profiles are K-box and half round and complete with all elbows, fasteners, hangers, endcaps, and sub-accessories required for a completed installation.
- Colors: Metal Buildings Match Wall Panel Color: Factory E.S.P. finish.
 Stucco Buildings Match Wall Paint Color: Paint with Acrylic Latex.
 Galvalume gutters and downspouts shall be unpainted.
- C. Gutters shall be tapered and notched to provide a 1" telescoping lap joint. Gutters shall be pre-punched at 12" on center to provide for thermal movement.
 - D. Provide manufacturer's support brackets and interior straps. Brackets shall be a compatible material to gutter with matching finish and color.

NOTE: Galvalume products shall not be utilized within 1,500 feet of any saltwater body.

2.01 INSTALLATION:

- A. Support Bracket Installation:
Install support brackets at 24" to 30" on center to allow a maximum 1/8" slope per 40 feet of gutter. Attach brackets with 2" x #10 stainless wood screws into wood fascia.

- B. Gutter Installation:
Install gutter from left to right (roof side) into support brackets. Lap each telescoping section a distance of 1" seal and rivet at 2" on center. Nail or screw rear of gutter with 1-1/2" stainless fasteners.
- C. Inside Strap Installation:
Install heavy gauge hang-tite aluminum straps at 24" to 30" on center alternating with support brackets. Strap shall be hooked into leading edge of gutter and riveted at its rear side. Strap must not be fastened in a way that might restrain thermal movement.
- D. Expansion Joints:
Install manufacturer's standard elastomeric expansion joint assembly, at 40'-0" intervals.
- E. Miter Corners:
Install manufacturer's welded miters at corners.
- F. End Caps/Terminations:
Install manufacturer's end caps at all end terminations.
- G. Outlets:
Field cut outlet hole in a neat workmanlike manner. Hole shall be located 1" from backside of gutter.
- H. Downspouts:
Install downspouts at centers/locations per the drawings and building elevations. Utilize extruded or formed-closed type downspouts with thickness and finish as listed in this specification. Utilize the manufacturer's connecting sleeves at all joints.
1. When a surface water shed collection system is called for on the drawings, provide kick-out elbows at the termination base of each downspout at 45 or 75 degrees and provide concrete splash blocks at each downspout to control erosion.
 2. When a subgrade water collection system is called for on the drawings, provide a direct tie-in to the underground roof drainage and collection system utilizing a 308 stainless steel transition box as manufactured by Piedmont Pipe, www.piedmontpipe.com and as detailed on the drawings for inlet and outlet sizes. Color of transition box as called out on the drawings.
- J. Wall Brackets:
Install manufacturer's wall brackets on downspouts at a maximum spacing of 5'. Secure to stucco with 1.5" stainless expansion fasteners. Fasten downspouts with (4) 1/8" x 3/8" pop-rivets per bracket.

- K. Outlet Tubes:
Provide stainless steel outlet tubes at connections of gutters to downspouts with ½" flanges riveted in place with (4) 1/8" x 1/4" pop rivets. Hold downspouts 1" off the wall.
- L. Sealants: Utilize gutter and seam sealant OSI GS-121 or equal manufactured product.

3.01 WARRANTY:

Contractor shall provide a 10-year warranty on workmanship and a 20-year manufacturer's warranty on materials.

*****END OF SECTION*****

SECTION 07715 - DRIP FLASHINGS

PART 1 - GENERAL

- 1.01 When called out on the plans the roof drip-edge and/or cap flashing for the building perimeters shall be a snap-lock system as manufactured by one of the following companies:
- A. W.P. Hickman Company.
 - B. Architectural Products Company.
 - C. Metal-Era Roof Edge Systems.
 - D. Southern Aluminum Finishing Company.
 - E. MM Systems, Inc.
- 1.02 Provide a Manufacturers fifteen-year warranty. The roof edge system shall carry a Factory Mutual I-90 approval and shall meet a design wind uplift per ASCE 7-98.
- 1.03 Conform to profiles and sizes shown, and comply with “Architectural Sheet Metal Manual” by SMACNA, for each general category of work required.

PART 2 - MATERIAL

- A. When Aluminum is called out on Details: The fascia shall be a minimum of .063 aluminum. The finish shall be clear anodized. Concealed splice plates shall match the color and finish. Provide galvanized spring clips. Provide fascia and clips in 10ft. lengths. Mitered corners shall be factory fabricated with welded joints. Coordinate with Roofing System Manufacturer’s installation instructions before starting installation of drip edge system.
- B. When Copper is called out on the Details: The fascia/cap flashing shall be bent to the configurations shown and be a minimum of 16-ounce copper. Concealed fasteners shall be non-corrosive, as recommended by the manufacturer of each material or system.

PART 3 - EXECUTION

- A. Installation shall conform to manufacturers written instructions. The continuous spring clip shall be installed and fastened on the face at 12 inches on center with minimum 1-1/4 in. galvanized steel roofing nails. Secure as required by roofing system manufacturer. The fascia with concealed joint cover shall be installed with a downward snapping action. Installing contractor shall carefully cut and fit smaller intermediate sections of fascia to fit the building dimensions.

- B. Provide for thermal expansion of running metal work, by overlaps or expansion joints in fabricated work. Where required for watertight construction, provide hooked flanges filled with polyisobutylene mastic for 1" embedment of flanges. Space joints at intervals of not more than 10 feet for aluminum and 10 feet for copper. Conceal expansion provisions where possible.
- C. Coat backside of flashing with 15-mil sulfur-free bituminous coating, FS TT-C 494, where required to separate metals from corrosive substrates including cementitious materials, wood or other absorbent materials; or provide other permanent separation.
- D. Seal moving joints in metal work with elastomeric sealants, complying with FS SS-T-00227-00230, or 001543.
- E. Performance: Water-tight/weatherproofing performance of flashing is required.
- F. Provide for thermal expansion and building movements.

*****END OF SECTION*****

SECTION 07840 - FIRE STOPPING

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to work specified in this section.

1.02 DESCRIPTION OF WORK

Work, in general, includes furnishing and installing fire and smoke barrier penetration seals for openings in floors, walls, and other elements of construction.

1.03 RELATED WORK OF OTHER SECTION

Coordinate work of this section with work of other sections as required to properly execute the work and as necessary to maintain satisfactory progress of the work of other sections, including:

Concrete Work	Section 03010
Unit Masonry	Section 04200
Joint Sealers	Section 07900
Lathing & Stucco	Section 09100
Gypsum Drywall	Section 09250
Mechanical, Electrical and Plumbing Work	Division 15 & 16 Sections

1.04 QUALITY ASSURANCE

- A. Applicator Qualifications: One-year experience installing UL classified fire stopping.
- B. Performance: Materials shall have been tested to provide fire rating equal to that of the construction.

1.05 SUBMITTALS

- A. Shop Drawings
 - 1. Submit (4) four copies of shop drawings showing each condition requiring penetration seals in dictating proposed UL systems materials, anchorage, methods of installation, and actual adjacent construction.
 - 2. Submit a copy of UL illustration of each proposed system indicating manufacturer approved modifications.

B. Manufacturer's Data: Submit copies of manufacturer's specifications, recommendations, installation instructions, and maintenance data for each type of material required. Include letter indicating that each material complies with the requirements and is recommended for the applications shown.

C. Applicator's Qualification Statement: List past projects indicating required experience.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials undamaged in manufacturer's clearly labeled, unopened containers, identified with brand, type, grade, and UL label where applicable.

B. Coordinate delivery with scheduled installation date to allow minimum storage time at site.

C. Store materials in clean, dry ventilated location. Protect from soiling, abuse, and moisture. Follow manufacturer's instructions.

1.07 PROJECT CONDITIONS

A. Existing Conditions

1. Verify existing conditions and substrates before starting work. Correct unsatisfactory conditions before proceeding.
2. Proceed with installation only after penetrations of the substrate and supporting brackets have been installed.

B. Environmental Requirements

1. Furnish adequate ventilation of using solvent.
2. Furnish forced air ventilation during installation if required by manufacturer.
3. Keep flammable materials away from sparks or flame.
4. Provide masking and drop cloths to prevent contamination of adjacent surfaces by fire stopping materials.

1.08 GUARANTEE

Submit copies of written guarantee agreeing to repair or replace joint sealers which fail in joint adhesion, cohesion, abrasion resistance, weather resistance, extrusion resistance, migration resistance, stain resistance, or general durability or appear to deteriorate in any other manner not clearly specified by the material for the exposure indicated. The

guarantee period shall be one year from date of substantial completion.

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

Products: Subject to compliance with requirements, products which may be incorporated in the work include but not limited to, the following:

1. Dow Corning Fire Stop Products; Dow Corning Corp.
2. 3M Fire Barrier Products; Electrical Products Div./3M
3. Flame Stop, Inc. Products
4. Rectorseal's Bio-Fireshield, Metacaulk products
5. Allied Gold A-1000 Products
6. Tremco Products

2.02 MATERIALS

- A. Provide materials classified by UL to provide Fire Barrier equal to time rating of construction being penetrated.
- B. Materials and Products shall conform with fire resistance characteristics required by ASTM E119 Fire Tests of Building Construction and Materials.
- C. Provide asbestos free materials that comply with applicable codes and have been tested in accordance with UL 1479 or ASTM E-814.

PART 3 - EXECUTION

3.01 PREPARATION

Clean surfaces to be in contact with penetration seal materials, of dirt, grease, oil, loose materials, rust or other substances that may affect proper fitting, adhesion, or the required fire resistance.

3.02 INSTALLATION

- A. Install penetration seal materials in accordance with printed instructions of the UL Building Materials Directory and in accordance with manufacturer's instruction.
- B. Seal holes or voids made by penetrations to ensure an effective smoke barrier.
- C. Where floor openings without penetrating items are more than 4 inches in width and subject to traffic or loading, install fire stopping materials capable of supporting same loading as floor.

D. Protect materials from damage on surfaces subject to traffic.

3.03 FIELD QUALITY CONTROL

- A. Examine penetration sealed areas to ensure proper installation before concealing or enclosing areas.
- B. Keep areas of work accessible until inspection by applicable code authorities.
- C. Perform under this section patching and repairing of fire stopping caused by cutting or penetration by other trades.

3.04 ADJUSTING AND CLEANING

- A. Clean up spills of liquid components.
- B. Neatly cut and trim materials as required.
- C. Remove equipment, materials and debris, leaving area in undamaged, clean condition.

3.05 SYSTEM APPLICATION CONDITIONS

Requiring UL approved classification, may include but are not limited to:

- A. Metal Pipe or Conduit Through Round Opening
- B. Insulated Metal Pipe Through Round Opening
- C. Metal Pipes or Conduits Through Large Opening
- D. Busway Through Rectangular Opening
- E. Cables Through Opening
- F. Cable Tray
- G. Blank Opening
- H. Non-metallic (plastic) Pipe or Conduit Through Opening
- I. Metal Pipe or Conduit Through Gypsum Board Wall
- J. Non-metallic (plastic) Pipe or Conduit Through Gypsum Board Wall
- K. Cables Through Gypsum Board Wall
- L. Insulated Metal Pipe Through Gypsum Board Wall
- M. Metal Pipe or Conduit Through Wood Construction
- N. Non-metallic (plastic) Pipe or Conduit Through Wood Construction
- O. Cables Through Wood Construction
- P. Duct Opening Flange Seals
- Q. Steel Joists through fire walls
- R. Top of walls at underside of concrete and metal decks

*****END OF SECTION*****

SECTION 07900 - JOINT SEALANTS AND ADHESIVES

PART 1- GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes joint sealants for the following applications, including those specified by reference to this Section: following applications:
 - 1. Interior joints in the following vertical surfaces and horizontal non-traffic surfaces:
 - a. Control and expansion joints on exposed interior surfaces of exterior walls.
 - b. Perimeter joints of exterior openings where indicated.
 - c. Tile control and expansion joints.
 - d. Vertical joints on exposed surfaces of interior unit masonry concrete walls and partitions.
 - e. Perimeter joints between interior wall surfaces and frames of interior doors windows and elevator entrances.
 - f. Joints between plumbing fixtures and adjoining walls, floors, and counters.
 - g. Other joints as indicated.
 - 2. Interior joints in the following horizontal traffic surfaces:
 - a. Control and expansion joints in tile flooring.
 - b. Other joints as indicated.
 - 3. Exterior joints in the following vertical surfaces and horizontal traffic surfaces:
 - a. Control and expansion joints at Structural Control Joints in masonry wall coursing and in combination with stucco accessories as detailed on the Architectural and Structural plans.
 - b. Control and expansion joints in concrete decking as detailed on the Architectural and Structural plans.
- B. Related Sections include the following:
 - 1. Division 8 Section "Glass and Glazing" for glazing sealants.
 - 2. Division 9 Section "Gypsum Drywall" for sealing perimeter joints of gypsum board partitions to reduce sound transmission.

3. Division 9 Section "Ceramic Tile Work" for sealing tile joints.

1.3 PERFORMANCE REQUIREMENTS

- A. Provide elastomeric joint sealants that establish and maintain watertight and airtight continuous joint seals without staining or deteriorating joint substrates.
- B. Delete paragraph above or below if not applicable. Revise wording to reflect performance required for both interior and exterior joints. Add specific applications where watertight or water-resistant performance may not be required or attainable with products selected.
- C. Provide joint sealants for interior applications that establish and maintain airtight and water-resistant continuous joint seals without staining or deteriorating joint substrates.
- D. All sealants and adhesives **used on the interior of the building** (i.e. inside of the weatherproofing system and applied on-site) must comply with the following requirements as applicable to the project scope:
- E. **Adhesives, Sealants and Sealant Primers** must comply with South Coast Air Quality Management District (SCAQMD) Rule #1168. Volatile organic compound (VOC) limits listed in the table (see the last page of this spec section) correspond to an effective date of July 1, 2005 and rule amendment date of January 7, 2005.

1.4 SUBMITTALS

- A. Product Data: For each joint-sealant product indicated.
- B. Samples for Initial Selection: Manufacturer's color charts consisting of strips of cured sealants showing the full range of colors available for each product exposed to view.
- C. Delete paragraph above if colors are preselected and specified or scheduled. Retain first paragraph below with or without above.
- D. Samples for Verification: For each type and color of joint sealant required, provide samples with joint sealants in 1/2-inch- (13-mm-) wide joints formed between two 6-inch- (150-mm-) long strips of material matching the appearance of exposed surfaces adjacent to joint sealants.
- E. Product Certificates: For each type of joint sealant and accessory, signed by product manufacturer.
- G. SWRI Validation Certificate: For each elastomeric sealant specified to be validated by SWRI's Sealant Validation Program.

- H. Coordinate paragraph below with qualification requirements in Division 1 Section "Quality Requirements" and as supplemented in "Quality Assurance" Article.
- I. Qualification Data: For Installer.
- J. Preconstruction Field Test Reports: Indicate which sealants and joint preparation methods resulted in optimum adhesion to joint substrates based on preconstruction testing specified in "Quality Assurance" Article.
- K. Field Test Report Log: For each elastomeric sealant application.
- L. Product Test Reports: Based on comprehensive testing of product formulations performed by a qualified testing agency, indicating that sealants comply with requirements.
- M. Warranties: Special warranties specified in this Section.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: Manufacturer's authorized Installer who is approved or licensed for installation of elastomeric sealants required for this Project.
- B. Source Limitations: Obtain each type of joint sealant through one source from a single manufacturer.
- C. Product Testing: Obtain test results for "Product Test Reports" Paragraph in "Submittals" Article from a qualified testing agency based on testing current sealant formulations within a 36-month period preceding the Notice to Proceed with commencement of the Work.
 - 1. Testing Agency Qualifications: An independent testing agency qualified according to ASTM C 1021 to conduct the testing indicated, as documented according to ASTM E 548.
 - 2. If retaining subparagraph below, also retain "Product Test Reports" Paragraph in "Submittals" Article.
 - 3. Test elastomeric joint sealants for compliance with requirements specified by reference to ASTM C 920, and where applicable, to other standard test methods.
 - 4. Test elastomeric joint sealants according to SWRI's Sealant Validation Program for compliance with requirements specified by reference to ASTM C 920 for adhesion and cohesion under cyclic movement, adhesion-in-peel, and indentation hardness.
 - 5. Test other joint sealants for compliance with requirements indicated by referencing standard specifications and test methods.
- D. Pre-construction Field-Adhesion Testing: Before installing elastomeric sealants, field test their adhesion to Project joint substrates as follows:

1. Locate test joints where indicated on Project or, if not indicated, as directed by Architect.
2. Conduct field tests for each application indicated below:
 - a. Each type of elastomeric sealant and joint substrate indicated.
 - b. Each type of nonelastomeric sealant and joint substrate indicated.
3. Notify Architect seven days in advance of dates and times when test joints will be erected.
4. Report whether sealant in joint connected to pulled-out portion failed to adhere to joint substrates or tore cohesively. Include data on pull distance used to test each type of product and joint substrate. For sealants that fail adhesively, retest until satisfactory adhesion is obtained.
5. Evaluation of Pre-construction Field-Adhesion-Test Results: Sealants not evidencing adhesive failure from testing, in absence of other indications of noncompliance with requirements, will be considered satisfactory. Do not use sealants that fail to adhere to joint substrates during testing.

1.6 PROJECT CONDITIONS

- A. Do not proceed with installation of joint sealants under the following conditions:
1. When ambient and substrate temperature conditions are outside limits permitted by joint-sealant manufacturer or are below 40 deg F.
 2. When joint substrates are wet.
 3. Where joint widths are less than those allowed by joint-sealant manufacturer for applications indicated.
 4. Contaminants capable of interfering with adhesion have not yet been removed from joint substrates.

1.7 WARRANTY

- A. When warranties are required, verify with Owner's counsel that special warranties stated in this Article are not less than remedies available to Owner under prevailing local laws. Coordinate with Division 1 Section "Product Requirements."
- B. Special Installer's Warranty: Installer's standard form in which Installer agrees to repair or replace elastomeric joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.
1. Warranty Period: Two years from date of Substantial Completion.
- C. Special warranties specified in this Article exclude deterioration or failure of elastomeric joint sealants from the following:
1. Movement of the structure resulting in stresses on the sealant exceeding sealant manufacturer's written specifications for sealant elongation and compression caused by structural settlement or errors attributable to design or construction.
 2. Disintegration of joint substrates from natural causes exceeding design specifications.

3. Mechanical damage caused by individuals, tools, or other outside agents.
4. Changes in sealant appearance caused by accumulation of dirt or other atmospheric contaminants.

PART 2 – PRODUCTS

2.1 MANUFACTURERS

- A. See Editing Instructions No. 1 and No. 2 in the Evaluations for cautions about naming manufacturers and products and in coordinating requirements in this Section with other Part 2 articles.

Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, products listed in other Part 2 articles.

2.2 MATERIALS, GENERAL

- A. Compatibility: Provide joint sealants, backings, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by sealant manufacturer, based on testing and field experience.
- B. Colors of Exposed Joint Sealants: As selected by Architect from manufacturer's full range.

2.3 ELASTOMERIC JOINT SEALANTS

Elastomeric Sealants: Comply with ASTM C 920 and other requirements indicated for each liquid-applied chemically curing sealant specified, including those referencing ASTM C 920 classifications for type, grade, class, and uses related to exposure and joint substrates.

B. Stain-Test-Response Characteristics: Where elastomeric sealants are specified to be nonstaining to porous substrates, provide products that have undergone testing according to ASTM C 1248 and have not stained porous joint substrates indicated for Project.

C. Suitability for Contact with Food: Where elastomeric sealants are indicated for joints that will come in repeated contact with food, provide products that comply with 21 CFR 177.2600.

D. Single-Component Nonsag Polysulfide Sealant:

1. Available Products:

- a. Pacific Polymers, Inc.; Elastoseal 230 Type I (Gun Grade).
- b. Polymeric Systems Inc.; PSI-7000.
2. Type and Grade: S (single component) and NS (nonsag).
3. Class: 25.
4. Use Related to Exposure: NT (nontraffic).
5. Uses Related to Joint Substrates: M, G, A, and, as applicable to joint substrates indicated, O.

2.4 LATEX JOINT SEALANTS

- A. Latex Sealant: Comply with ASTM C 834, Type P, Grade NF.
- B. Available Products:
 1. Pecora Corporation; AC-20+.
 2. Sonneborn, Division of ChemRex Inc.; Sonolac.
 3. Tremco; Tremflex 834.

2.5 ACOUSTICAL JOINT SEALANTS

A. Acoustical Sealant for Concealed Joints: Manufacturer's standard, nondrying, nonhardening, nonskinning, nonstaining, gunnable, synthetic-rubber sealant recommended for sealing interior concealed joints to reduce airborne sound transmission.

1. Available Products:
 - a. Pecora Corporation; BA-98.
 - b. Tremco; Tremco Acoustical Sealant.

2.6 JOINT-SEALANT BACKING

A. General: Provide sealant backings of material and type that are nonstaining; are compatible with joint substrates, sealants, primers, and other joint fillers; and are approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.

B. Elastomeric Tubing Sealant Backings: Neoprene, butyl, EPDM, or silicone tubing complying with ASTM D 1056, nonabsorbent to water and gas, and capable of remaining resilient at temperatures down to minus 26 deg F. Provide products with low compression set and of size and shape to provide a secondary seal, to control sealant depth, and to otherwise contribute to optimum sealant performance. Backing rods used in combination with silicone sealants shall be soft rod "open cell" to prevent off-grassing bubbles in the cured surface. All other backing rods shall be "closed cell".

C. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer for preventing sealant from adhering to rigid, inflexible joint-filler materials or joint surfaces at back of joint where such adhesion would result in sealant failure. Provide self adhesive tape where applicable.

D. When proposing paintable silicones using acrylic latex paints make special consideration that these products must be painted within seven days of placement of sealants. Refer to manufacturer's literature for proper sequence of applications.

2.7 MISCELLANEOUS MATERIALS

A. Primer: Material recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.

B. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials, free of oily residues or other substances capable of staining or harming joint substrates and adjacent nonporous surfaces in any way, and formulated to promote optimum adhesion of sealants to joint substrates.

C. Masking Tape: Nonstaining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine joints indicated to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting joint-sealant performance.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions and the following requirements:

1. Remove all foreign material from joint substrates that could interfere with adhesion of joint sealant, including dust, paints (except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer), old joint sealants, oil, grease, waterproofing, water repellents, water, surface dirt, and frost.

2. Clean porous joint substrate surfaces by brushing, grinding, blast cleaning, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealants. Remove loose particles remaining after cleaning operations above by vacuuming or blowing out joints with oil-free compressed air. Porous joint substrates include the following:
 - a. Concrete.
 - b. Masonry.
 - c. Unglazed surfaces of ceramic tile.
3. Remove laitance and form-release agents from concrete.
4. Clean nonporous surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion of joint sealants. Nonporous joint substrates include the following:
 - a. Metal.
 - b. Glass.
 - c. Porcelain enamel.
 - d. Glazed surfaces of ceramic tile.

B. Joint Priming: Prime joint substrates, where recommended in writing by joint-sealant manufacturer, based on preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.

C. Masking Tape: Use masking tape where required to prevent contact of sealant with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

3.3 INSTALLATION OF JOINT SEALANTS

- A. General: Comply with joint-sealant manufacturer's written installation instructions for products and applications indicated, unless more stringent requirements apply.
- B. Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.
- C. Acoustical Sealant Application Standard: Comply with recommendations in ASTM C 919 for use of joint sealants in acoustical applications as applicable to materials, applications, and conditions indicated.
- D. Install sealant backings of type indicated to support sealants during application and at

position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.

1. Do not leave gaps between ends of sealant backings.
2. Do not stretch, twist, puncture, or tear sealant backings.
3. Remove absorbent sealant backings that have become wet before sealant application and replace them with dry materials.

E. Install bond-breaker tape behind sealants where sealant backings are not used between sealants and backs of joints.

F. Install sealants using proven techniques that comply with the following and at the same time backings are installed:

1. Place sealants so they directly contact and fully wet joint substrates.
2. Completely fill recesses in each joint configuration.
3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.

G. Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.

1. Remove excess sealant from surfaces adjacent to joints.
2. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.
3. Provide concave joint configuration per Figure 5A in ASTM C 1193, unless otherwise indicated.
4. Provide flush joint configuration where indicated per Figure 5B in ASTM C 1193.
5. Provide recessed joint configuration of recess depth and at locations indicated per Figure 5C in ASTM C 1193.

- a. Use masking tape to protect surfaces adjacent to recessed tooled joints.

H. Install sealants to size and shape shown on drawings, or, if not shown, with slightly concave surfaces.

- a. The minimum opening should be 1/4".
- b. The opening should be at least 4 times the maximum movement of the sealant.
- c. The sealant should be more than 1/4" and less than 1/2" deep.
- d. The depth of the sealant should be no greater than the width.
- e. No joint to receive sealant should be less than 1/4" deep.

3.4 FIELD QUALITY CONTROL

A. Field-Adhesion Testing: Field test joint-sealant adhesion to joint substrates as follows:

1. Extent of Testing: Test completed elastomeric sealant joints as follows:
 - a. Perform 10 tests for the first 1000 feet (300 m) of joint length for each type of elastomeric sealant and joint substrate.
 - b. Perform 1 test for each 1000 feet of joint length thereafter or 1 test per each floor per elevation.
2. Test Method: Test joint sealants according to Method A, Field-Applied Sealant Joint Hand Pull Tab in Appendix X1 in ASTM C 1193, as appropriate for type of joint-sealant application indicated.
 - a. For joints with dissimilar substrates, verify adhesion to each substrate separately; do this by extending cut along one side, verifying adhesion to opposite side. Repeat procedure for opposite side.
3. Inspect joints for complete fill, for absence of voids, and for joint configuration complying with specified requirements. Record results in a field-adhesion-test log.
4. Inspect tested joints and report on the following:
 - a. Whether sealants in joints connected to pulled-out portion failed to adhere to joint substrates or tore cohesively. Include data on pull distance used to test each type of product and joint substrate. Compare these results to determine if adhesion passes sealant manufacturer's field-adhesion hand-pull test criteria.
 - b. Whether sealants filled joint cavities and are free of voids.
 - c. Whether sealant dimensions and configurations comply with specified requirements.
5. Record test results in a field-adhesion-test log. Include dates when sealants were installed, names of persons who installed sealants, test dates, test locations, whether joints were primed, adhesion results and percent elongations, sealant fill, sealant configuration, and sealant dimensions.
6. Repair sealants pulled from test area by applying new sealants following same procedures used originally to seal joints. Ensure that original sealant surfaces are clean and that new sealant contacts original sealant.

B. Evaluation of Field Test Results: Sealants not evidencing adhesive failure from testing or noncompliance with other indicated requirements will be considered satisfactory. Remove sealants that fail to adhere to joint substrates during testing or to comply with other requirements. Retest failed applications until test results prove sealants comply with indicated requirements.

3.5 CLEANING

A. Clean off excess sealant or sealant smears adjacent to joints as the Work progresses by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.

3.6 PROTECTION

A. Protect joint sealants during and after curing period from contact with contaminating substances and from damage resulting from construction operations or other causes so sealants are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated joint sealants immediately so installations with repaired areas are indistinguishable from original work.

Architectural Applications	VOC Limit (g/L less water)	Specialty Applications	VOC Limit (g/L less water)
Indoor carpet adhesives	50	PVC welding	510
Carpet pad adhesives	50	CPVC welding	490
Wood flooring adhesives	100	ABS welding	325
Rubber floor adhesives	60	Plastic cement welding	250
Subfloor adhesives	50	Adhesive primer for plastic	550
Ceramic tile adhesives	65	Contact adhesive	80
VCT and asphalt adhesives	50	Special purpose contact adhesive	250
Drywall and panel adhesives	50	Structural wood member adhesive	140
Cove base adhesives	50	Sheet applied rubber lining operations	850
Multipurpose construction adhesives	70	Top and trim adhesive	250
Structural glazing adhesives	100		
Substrate Specific Applications	VOC Limit (g/L less water)	Sealants	VOC Limit (g/L less water)
Metal to metal	30	Architectural	250
Plastic foams	50	Roadway	250
Porous material (except wood)	50	Other	420
Wood	30		
Fiberglass	80		
Sealant Primers	VOC Limit (g/L less water)		
Architectural, nonporous	250		
Architectural, porous	775		
Other	750		

This table excludes adhesives and sealants integral to the water-proofing system or that are not building related.

Aerosol Adhesives	VOC Limit
General purpose mist spray	65% VOCs by weight
General purpose web spray	55% VOCs by weight
Special purpose aerosol adhesives (all types)	70% VOCs by weight

*** END OF SECTION ***

SECTION 08100 - HOLLOW METAL DOOR AND FRAMES

PART 1 - GENERAL

1.01 RELATED WORK SPECIFIED ELSEWHERE

- | | |
|--------------------|---------------|
| A. Wood Doors | Section 08200 |
| B. Finish Hardware | Section 08700 |
| C. Painting | Section 09900 |

1.02 QUALITY CRITERIA

Hollow Metal Work shall be manufactured by one of the following or equal:

- A. Ceco Corporation
- B. Steelcraft
- C. Firedoor Corporation of Florida
- D. Quality Engineered Products Co., Inc., Tampa, FL
- E. Republic Steel Doors & Frames, Pembroke Park, FL
- F. Amweld Building Products, Inc.
- G. Curries

1.03 SUBMITTALS: SHOP DRAWINGS

- A. Submit shop drawings in accordance with Contract Conditions, covering each type of door and frame, frame conditions, and complete anchorage details, supplemented by suitable schedules covering doors and frames.
- B. Show glass and louver opening sizes and locations in doors.

1.04 DELIVERY, STORAGE AND HANDLING

- A. Delivery:
Deliver products to the job site in their original unopened containers or wrappings clearly labeled with the manufacturer's name and brand designation, door schedule number, referenced specification number, type, class and rating as applicable.
- B. Storage:
Store products in an approved dry area; protected from contact with soil and from exposure to the elements. Keep products dry at all times.
- C. Handling:
Handle products in a manner that will prevent breakage and damage to products.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Frames (Door)

1. Exterior: 16 gauge A-60 galv. coated, bonderized sheet steel.
Exterior: 14 gauge A-60 galv. coated bonderized sheet steel, over 6'-0" in width. **NOTE: Provide 3/4" back bents on all frames mounted to brick veneers or prefinished split-faced masonry products in lieu of the standard 1/2".**
2. Interior: 16 gauge A-60 galv. coated bonderized sheet steel.
Interior: over 4'-0" in width, 14 gauge. **NOTE: Provide 3/4" back bents on all frames mounted to brick veneers or prefinished split-faced masonry products in lieu of the standard 1/2".**

B. Hardware Reinforcement (Frames) - Steel

1. Hinges: 7 gauge by 1-1/2" or 1-5/8" x 10"
2. Closers and holders: 12 gauge by 16"
3. Strikes: 1-1/4" x 4-7/8" ANSI 16 gauge
1-1/8" x 2-3/4" strike reinf. 16 gauge
1-1/8" x 3-1/2" deadlock strike 12 gauge
1-1/8" x 2-3/4" strike reinf. No lip 16 gauge

C. Frames (Window)

1. Exterior: 14 gauge A-60 galv. coated, bonderized sheet steel
2. Interior: 16 gauge A-60 galv. coated, bonderized sheet steel

D. Doors

1. Exterior:
Face sheets 16 gauge A-60 galv. coated bonderized sheet steel. SDI 100 Grade III, Model 2, full flush, hollow metal, seamless construction. Closed top and bottom edges flush with face sheets. Extra heavy duty.
2. Interior:
Face sheets 16 gauge A-60 galv. coated bonderized sheet steel. SDI 100 Grade III, Model 3, full flush, hollow metal, seamless construction. Closed top and bottom edged flush with face sheets.
3. Internal Stiffeners:
Currie 707 with polystyrene core or approved equal.
4. Sound Deadening:
Type standard with the manufacturer.

5. Hardware Reinforcement - Steel:

- a. Hinges: 7 ga. x 1-1/2" or 1-5/8" x 10"
- b. Closers and Holders: 12 ga. x 1-3/4" x 10"
- c. Locks: 7 ga. x 1-1/4" x 3"
- d. Push/pull plates: 16 ga. x 14" x 14"
- e. Panic bars: 3" x 8" and 4" x 24" (24 ga.)
- f. Glazing and louver beads: 18 ga.
- g. Coordinator Reinf.: 12 ga. x 1-3/8" x 15-1/2"

6. Clips, Anchors, Bolts, Screws and Rivets:
Steel, types standard with the manufacturer.

7. Metallic filler: FS TT-F-322

8. Shop Primer:
Baked-on rust-inhibitive. ASTM - B117 Federal Specification TT-P-636

9. Field Painting: See Section 09900

2.02 FABRICATION

A. Frames

1. Formed to profile as shown on drawings, constructed with square corners, and free of defects, warps or buckle.
2. Welded-type for concrete, masonry construction and metal stud construction.
3. Corners and connections welded with exposed welds ground flush and smooth.
4. Reinforcement:
As per Section 2.01 B,(3) above.
5. Frames punched to receive rubber silencers, three each door on lock side and two at head of double doors.
6. Provide removable spreaders attached to bottom of door frames, to insure correct alignment during shipping and installation.
7. At angle type thresholds, notch frames and extend exterior portion down to lower floor level.
8. Provide sheet metal grout guards in frames at all lock bolts and tapped

hardware locations.

9. Do not fill frames with mortar unless specifically called out on the drawings.
10. Do not fill mullions, including removable mullions, with mortar unless specifically called out on the drawings.
11. Silencers shall be installed in frames after doors are installed and painting is completed.

B. Anchors

1. Provide 16-gauge angle shaped floor clips welded to jambs and punched for two 3/8" diameter bolts each.
2. Provide adjustable length clip angles as required.
3. Jamb Anchors
 - a. Frames set in masonry:
For doors not more than 7 ft. High, provide not less than three 10" long adjustable 14 gauge corrugated galvanized masonry anchors for each jamb over 7 feet, not less than 4 for each jamb.
 - b. Frames set against previously placed masonry or concrete:
For doors not more than 7 feet high, by approval of Owner's representative only punch each frame jamb and dimple countersink for not less than three 3/8" diameter flat head screws. For doors over 7 feet high, punch less than four 3/8" diameter flat head screws. Provide pipe sleeves with spacers welded into each jamb at each fastening location. Provide 3/8" diameter galvanized steel flat head screws with approved expansion anchors or toggles as required. After installing flat head screws fill head of countersink screw with body filler then sand flush with frame.
 - c. Frames set in metal stud partitions:
Provide 16-gauge metal jamb anchor clips welded in each jamb at following locations:
One at top, one 12" down from top and 24" o.c. for remainder of jamb frames.

C. Doors

1. Internal stiffeners spaced at not over 6" o.c.

2. Face sheets spot welded to internal stiffeners at not over 5" apart and in a manner that will prevent the welds from showing on the exposed side of face sheets.
3. Hardware reinforcement welded in place as required for hardware application. (See Section 2.02).
4. Sound deadening:
Interior surfaces treated with a sound deadening material to eliminate metallic ring.
5. Provide 16 gauge pre-bonderized zinc coated steel perimeter channels. Bevel stile edges 1/8" in 2".
6. Spot-weld channels to face sheets 3" o.c.
7. Close tops of all exterior out swinging doors flush with steel channels. Close flush and seal watertight.
8. Grind welds off smooth and flush.
9. Fold edge construction not acceptable.
10. At angle type thresholds, extend height of door by one inch over height indicated in Door Schedule.

D. Doors With Glass Panels

1. Openings formed so that no bead is required on outside face of doors.
2. Bead provided on both faces of doors and secured with oval head countersink screws on the inside face.

E. Doors with Louvers

1. Interior:
Provide 18-gauge elector zinc coated bonderized sheet steel louver frames and inverted "Y" type louvers full thickness of door, welded into doors.
2. Provide special size and shape louvers as shown.
3. Louver Door Security Panels:
Woven wire mesh. Furnish and install on all interior metal louver doors.

F. Fire Door Assemblies

1. Fire door assemblies, including frames and hardware, shall meet fire test and rating requirements in accordance with the procedure of Underwriters Laboratories or Factory Mutual Laboratories. Provide appropriate labels on doors and frame.
2. Fabrication and assembly requirements necessary to obtain labels will take precedence over requirements shown or specified, except where requirements shown or specified exceed the sizes or gauges required for labeling.
3. Required ratings are as shown on drawings.

G. Finish Hardware Coordination

Metal doors and frames shall be prepared at the factory for application of finish hardware at the job site. Templates are to be supplied by the finish hardware manufacturer to assure accurate preparation of doors and frames in accordance with the Hardware Schedule.

H. Shop Painting by Manufacturer

1. Imperfections spot glazed with metallic filler and sand smooth.
2. Doors and frames shall be cleaned thoroughly in preparation to receive manufacturer's shop primer.
3. After cleaning and treating the frames, the manufacturer shall apply a coat of baked-on-rust-inhibiter primer prior to shipping.

PART 3 - EXECUTION

3.01 INSTALLATION

A. General:

1. Install new doors and frames in locations shown on drawings. Thoroughly clean and prime prior to installation.
2. Install new window frames in locations shown on drawings. Thoroughly clean and prime prior to installation.
3. Prior to applying finish paint, areas where prime coat has been damaged shall have any rust removed, sanded smooth and touched up with same primer as applied at shop.

4. Finish paint doors and frames as indicated in Section 09900 PAINTING, in colors as called out on the Interior Design Plans or Painting Schedule.
- B. Deliver the work, ready to set up and erect in place as rapidly as the general construction work permits. Set work in place in accordance with approved setting drawings, in plumb and level positions, strongly secured against displacement and with built-in anchors. In masonry construction, set frames in advance of masonry work.
- C. Fastening:
Secure each frame floor clip to concrete floor with two 3/8" diameter cadmium plated bolts set in drilled tamp-ins or self-drilling concrete anchors. Install jamb anchors as called for in 2/02, B.3. NOTE: Do not fill any frames with mortar unless specifically called out on the plans.
- D. Frames Installation Tolerances: Adjust standard steel door frames for squareness, alignment, twist, and plumb to the following tolerances:
1. Squareness: Plus or minus 1/16 inch, measured at door rabbet on a line 90 degrees from jamb and perpendicular to frame head.
 2. Alignment: Plus or minus 1/16 inch, measured at jambs on a horizontal line parallel to plane of wall.
 3. Twist: Plus or minus 1/16 inch, measured at opposite face corners of jambs on parallel lines, and perpendicular to plane of wall.
 4. Plumbness: Plus or minus 1/16 inch, measured at jambs at floor.
- E. Standard Steel Doors Installation Tolerances: Fit hollow-metal doors accurately in frames, within clearances specified below:

Non-Fire Rated Standard Steel Doors

1. Jambs and Head: 1/8 inch plus or minus 1/16 inch.
2. Between edges of pairs of doors: 1/8 inch plus or minus 1/16 inch.
3. Between bottom of door and top of threshold: Maximum 3/8 inch.
4. Between bottom of door and top of finished floor (no threshold):
Maximum 3/4 inch.

Fire-Rated Steel Doors

1. Install doors with clearances in accordance with NFPA 80.

- F. Bracing:
Brace frame jambs and heads receiving poured concrete adequately to resist deflection: brace frames in masonry walls and partitions adequately so the walls and partitions may be erected against same.

- G. Install doors after masonry work and plastering have been completed and accurately fit and adjust doors to work properly. Application of finish hardware and door installation is specified in Division 8.

3.02 CLEAN-UP

- A. Upon completion of installation, clean surfaces of doors and frames by the procedure recommended by the Door Manufacturer.
- B. Clean up all rubbish and debris caused by this work and remove from the site. Leave areas surrounding openings in a broom-clean condition.

*****END OF SECTION*****

SECTION 08200 - WOOD DOORS

PART 1 - GENERAL

1.01 RELATED WORK SPECIFIED ELSEWHERE

- | | |
|---------------------|---------------|
| A. Hollow Metal | Section 08100 |
| B. Finish Hardware | Section 08700 |
| C. Finish Carpentry | Section 06200 |
| D. Painting | Section 09900 |

1.02 QUALITY ASSURANCE

Products of the following manufacturers or equal are acceptable:

- A. Marshfield Door Systems, Inc. (Formerly Weyerhaeuser Company)
- B. Eggers Industries, Architectural Door Division
- C. Ipik Door Co., Inc.
- D. VT Industries, Inc., Holstein, Iowa
- E. OSHKOSH door company

1.03 SUBMITTALS

- A. Product Data: Submit shop drawings indicating location and size of each door, elevation of each kind of door, details of construction, location and extent of hardware blocking, fire ratings, and other pertinent data.
- B. Shop Drawings: Submit shop drawings indicating location and size of each door, elevation of each kind of door, details of construction, location and extent of hardware blocking, fire ratings, and other pertinent data.
- C. Specific Product Warranty: Submit written agreement on door manufacturer's standard form signed by Manufacturer, Installer and Contractor, agreeing to repair or replace defective doors which have warped (bow, cup or twist) or which show telegraphing of core construction below in face veneers, or do not conform to tolerance limitations of NWMA and AWI.

1.04 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Protect wood doors during transit, storage and handling to prevent damage, soiling and deterioration. Comply with the "On-Site Care" recommendations of NWMA pamphlet "Care and Finishing of Wood Doors" and with manufacturer's instructions, and as otherwise indicated.
- B. Package doors at factory prior to shipping using manufacturer's standard method.

PART 2 - PRODUCTS

2.01 SOLID CORE DOORS (When called out on the Door Schedules)

- A. 20 minute at interior locations and offices as indicated on plans. Provide 1-hour label at interior 1-hour rated fire partition assemblies and 1½ hour label at 2 hour rated fire partition assemblies as per the Life Safety Plans or Building Plans.
- B. Standard: Meet or exceed NWMA Industry Standard I.S. 1-78 Series and Architectural woodwork Institute Type SLC and FD.
- C. Veneer: paint grade, luan veneer, plain sliced, per door schedule.
- D. Edge Band: Per manufacturers procedures.
- E. Crossbands: Per manufacturers procedures.
- F. Core: Staved hardwood lumber blocks bonded under pressure with 100% glue coverage; mineral core at label doors.
- G. Glue: Type I (face assembly) and type II (core assembly).
- H. Glass Lights and Louvers: Cut to size as indicated on drawings. Provide wood stops for glass light panels. All glass lights shall be clear 1/4" tempered glass or clear 1/4" safety laminate glass.
- I. Guarantee: 10 Years, interior use only.

2.02 HOLLOW CORE DOORS (When called out on the door schedules)

- A. Veneer: paint grade, luan veneer, plain sliced, per door schedule.
- B. Edge Band: Per manufacturers procedures.
- C. Crossbands: Per manufacturers procedures.
- D. Glue: Type I (face assembly)
- E. Guarantee: 10 Years, interior use only.

PART 3 - EXECUTION

3.01 INSPECTION

- A. Verify that door frames are of type required and scheduled for the door and are installed as required for proper installation of doors.

PART 2 - PRODUCTS

2.01 SOLID CORE DOORS (When called out on the Door Schedules)

- A. 20 minute at interior locations and offices as indicated on plans. Provide 1-hour label at interior 1 hour rated fire partition assemblies and 1 ½ hour label at 2 hour rated fire partition assemblies as per the Life Safety Plans or Building Plans.
- B. Standard: Meet or exceed NWMA Industry Standard I.S. 1-78 Series and Architectural woodwork Institute Type SLC and FD.
- C. Veneer: stain grade, natural birch, plain sliced, per door schedule.
- D. Edge Band: Per manufacturers procedures.
- E. Crossbands: Per manufacturers procedures.
- F. Core: Staved hardwood lumber blocks bonded under pressure with 100% glue coverage; mineral core at label doors.
- G. Glue: Type I (face assembly) and type II (core assembly).
- H. Glass Lights and Louvers: Cut to size as indicated on drawings. Provide wood stops for glass light panels. All glass lights shall be clear 1/4" tempered glass or clear 1/4" safety laminate glass.
- I. Guarantee: 10 Years, interior use only.

2.02 HOLLOW CORE DOORS (When called out on the door schedules)

- A. Veneer: stain grade, natural birch, plain sliced, per door schedule.
- B. Edge Band: Per manufacturers procedures.
- C. Crossbands: Per manufacturers procedures.
- D. Glue: Type I (face assembly)
- E. Guarantee: 10 Years, interior use only.

PART 3 - EXECUTION

3.01 INSPECTION

- A. Verify that door frames are of type required and scheduled for the door and are

installed as required for proper installation of doors.

- B. Do not install doors in frames which would hinder operation of doors.
- C. Do not remove labels from rated doors or cover with paint.

3.02 INSTALLATION

A. Fitting and machining:

1. Fit doors for width by planing; for height by sawing.
 - a. 1/2" from bottom (3/16 over threshold, saddle or carpet)
 - b. 1/8" maximum frame top and sides.
 - c. Bevel lock and hinge edges 1/8" to 1/2".
2. Machine doors for hardware.
3. Cut light and louver openings in door not exceeding maximum 40% of height and 5" from door edge.
4. Seal all job site cut surfaces with two coats of paint or polyurethane before final hanging.

B. Installation of Doors: Install in accordance with requirements of NWMA Standard Door Guarantee, and manufacturer's instructions.

C. Install fire rated doors in corresponding fire rated frames in accordance with requirements of NFPA No. 80.

D. Finishing: Door shall be field painted or polyurethane finished, per Interior Finish Schedule and in accordance with Section 09900, PAINTING.

3.03 ADJUST AND CLEAN

- A. Replace or re-hang doors which are hinge bound and do not swing or operate freely.
- B. Replace doors damaged during the construction period and those with visible glue spots.
- C. Refinish or replace doors damaged during installation. No visible runs of paint or polyurethane will be accepted.
- D. Replace doors that are warped and that pull away from door stops.
- E. Adjust all pocket doors so that door faces do not rub jambs or frames, and the

doors hang plumb in the openings. All pocket doors shall utilize 5-1/2" frames and have steel frame stiffeners to prevent frame distortion.

*****END OF SECTION*****

SECTION 08330 - OVERHEAD COILING SERVICE DOORS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

Drawings and general provisions of the Contract, including General and Supplementary Conditions, and Division 1 Specification Sections all apply to work in this section.

1.02 DESCRIPTION OF WORK: LOCATION

- A. Extent of Overhead Coiling Service Doors is shown on drawings. Provide complete operating door assemblies including door curtains, guides, counterbalance mechanism, hardware, operators, motors, and installation accessories.

1.03 QUALITY ASSURANCE

- A. Manufacturer: Coiling doors shall be manufactured by a firm with a minimum of five years experience in the fabrication and installation of rolling doors. Manufacturers proposed for use, which are not named in these specifications, shall submit evidence of ability to meet performance and fabrication requirements specified, and include a list of five projects of similar design and complexity completed within the last five years.
- B. Installer: Installation of rolling doors shall be performed by an authorized representative of the manufacturer.
- C. Insert and Anchorages:
Furnish inserts and anchoring devices which must be set in concrete or built into masonry for installation of units. Provide setting drawings, templates, instructions, and directions for installation of anchorage devices. Coordinate delivery with other work to avoid delay.
- D. See concrete and masonry sections of these specifications for installation of inserts and anchorage devices.
- E. Single -Source Responsibility: Provide doors, guides, motors, and related primary components from one manufacturer for each type of door. Provide secondary components from source acceptable to manufacturer of primary components.

1.04 SUBMITTALS

- A. Product Data:
Submit manufacturer's product data, roughing-in diagrams, and installation instructions for each type and size of overhead coiling door. Provide operating

instructions and maintenance information.

- B. Shop Drawings: Submit shop drawings for approval prior to fabrication. Include detailed plans, elevations, details or framing members, required clearances, anchors, and accessories. Include relationship with adjacent materials.

1.05 DELIVERY, STORAGE AND HANDLING

- A. Deliver materials and products in labeled protective packages. Store and handle in strict compliance with manufacturer's instructions and recommendations. Protect from damage from weather, excessive temperatures, and construction operations.

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

- A. Subject to compliance with requirements, provide products of one of the following:
Overhead Door Company
The Cookson Company
Cornell Iron Work, Inc.
Atlas Door Company
Alpine Overhead Doors, Inc.
Raynor
Southwestern Rolling Steel Doors
Wayne Dalton Corp.
Windsor Door
Roll-lite Overhead Doors
Ideal Door by Clopay Building Products
Gadco
ASTA Door Corporation

2.02 DOOR CURTAIN MATERIALS AND CONSTRUCTION

- A. Trade Reference: 610 Series Service Doors by Overhead Door Corporation.
- B. Curtain: Interlocking roll-formed slats as specified below. Endlocks shall be attached to each end of alternate slats to prevent lateral movement.
1. Curved profile type C-187 for doors up to 15'-4" wide, fabricated of 18-gauge galvanized steel. (If aluminum is specified use 18 gauge).
 2. Curved profile type C-275 for doors between 15'-4" and 18'-4" wide, fabricated of 18 gauge galvanized steel. (If aluminum is specified use 16 gauge).
- Or**
1. Flat profile type F-265 for doors up to 18'-4" wide, fabricated of 18-gauge galvanized steel. (If aluminum is specified use 18 gauge).

- C. Finish (as called out on the drawings) and per the following:
1. If Galvanized Steel: Slats and hood shall be galvanized steel in accordance with ASTM A 525 and rust-inhibitive, roll coating process, including bonderizing, 0.2 mils thick baked-on prime paint, and two coats field applied latex enamel topcoat. Non-galvanized exposed ferrous surfaces shall receive one coat of rust-inhibitive primer.
 2. If Stainless Steel: Slats and hood shall be stainless steel with No. 4 satin finish.
 3. If Aluminum: Slats and hood shall be aluminum with mill finish.
- D. Color: Gray polyester factory topcoat. Final field applied coating finish in latex enamel paint, color as selected by the Architect.
- E. **Windload Design: Minimum of 37 PSF.** Doors must meet or exceed the local codes for hurricane protection. Door manufacturer shall insure local code requirements have been satisfied.
- F. Weatherseals: Vinyl bottom seal.
- G. Bottom Bar: Extruded aluminum up to 15'-4" wide. Two galvanized steel angles over 15'-4" wide.
- H. Guides: Roll-formed steel shapes attached to continuous steel wall angle as standard for doors up to 15'-4" wide. Three structural steel angles with minimum thickness of 3/16" for doors over 15'-4" wide.
- J. Brackets: Hot rolled galvanized steel to support counterbalance, curtain and hood.
- K. Counterbalance: Helical torsion spring type designed for standard 50,000 cycle life design. Counterbalance shall be housed in a steel tube or pipe barrel, supporting the curtain with deflection limited to 0.03" per foot of span. Counterbalance shall be adjustable by means of an adjusting tension wheel.
- L. Hood: Galvanized steel, 24-gauge hood with intermediate supports as required.
- M. When Manual Operation is scheduled on plans: Provide chain hoist for all doors.
- N. When Electric Motor Operation is scheduled on plans provide a motor with the following standard features:
1. 2-year warranty (5-year mechanical parts)
 2. Heavy duty reversing contactor c/w electrical interlock
 3. Full overload protection
 4. Worm gear in oil-bath reducer

5. 24V fused control circuit
 6. C-2 wiring standard (Constant Pressure Close)
 7. External radio control terminal strip
 8. Continuous duty industrial motor
 9. Three button control station
 10. Fully adjustable rotary limit switches
 11. Motor removable w/out affecting limit setting
 12. Emergency chain hoist w/electrical cut-out switch for manual operation
 13. Solenoid brake standard
 14. #50 roller chain and drive sprockets
 15. Chain keeper
 16. Powder metal limit cams
 17. Universal right- or left-hand mounting
 18. Baked on finish paint
- N. Locking: Interior bottom bar slide bolt. Chain keeper locks for chain hoist operation.
- P. Wall Mounting Condition: Face of wall mounting and in accordance with the Architectural Details provided on the plans.
- Q. When insulated doors are called out on the drawings, utilize urethane foam sandwiched between the galvanized slats, free of voids. Provide continuous gasket seal at each slat joint and ends. Slat widths to be 1 inch. Insulation shall have a density of 2 pounds per cubic foot and a flame spread rating of not more than 25.

PART 3 - EXECUTION

3.01 PREPARATION

- A. Take field dimensions and examine conditions of substrates, supports, and other conditions under which this work is to be performed. Do not proceed with work until unsatisfactory conditions are corrected.

3.02 INSTALLATION

- A. Strictly comply with manufacturer's installation instructions and recommendations. Coordinate installation with adjacent work to ensure proper clearances and allow for maintenance.
- B. Instruct Owner's personnel in proper operating procedures and maintenance schedule.
- C. Finish paint the factory primed exterior as called out in the Painting Section.

3.03 ADJUSTING AND CLEANING

- A. Test coiling doors for proper operation and adjust as necessary to provide proper operation without binding or distortion.
- B. Touch-up damaged coatings and finishes and repair minor damage. Clean exposed surfaces using non-abrasive materials and methods recommended by manufacturer of material or product being cleaned.

*****END OF SECTION*****

SECTION 08400 - ENTRANCE STOREFRONT DOORS

PART 1 - GENERAL

- A. All entrance system materials are to be provided by one manufacturer. Entrances shall be wide OR medium stile doors as detailed on the architectural drawings and as manufactured to the design and specifications of one of the following manufacturers:

Trulite
Kawneer Corporation
CRL
Frontline Aluminum
Aldora
CGI Commercial
Envirolume Windows and Doors, Inc.
YKK Storefront System

All adjacent framing, sidelites and fixed lites shall be of system shown, or approved equal, and where specified and designed as an exterior door assembly, shall be impact rated per FBC 2014 Fifth Edition and ASCE 7-10.

PART 2 - SPECIFICATIONS (NOTE: See Door Schedule for Sizes and manufacturers)

- A. Wide Stile doors, when scheduled, shall be composed of tubular extrusions with 5" stiled and 5" top rail and 7-1/2" bottom rail. Corners shall have reinforcing plates, extruded anti-twist guides with mortise joinery and full width 3/8" plated steel tension rods.
- B. Medium Stile doors, when scheduled, shall be composed of tubular extrusions with 3-1/2" stiles and a 3-1/2" top rail and 5" bottom rail. Corners shall have reinforcing plates, extruded anti twist guides with mortise joinery and full width 3/8" plated steel tension rods.
- C. Glazing beads shall be an integral sash, non-removal from the exterior with vinyl bulb inserts for dry glazing. Glazing beads for insulated glass are available. Minimum bite on tempered glass shall be 1/2" in door leafs and fixed lite transoms.
- D. All aluminum components shall be of 6063 alloy with T-5 temper. All screws shall be of plated steel. All steel in contact with aluminum shall be plated or painted.

PART 3 - HARDWARE

- A. Arch's standard hardware shall consist of AR-800 pull handles and H-2 push bars with 1-1/2" pair Hager #23439, 4-1/2" brass butt hinges or offset cast aluminum

pivot hinges international #OP-160 at each end and intermediate cast aluminum hinges #IP-1900 at midspan of each leaf. Door hardware schedule per each approved manufacturer takes precedence over this description.

- B. Locks: two point concealed vertical rod panic hardware in door pairs.
- C. Please be advised that the door manufacturer should provide all entrance hardware. Refer to the Door Hardware Schedule Section 08710 for a complete description. In the event that hardware is to be provided by others, such hardware specification must be received by the Storefront Manufacturer before fabrication of doors can begin.

PART 5 - FASTENERS

- A. Typical anchors:
 - 1. Into P.T. wood bucks or wood structure, #14 SMS with 1-1/2" minimum total embed at spacings to comply with manufacturer's NOA data.
 - 2. Through P.T. 1X wood bucks and into masonry, 1/4" dia. Tapcons with 1-1/4" minimum embed into masonry at spacings to comply with manufacturer's NOA data.

NOTE: All wood bucks provided by the general contractor must sustain the loads imposed by the glazing system and transfer them to the building structure.

PART 6 - FINISH

- A. All exposed surfaces shall be free from unsightly scratches and blemishes. Aluminum sections shall be coated with one of the following options:
 - 1. Anodized material: shall be given a caustic etch followed by an anodic oxide treatment. Color shall be one of the following and per the door schedule on the plans:

a) Dark Bronze	AA	M12	C22	A42/44
b) Medium Bronze	AA	M12	C22	A40
c) Clear	AA	M12	C22	A21
d) Black	AA	M12	C22	A44
 - 2. Powder coated material, when called out on the door schedule, shall be given an acidic wash and etch and coated with one of the following:
 - a) ARCHKOTE 1000 – 1 YEAR WARRANTY MEETS OR EXCEEDS AAMA 603.8-85
 - b) ARCHKOTE 6000 – 6 YEAR WARRANTY MEETS OR EXCEEDS AAMA 605.2-85
 - 3. The option and color selected for this project is: see plans.

*****END OF SECTION*****

SECTION 08520 - ALUMINUM WINDOWS

PART 1 - GENERAL

1.01 SCOPE OF WORK

A. The Contractor for this section shall furnish all labor, materials and equipment necessary to deliver and install all windows as specified and/or as indicated on Drawings. Shop drawings are required for this portion of the work.

1.02 QUALITY CRITERIA

A. Aluminum windows shall be manufactured by one of the following:

1. Superior Window Corporation
2. Windor Corp.
3. E.S.P. Window Corporation
4. C.G.I. Construction Glass Industries, Miami
5. Alcan Building Products
6. Alenco Windows
7. Kinco, Inc.
8. P.G.T. Progressive Glass Technologies
9. T.M. Windows
10. Sol-A-Trol Aluminum Products

B. All manufacturer's windows shall comply with the following:

HC-110 Rated with 3/16" glass (non-impact)
HC-70 Rated with Sentryglas (impact resistant)
HC-90/120/220 Rated with Saflex Laminated glass (impact resistant)
DH-HC-50 AAMA Rating
ANSI/AAMA Specification 302.9 -- 1977
C1201 (Safety glaze certain fixed lights)
ASTME 283073, E330-70, E331-70
ASTMC6P3CB & A (insulated glass)
AAMA Specification DHB1HP96 and HSB2HP63
No water infiltration at 16.5 PSF of positive pressure
Air Infiltration = .07 CFM/SQ.FT. (Or les) at pressure differential of 6.24 PSF
Products must have current Dade County (or equivalent testing) approval

1.03 MATERIALS

A. Frames, sash and vent members shall be constructed of extruded 6063-T6 aluminum alloy, unless otherwise specified. Glazing beads shall be extruded 6063-T5 aluminum alloy.

1.04 CONSTRUCTION

- A. Frame members shall have a minimum depth of 1-3/4" inches and a wall thickness of .080 at frame, .090 at vent and .045 at glazing bead through the main members of the vertical frame jambs.

1.05 HARDWARE

- A. Windows shall be provided with adjustable spiral sash balances or block and tackle balances. Suitable latches shall be provided to maintain the sash secure when in a closed position. Louver sash must also have an integrally extruded hand lift for manually opening or closing the lower sash.

1.06 WEATHER STRIPPING

- A. The vertical portion of all sash members shall be provided with wool pile fabric weather stripping on both the interior and exterior faces to properly contact main frame. All joints between frame jambs and sill shall be sealed with butyl compound.

1.07 GLAZING

- A. All sash members shall be glazed with specified glass and shall be back bedded with butyl glazing compound. Glass shall be retained by extruded bead. Finish to match window finish.

1.08 SCREENS

- A. Screens shall be fabricated from extruded aluminum with minimum wall thickness of .040. Screen frames shall be furnished to match window finish.

1.09 FINISH

- A. All exposed surfaces shall be free from unsightly scratches and blemishes. Aluminum sections shall be coated with one of the following options.
 - 1. Anodized material:
shall be given a caustic etch followed by an anodic oxide treatment and the color shall be one of the following:
 - a. Dark Bronze AA M12 C22 A42/44
 - b. Medium Bronze AA M12 C22 A40
 - c. Clear AA M12 C22 A21
 - d. Black AA M12 C22 A44

2. Powder coated material:
shall be given an acidic wash and etch and coated with one of the following:
 - a. ARCHKOTE 6000 - 6 YEAR WARRANTY MEETS OR EXCEEDS AAMA 605.2-85

- b. TIGER DRYLAC - SERIES 19, 6 YEAR WARRANTY

Electrostatically sprayed and baked on enamel and the color shall be as Selected by the Architect.

3. Clear Anodized Finish on factory Aluminum.

4. Natural Mill Finish aluminum.

- B. The option and color selected for this project is: **Single hung windows with ESP white finish with impact glazing.**

1.10 GRILLES

- A. When called for, shall be constructed of extruded aluminum and are snapped in place, or fixed, on either the inside face and/or outside face of the glass. The color of the grilles shall match the window frames.

2.01 INSTALLATION

- A. Shall be in accordance with approved testing data and in accordance with the Architect's details for adjacent sealants, jamb, head and sill waterproofing per FBC current edition, and interior and exterior finishes.
- B. Fasteners shall be of the type and locations as called out in the product testing data.

*****END OF SECTION*****

SECTION 08700 - FINISH HARDWARE

PART 1 – GENERAL

1.01 WORK NOT INCLUDED

- A. Rough Hardware
- B. Casework Hardware
- C. Installation of Hardware

1.02 GENERAL

- A. All exterior doors shall open outward or in direction of travel to an exit.
- B. Copies of the Hardware Schedule, templates and keying schedules shall be submitted to the Architect and approved before ordering.
- C. Exchange schedules and template lists, with related trades, for coordination with their Shop Drawings.

1.03 GUARANTEE

- A. The hardware supplier shall provide a written guarantee that all materials furnished under this Section will be free from defects in the materials and the workmanship for a period of one (1) year from the date of a final **“Certificate of Occupancy”**.
- B. The hardware supplier, after a complete and thorough inspection by the Architect, shall further certify that all items furnished under this Section have been properly located, in accordance with the Hardware Schedule and the manufacturer’s instructions.

1.04 SUBMITTALS

- A. Three (3) copies of the Hardware Schedule, complete with catalog cuts, shall be submitted for approval. Door numbers and hardware groups are not to be changed.
- B. Approval of the Hardware Schedule shall be for type, operation and finish only.

1.05 DELIVERY

- A. Each item of hardware shall be delivered to job site, packaged separately, complete with the necessary fasteners, screws and anchors. Provide templates and/or instructions as required.
- B. Mark each item so as to correspond with the Hardware Schedule, identifying contents and defining location.

PART 2 - PRODUCTS

2.01 HINGES

- A. All Hinges shall be STANLEY, HAGER, McKINNEY.
- B. Use three hinges per door leaf on all doors up to a door height of 7'-6" and width up to 3'-0". Add an extra hinge for each additional twenty-four (24) inches of door height and widths over 36" to a maximum of 48".
- C. Provide the following size and type hinges unless otherwise noted in the hardware groups which takes priority. Provide non-removable pins for exterior doors.
 - 1. **Exterior Doors:**
4-1/2" x 4-1/2", Stainless Steel
 - 2. **Interior Doors with Closers:**
4-1/2" x 4-1/2", US26D finish
 - 3. **Interior Doors without Closers:**
4-1/2" x 4-1/2", US26D finish
- D. Finish
 - 1. Exterior Doors: Stainless Steel
 - 2. Interior Doors: Satin Chromium Plated Finish

2.02 LOCKS & EXIT DEVICES

- A. All locksets shall be AS SPECIFIED ON THE HARDWARE SCHEDULE. All locks shall have a minimum throw of 1/2". Finish to be per the Finish Hardware Schedule. Functioning of the locks shall be as designated in the hardware groups.
- B. Locksets shall comply with the following additional requirements:
 - 1. The hardware manufacturer will meet with the **owner** to finalize keying requirements and to obtain keying instructions in writing.
 - 2. All cylinders will be 6-pin interchangeable core type. All cylinders will be keyed to the existing **Schlage** key system.
 - 3. All cylinders will be supplied with Temporary construction cores. Construction Cores and keys will be a different keyway (key section) than the final cores.
 - 4. The following will be provided by the Contractor:
 - a. 3 change keys each cylinder
 - b. 4 Construction keys
 - c. 2 Construction core removal keys
 - d. 2 Each of all GGMK, GMK and MK's used in the system

- e. Catalog cuts and parts manuals

5. All keys shall be stamped "DO NOT DUPLICATE".

2.03 CLOSING DEVICES

- A. All hydraulic door closers shall be provided by one manufacturer and guaranteed for five (5) years.
- B. Door Closers shall be LCN, HAGER at all doors per schedule, fully hydraulic, full rack and pinion action. Closers shall have a separate adjustment for latch speed, general speed and back check. All closers and accessories, except special purpose types, whether applied to hinge side, stop face, over door or on bracket, shall be non-handed. All closers are to be installed on the room side of the door except where noted in the Hardware Schedule. All closers are to be installed with thru-bolts and five screws in the foot.

2.04 STOPS

- A. Wall Stops shall be AS SPECIFIED ON THE HARDWARE SCHEDULE, NOTE: Utilize Rockwood Model 409, US26D/626 at all doors that have push button locks. This model has a larger diameter recessed receiving hole. Wall stops to be utilized on interior/exterior frame walls to have solid wood backing to prevent drywall failure. Wall Stops WB11 should be mounted to the wood base. Areas with Vinyl or Ceramic Tile Base should utilize the wall stops 50C/60C.

2.05 THRESHOLD, WEATHERSTRIP

- A. Thresholds and Weather stripping shall be PEMKO, HAGER to match the types and sizes indicated on the Hardware Schedule or detailed on the drawings.
- B. Provide screws and anchors as required.
- C. Finish to be per Schedule.

2.06 PLACEMENT OF HARDWARE

Various items shall have the following heights and locations, unless otherwise indicated. (Heights are shown from finish floor to center line of item):

- A. Hinges: Standard Placement
- B. Cylindrical Lockset 38"

- C. Closer per manufacturer template to give maximum degree of opening. All closers to be mounted on room side of door.
- D. Stops:
 - 1. Wall: On wall where knob or pull hits.
 - 2. Floor: As per standard practice.
 - 3. Chain Door: As per standard practice.
 - 4. Over-Head: Per manufacturer template to give maximum degree of opening. All Over-Head stops to be mounted on room side of door.

PART 3 - EXECUTION

3.01 KEYING

- A. All installed locksets shall be keyed to the Owner's satisfaction. Coordinate with Owner as to manufacturer, function and type prior to ordering specified locksets.
- B. Submit keying schedule, based on the instructions and prior approval of the Owner's representative, for final approval before ordering locksets.
- C. Delivery
 - 1. All locks are to be delivered to the job site without the permanent key. All locks are to be keyed to the existing Owner's master key, if required.
 - 2. A representative of the Hardware Supplier, upon the completion of the project, shall check all locks for proper location, operation and keying as well as deactivate the construction-key operation and transfer all locks to a permanent key operation.
 - 3. All permanent keys shall be properly identified and tagged with a code number and location and shall be turned over directly to the Owner's representative.
 - 4. Furnish six (6) master keys of each set to the Owner.

3.02 DESCRIPTION OF HARDWARE GROUP NUMBERS

The following Hardware Schedule is to be used as a general guide. Special or unusual conditions not covered in the schedule will have hardware of a similar type and quality to meet the job conditions, and it shall be the hardware consultant's responsibility to insure that all hardware is supplied to meet job requirements and produce a complete job.

*****END OF SECTION*****

SECTION 08710 - DOOR FINISH HARDWARE SCHEDULE

1.01 **List of Materials and Approved Manufacturers**

<u>HARDWARE TYPE:</u>	<u>LISTED MANUFACTURER:</u>	<u>APPROVED EQUALS:</u>
Hinges	Hager	Stanley, Mckinney
Locks	Corbin/Ruswin	Yale, Schlage
Exits	Von Duprin	Precision
Door Closers	LCN	Norton, Corbin/Ruswin
Push/Pulls/Kick & Mop Plates	Rockwood	Brookline, Baldwin
Stops	Rockwood	Ives, Baldwin
Thresholds	Pemko	Reese, Zero
Weatherstrip	Pemko	Reese, Zero

DOOR HARDWARE SCHEDULE

The Door Hardware Schedule was prepared by a Hardware Consultant. The Contractor's Final Schedule for construction, must be submitted to the Architect and for review and approval.

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Door Numbers	HwSet#
1	01
2	10
3	03
4	07
5	07
6	07
7	04
8	05
9	07
10	11
11	11
13	11
14	11
15	06
16	06
17	06
18	01
19	03
20	07
21	02
22	12
23	12
24	12
25	12
26	12
27	12
28	04
29	04
30	09
31	04
32	04
33	12
34	07
35	02
36	08
37	04

HARDWARE SCHEDULE:

- A. The following schedule is furnished for whatever assistance it may afford the contractor; do not consider it as entirely inclusive. Should any particular door or item be omitted in any scheduled hardware group, provide door or item with hardware same as required for similar purposes. Quantities listed are for each pair of doors; or for each single door.
- B. This hardware schedule prepared by.

Allegion, PLC
 3451 Technological Ave, Suite 7
 Orlando FL 32817
 Ph: 407-571-2000
 Fax 407-571-2006

HARDWARE GROUP NO. 01 - EXTERIOR STOREFRONT

1 18

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5 NRP	630	IVE
1	EA	PANIC HARDWARE	HH-9947-NL-OP-110MD-304L-SNB	626	VON
1	EA	RIM CYLINDER	20-057 ICX	626	SCH
1	EA	FSIC CORE	23-030	626	SCH
1	EA	CUSTOM DOOR PULLS	BY DOOR MANUFACTURER		UNK
1	EA	SURFACE CLOSER	4040XP SCUSH TBSRT	689	LCN
1	EA	MOUNTING PLATE	4040XP-18	689	LCN
1	EA	CUSH SHOE SUPPORT	4040XP-30	689	LCN

FBC NOA RISK CATEGORY IV COMPLIANT
 BALANCE OF HARDWARE BY STOREFRONT SUPPLIER

HARDWARE GROUP NO. 02 - EXTERIOR EXIT

21 35

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5 NRP	630	IVE
1	EA	PANIC HARDWARE	WS-9927-L-06-SNB	626	VON
1	EA	RIM CYLINDER	20-057 ICX	626	SCH
1	EA	FSIC CORE	23-030	626	SCH
1	EA	SURFACE CLOSER	4040XP SCUSH TBSRT	689	LCN
1	EA	RAIN DRIP	11A	A	ZER
1	EA	GASKETING	139A-S	A	ZER
1	EA	RAIN DRIP	142AA	AA	ZER
1	EA	GASKETING	188SBK PSA	BK	ZER
1	EA	DOOR SWEEP	328AA	AA	ZER
1	EA	GASKETING	475AA	AA	ZER
1	EA	DOOR BOTTOM	FAS-SEAL		STE
1	EA	THRESHOLD	566A-223	A	ZER

FBC NOA RISK CAT IV COMPLIANT - FBC NOA FL14022 BASIS OF DESIGN

IRCFD Fire Station #7

HARDWARE GROUP NO. 03 - APPARATUS ROOM ACCESS

3 19

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5	630	IVE
1	EA	PASSAGE SET	ND10S RHO	626	SCH
1	EA	SURFACE CLOSER	4040XP REG OR PA AS REQ TBSRT	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CVX	630	IVE
1	EA	GASKETING	488SBK PSA	BK	ZER
1	EA	DOOR SWEEP	39A	A	ZER
1	EA	THRESHOLD	545A-223	A	ZER

HARDWARE GROUP NO. 04 - STORAGE/HALL

7 28 29 31 32 37

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5	630	IVE
1	EA	VANDL STOREROOM LOCK	ND96P6D RHO	626	SCH
1	EA	SURFACE CLOSER	4040XP REG OR PA AS REQ TBSRT	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CVX	630	IVE
1	EA	THRESHOLD	545A-223	A	ZER
1	EA	SILENCER	SR64	GRY	IVE

OMIT WALL STOP AT DOORS 28 AND 32.

OMIT THRESHOLD AT DOOR 7

HARDWARE GROUP NO. 05 - OFFICE

8

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5	630	IVE
1	EA	VANDL ENTRANCE LOCK	ND92P6D RHO	626	SCH
1	EA	SURFACE CLOSER	4040XP REG OR PA AS REQ TBSRT	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CVX	630	IVE
1	EA	THRESHOLD	545A-223	A	ZER
1	EA	SILENCER	SR64	GRY	IVE

MARBLE THRESHOLD BY FLOORING CONTRACTOR

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HARDWARE GROUP NO. 06 - PANTRY

15 16 17

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5	630	IVE
1	EA	EXIT CLASSROOM LOCK	ND25X70P6D RHO XN12-004	626	SCH
1	EA	OH STOP	450S	652	GLY
3	EA	SILENCER	SR64	GRY	IVE

HARDWARE GROUP NO. 07 - MECH/DAY ROOM/DORM

4 5 6 9 20 34

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5	630	IVE
1	EA	PASSAGE SET	ND10S RHO	626	SCH
1	EA	SURFACE CLOSER	4040XP REG OR PA AS REQ TBSRT	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CVX	630	IVE
1	EA	DOOR SWEEP	39A	A	ZER
1	EA	THRESHOLD	545A-223	A	ZER
1	EA	SILENCER	SR64	GRY	IVE

OMIT WALL STOPS AT DOORS 9 AND 34

HARDWARE GROUP NO. 08 - JANITOR

36

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5	630	IVE
1	EA	PASSAGE SET	ND10S RHO	626	SCH
1	EA	SURFACE CLOSER	4040XP REG OR PA AS REQ TBSRT	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CVX	630	IVE
1	EA	SILENCER	SR64	GRY	IVE

HARDWARE GROUP NO. 09 - LAUNDRY

30

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5	630	IVE
1	EA	PASSAGE SET	ND10S RHO	626	SCH
1	EA	SURFACE CLOSER	4040XP REG OR PA AS REQ TBSRT	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CVX	630	IVE
1	EA	THRESHOLD	545A-223	A	ZER
3	EA	SILENCER	SR64	GRY	IVE

IRCFD Fire Station #7

HARDWARE GROUP NO. 10 - RESTROOM - PRIVACY W/OCCUPANCY INDICATOR

2

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5	630	IVE
1	EA	PRIVACY W/COIN TURN	L9044 06A L583-363 L283-722	626	SCH
1	EA	SURFACE CLOSER	4040XP REG OR PA AS REQ TBSRT	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CVX	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

MARBLE THRESHOLD BY FLOORING CONTRACTOR

HARDWARE GROUP NO. 11 - RESTROOMS - PUSH/PULL

10 11 13 14

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5	630	IVE
1	EA	PUSH PLATE	8200 4" X 16"	630	IVE
1	EA	PULL PLATE	8303 10" 4" X 16"	630	IVE
1	EA	SURFACE CLOSER	4040XP REG OR PA AS REQ TBSRT	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CVX	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

MARBLE THRESHOLD BY FLOORING CONTRACTOR

HARDWARE GROUP NO. 12 - MOTORIZED/MANUAL OH DOORS

22 23 24 25 26 27
33

Provide each RU door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
ALL HARDWARE BY DOOR SUPPLIER					

SECTION 08800 - GLASS AND GLAZING

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

Drawings and general provisions of Contract, including General and Supplementary Conditions and Division - Specification sections, apply to work of this section.

1.02 DESCRIPTION OF WORK

- A. Definition: “glass includes prime glass, processed glass, and fabricated glass. “Glazing” includes glass installation and materials used to install glass. Types of work in this section include glass and glazing for:
- Window units, sidelites, transoms
 - Window wall
 - Entrances and other doors, not indicated as “preglazed”.
- B. Packaged mirror units are specified as “accessories” in section 10800.

1.03 QUALITY ASSURANCE

- A. Prime Glass Manufacturer: One of the following for each type/color/pattern of glass:
- ASG Industries. Inc.
 - Guardian Industries Corporation
 - Ford Glass Company
 - Libbey-Owens-Ford Company
 - PPG Industries, Inc.
 - Visteon
- B. Certificate: Submit certificates from respective manufacturers attesting that glass and glazing materials furnished for project comply with requirements.
- C. Glazing Standards: Comply with recommendations of Flat Glass Marketing Assoc. (FGMA) “Glazing Manual” and “Sealant Manual” except where more stringent requirements are indicated. Refer to those publications for definitions of glass and glazing terms not otherwise defined in this section or other referenced standards.
- D. Installer Qualifications: Installation contractor specializing in glazing, with a minimum of 5 years experience on projects of similar size and also being an approved installer for the glazing product supplier.

PART 2 - PRODUCTS

2.01 GLASS PRODUCTS

Clear Heat-Treated Float Glass: Type I (transparent glass, flat), Class 1 (clear), Quality q3 (glazing select), fully tempered. Other glass products for impact resistance are called out on the drawings and may include, but are not limited to, safety laminate heat strengthened glass with an .090 inner liner. Thicknesses of laminated glass vary from 3/8 inch to 9/16 inch. Frames to receive the glass vary to achieve various levels of impact resistance per local and state codes. **Refer to the drawings for a description of glazing and SHGC requirements.**

2.02 GLAZING SEALANTS AND COMPONENTS

- A. General: provide color of exposed sealant/compound indicated or if not otherwise indicated, as selected by Architect from manufacturer's standard colors, or black if no color is as selected. Comply with manufacturer's recommendations for selection of hardness, depending upon the location of each application, conditions at time of installation, and performance requirements as indicated. Select materials, and variations or modifications, carefully for compatibility with surfaces contacted in the installation.
- B. 2-Part Polysulfide Glazing Sealant (2Ps-GS): Elastomeric polysulfide sealant complying with FS TTS-227, Class A, Type 2; specially compounded and tested to show a minimum of 20-years resistance to deterioration in normal glazing applications. Use for exterior applications.
- C. Acrylic-Emulsion Glazing Sealant (AcEm-GS): Emulsion of acrylic, with or without latex rubber modification; compounded specifically for glazing; non-hardening, non-staining, and non-bleeding. Use for interior applications.

2.03 GLAZING GASKETS

- A. Polyvinyl Chloride Glazing Gaskets (PVC-GG): Extruded, flexible PVC gaskets of the profile and hardness shown, or as required for watertight construction; comply with ASTM D 2287.
- B. Cellular Neoprene Glazing Gaskets (PVC-GG): Extruded/molded, closed-cell, integral-skinned neoprene of profile required to maintain watertight seal; comply with ASTM C509, Type II, black.
- C. Vinyl Foam Glazing Tape (VF-GT): Closed cell flexible, self-adhesive, non-extruding, polyvinyl chloride foam tape; recommended by manufacturer for exterior, exposed, watertight installation of glass, with only nominal pressure in the glazing channel; comply with ASTM C 1667.

2.04 MISCELLANEOUS GLAZING MATERIALS

- A. Cleaners, Primers, and Sealers: Type recommended by sealant or gasket manufacturer.
- B. Setting Blocks: Neoprene or EPDM, 70-90 durometer hardness, with proven compatibility with sealants used.
- C. Spacers: Neoprene or EPDM, 40-50 durometer hardness with proven compatibility with sealants used.
- D. Compressed Filler (Rod) Ccp-FR: Closed cell or waterproof jacketed rod stock of synthetic rubber or plastic foam, proven to be compatible with sealants used, flexible and resilient, with 5-10 psi compression strength for 25% deflection.

PART 3 - EXECUTION

3.01 STANDARDS AND PERFORMANCE

- A. Watertight and airtight installation of each glass product is required, except as otherwise shown. Each installation must withstand normal temperature changes, wind loading, impact loading (for operating sash and doors), without failure including loss or breakage of glass, failure of sealants or gaskets to remain watertight and airtight, deterioration of glazing materials and other defects in the work.
- B. Protect glass from edge damage during handling and installation, and subsequent operation of glazed components of the work. During installation, discard units with significant edge damage or other imperfections.
- C. Glazing channel dimensions as shown are intended to provide for necessary bite on glass, minimum edge clearance, and adequate sealant thicknesses, with reasonable tolerances. Adjust as required by job conditions at time of installation.
- D. Comply with combined recommendations and technical reports by manufacturers of glass and glazing products as used in each glazing channel, and with recommendations of Flat Glass Market Assoc. "Glazing Manual", except where more stringent requirements are indicated.

3.02 PREPARATION FOR GLAZING

- A. Clean glazing channel and other framing members to receive glass, immediately before glazing. Remove coatings which are not firmly bonded to substrate. Remove lacquer from metal surfaces where elastomeric sealants are used.
- B. Apply primer or sealant to joint surfaces where recommended by sealant manufacturer.

3.03 GLAZING

- A. Install setting blocks of proper size in still rabbit, located 1/4 of glass width from each corner. Set blocks in thin course of heel-bead compound, if any.
- B. Provide spacers inside and out, or proper size and spacing, for glass sizes larger than 50 united inches, except where gaskets or preshimmed tapes are used for glazing. Provide 1/8" minimum bite of spacers on glass and use thickness equal to sealant width, except with sealant tape used thickness slightly less than final compressed thickness of tape.
- C. Set units of glass in each series with uniformity of pattern, draw, bow and similar characteristics.
- D. Voids and Filler Rods: Prevent exudation of sealant or compound by forming voids or installing filler rods in channel at heel of jambs and head (do not leave voids in sill channels), except as otherwise indicated and depending on light size, thickness and Type of glass, and complying with manufacturer's recommendations.
- E. Force sealants into channel to eliminate voids and to ensure complete "wetting" or bond of sealant to glass and channel surfaces.
- F. Tool exposed surfaces of glazing liquids and compounds to provide a substantial "wash" away from glass. Install pressurized tapes and gaskets to protrude slightly out of channel, so as to eliminate dirt and moisture pockets.
- G. Clean and trim excess glazing materials from glass and stops or frames promptly after installation, and eliminated stains and discolorations.
- H. Where wedge-shaped gaskets are driven into one side of channel to pressurize sealant or gasket on opposite side, provide adequate anchorage to ensure that gasket will not "walk" out when installation is subjected to movement. Anchor gasket to stop with matching ribs, or by proven adhesives, including embedment of gasket tail in cured heel bead.
- I. Gasket Glazing: Miter cut and bond ends together at corners where gaskets are used for channel glazing, so that gaskets will not pull away from corners and result in voids or leaks in glazing system.
- J. Structural Gasket Glazing: Cut zipper strips slightly long, to ensure tight closure. Lubricate zipper strip and use special tool to install zipper. Do not lubricate glazing channel or anchorage rabbet. Comply with details as shown and manufacturer's instructions, including possible use of liquid sealants and weep holes.

3.03 CURE, PROTECTION AND CLEANING

- A. Protect exterior glass from breakage immediately upon installation, by use of crossed streamers attached to framing and held away from glass. Do not apply markers to surfaces of glass. Remove nonpermanent labels and clean surfaces. Cure sealants for high early strength and durability.
- B. Remove and replace glass which is broken, chipped, cracked, etched, abraded or damaged in other ways during construction period, including natural causes, accidents and vandalism.
- C. Wash and polish glass on both faces not more than 4 days prior to date scheduled for inspections intended to establish date of substantial completion in each area of project. Comply with glass product manufacturer's recommendations for final cleaning. Sub-contractors performing glass and window cleaning must be fully insured to replace damaged glass as a direct result of their negligence. The general contractor is ultimately responsible for replacing all damaged glass.

*****END OF SECTION*****

SECTION 09100 - LATHING AND STUCCO

1.01 GENERAL

- A. All applicable provisions of the General Conditions are a part of this section.
- B. Furnish all labor, materials, tools, equipment, etc., and services necessary and incidental to the complete fabrication, furnishing and erection of this section as shown, noted, detailed and reasonably implied on the drawings and in the specifications.
- C. All lathing, plastering, and stucco work, in addition to conforming to this section, shall conform to the American National Standards Specifications A42.2 and A42.3.

1.02 MATERIALS

Stucco

- A. Do not use any precolored stucco mixes.
- B. Premix stucco bag mix shall conform to ASTM C-926, Gray.
- C. Sand shall be clean, sharp, fine, sand conforming to ASTM C-144.
- D. Water shall be clean, fresh, portable and free from mineral organic substances that would affect the set of stucco.

Metal Lath

- A. Self-furring metal lath shall be expanded metal lath with staggered indentations spaced 3 - 1/2" apart horizontally and 2" apart vertically with indentations of depth to hold lath a minimum of 1/4" away from back-up material. Lath shall be hot dipped galvanized for interior and exterior use and shall weigh 3.4 pounds per square yard.
- B. Metal lath to be used where supports are spaced over 16" on centers shall be hot dipped galvanized, expanded metal lath stiffened with 3/8" ribs spaced 4" on center, weighing a minimum of 3.4 pounds per square yard.
- C. Sheets secured to supports at intervals not exceeding six inches (6"). Place ties where sides of sheets lap at supports, and at side laps or sheets between supports. Tie wire to be not less than 18 ga. galvanized wire.
- D. Diamond-mesh lath lapped at sides not less than 1/2" and at ends not less than 1". End laps of sheets should generally occur only over supports; if between, end of sheets to be laced or adequately tied with #18 ga., galvanized, annealed wire.

- E. No paper backed laths will be accepted. Remove paper backings on any laths supplied to the job site. Utilize 30# felt roofing paper or backing as called out on the plans.
- F. Install according to ASTM C 1063.

1.03 MIXING AND APPLICATION

- A. Before the application of stucco masonry, all surfaces shall be clean and free from defect. Concrete surfaces to receive stucco shall be coated with a bonding agent to insure proper bond. Dampen masonry surfaces with a fog spray immediately prior to application so as to prevent excessive withdrawal of moisture from the stucco.
- B. Stucco shall be applied in three (3) coats to a total thickness of 3/4" over specified metal lath and in two (2) coats to a total thickness of 5/8" on concrete or masonry. Finish coat to be installed as per manufacturer's recommendations of approximately 1/4" thickness with **surface finishes as scheduled on the building elevation drawings**. When textured surfaces are specified, troweled or sprayed, the General Contractor shall submit a 2' X 2' sample board to the Architect for approval, **PRIOR** to applying the finish coating of stucco to the building.
- C. Cross rake all scratch coats in order to form a mechanical bond with brown coats. Lightly cross-scratch all brown coats of plaster in order to form a mechanical bond with the finish coat.
- D. Keep each base coat moist for at least 48 hours; commence moistening as soon as plaster is hardened sufficiently to prevent injuries. If atmospheric conditions are hot and dry, curing time shall be extended as necessary to at no additional cost to the Owner. Allow base coat to cure for a minimum of seven (7) days before applying finishing coat.
- E. **FINISH COAT**, when scheduled as a sponge finish, shall be free from waves, dents, trowel marks, and shall be a smooth sponge finish. Do not deviate more than plus or minus 1/4 inch in 10 feet from a true plane in finished surfaces.
- F. Plaster and stucco used for patching and replacing existing work shall be mixed, applied and finished to match adjacent surfaces.
- G. Apply stucco in accordance with ASTM C-926.

1.04 CLEANING

- A. After completion of work, all scaffolding, tools, and other equipment shall be removed from the building, taking care not to damage work of other trades. All cement plaster rubbish shall be removed and the building left broom clean.
- B. Stucco Contractor is responsible for protecting all existing work, windows, doors, equipment, etc. from stucco residue during application. Clean any residue that may exist at completion of work.

1.05 STUCCO ACCESSORIES

NOTE: REFER TO PLANS, SECTIONS, DETAILS AND ELEVATIONS FOR SPECIFIC TYPE AND PLACEMENT PER PROJECT.

A. Casing Beads:

- 1. For interior use shall be formed of 24-gauge Galvanized Steel, ASTM A525-81, A527-80, A446 (.0179 thickness G90 galv.).
- 2. For exterior use, where scheduled, shall be formed of Solid Zinc Alloy, type #66 as manufactured by U.S. Gypsum Company, #66 as manufactured by Inland Steel Company, type #66X as manufactured by Keene Products or an approved comparable product. Zinc shall be Alloy 190, ASTM B69-89 (.0179 thickness).
- 3. For exterior use, where scheduled, shall be Rigid Vinyl (PVC, Unplasticized Polyvinyl Chloride), type 6658 or 6675 as manufactured by Vinyl Corporation, or an approved comparable product. ASTM D-1784-81 cell class 13244C.

B. Interior corner beads shall be fabricated of 26 ga. galvanized, type 1, as manufactured by National Gypsum Co., 1-A as manufactured by National Gypsum Co., 1-A as manufactured by U.S. Gypsum Co., or #1 as manufactured by Inland Steel Products Co., or an approved comparable product.

C. Control Joints, Expansion Joints, Channel Reveals

- 1. For exterior use, where scheduled, on flat vertical and horizontal surfaces shall be Solid Zinc Alloy as manufactured by U. S. Gypsum Company, Inland Steel Company, Keene Products, or an approved comparable product. Profiles and configurations vary greatly; refer to plans and details for product numbers and applications.
- 2. For exterior use, where scheduled, shall be Rigid Vinyl (PVC, Unplasticized Polyvinyl Chloride), as manufactured by Vinyl Corporation or an approved comparable product. Profiles and configurations vary greatly; refer to plans and details for product numbers and applications. ASTM D-1784-81 cell class 13244C. ASTM C1063-86.

- D. Inside corner Expansion Joints for interior or exterior applications, when scheduled or depicted on the drawings, shall be vinyl, Model 3058 or 3075, as manufactured by Vinyl Corporation, or an approved comparable product. ASTM D-1784-81 cell class 13244C. ASTM C1063-86.
- E. Fascia Drip Screed for exterior application, when depicted or scheduled on the drawings, shall be vinyl, Model DS 15-75 by Vinyl Corporation, or Model 540-75 by Plastic Components, or an approved comparable product meeting ASTM D-1784-81 cell class 13244C, and ASTM C-1063-86.

1.06 EXECUTION

- A. Quality - Follow recommendations and specifications for strict installation. Allow adequate time for each of three (3) coats to dry before going on with the next coat.
- B. Stucco Accessories:
 - 1. The stucco contractor **shall request a project walk-around with the Architect prior to installing any exterior stucco and exterior stucco accessories,** to insure all conditions, materials, and applications are understood.
 - 2. Corner beads, for interior applications only, shall be installed on all corners and edges of corner openings. Corner beads shall extend the full height of the corners on which they are applied and shall act as a ground.
 - 3. Casing beads shall be applied where stucco stops and other products begin, or where indicated on plans and details.
 - 4. When applying vinyl products, all intersections, end butts and end miters shall have manufacturer's approved sealant placed at raw edges to adhere the sections prior to application of stucco.
- C. Metal lath shall be applied with long dimension of sheet across supports.
- D. Control Joints and Expansion Joints shall be installed in exact locations shown, or as to check shrinkage and expansion cracks. **Do not fill any throats of control joints with sealants.** Painting of all stucco accessories is recommended.
- E. Inside-Corner Expansion Joints shall be installed in exact locations shown on details.

END OF THIS SECTION

SECTION 09230 - CEMENT BACKING BOARD

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

Drawings and general provisions of Contract, including general and supplementary conditions and Division-1 Specifications Sections, addenda apply to work of this section.

1.02 RELATED WORK OF OTHER SECTIONS

Lightgauge Metal Framing	Section 05400
Rough Carpentry	Section 06100
Gypsum Wallboard	Section 09250
Ceramic Tile	Section 09300

1.03 DESCRIPTION

Extent of cement backing board system work is shown on Drawings and Schedules for areas receiving ceramic tile.

1.04 QUALITY ASSURANCE

- A. Obtain cement board from a single manufacturer.
- B. Single-Installer Responsibility: A single installer shall perform the work of this section; and shall be a firm specializing in this work for at least 3 years, capable of showing successful installations similar to work required for project, using recommended attachment screws and spacing of screws.
- C. ANSI A108.11-1999: Interior installation of cementitious backer units.

1.05 SUBMITTALS

Submit manufacturer's product data, specifications; and installation instructions for the cement board systems.

1.06 DELIVERY, STORAGE AND HANDLING

- A. Deliver materials to the job site in the original packages, containers, or bundles bearing the brand name and manufacturer's identification.
- B. Store materials in dry locations with adequate ventilation, free from water and in such a manner to permit easy access for inspection and handling. Stack cement boards flat to avoid sagging or damage to edges, or surfaces.

- C. Handle cement boards to prevent damage. Protect metal framing members from being bent or damaged. Protect gypsum panels in same manner as cement boards.

PART 2 - PRODUCTS

2.01 MANUFACTURER

- A. Subject to compliance with requirements, provide DUROCK Cement Board System as manufactured by the United States Gypsum Company, unless otherwise indicated.
- B. Equivalent systems of other manufacturers will be accepted under conditions as set forth in the contract conditions.
- C. Materials:
 - 1. Glass Mesh Mortar Unit (Cement Board): USG DUROCK Exterior Cement board ½" x 4' x 8'.
 - 2. Cement board fasteners:
 - a. Non-wet areas- 1 1/4", DUROCK Screws: wafer head with anti-corrosive coating. Heads recessed or counter sunk.
 - b. Wet areas- 1 1/4", DUROCK Screws: wafer head stainless steel. Heads recessed or countersunk.
- D. Joint Reinforcement: DUROCK Tape (2" wide). **NOTE:** This portion of the work is to be performed by the Ceramic Tile contractor per Section 09300.
- E. Metal Framing: Comply with ASTM 0645: Manufactured by the United States Gypsum Company Min. 22 ga. Must meet ASTM A446, A525, A568, A463.

PART 3 - EXECUTION

3.01 INSTALLATION:

- A. Install metal framing in accordance with manufacturer's instructions. Stud spacing not to exceed 16 in. o.c. Provide double studs at ends of each board.
- B. Install cement board with rough side facing out and vertical edges over double supports. Stagger joints in successive courses. Install adjacent board closely but not forced.
- C. Fasten boards to framing with DUROCK screws. Space fasteners 8" o.c. at walls. Locate perimeter fasteners at least 3/8" from edges. Counter sink screw heads slightly beneath the board surface. Provide firm board contact with framing. Pre-

drill edge screw locations to prevent breaking at edges.

- D. Joint Reinforcement Tape and Mortar Skim Coat: Apply tape over board joints and interior corners. Do not overlap. **NOTE:** This portion of work to be performed by the Ceramic Tile Contractor per Specification Section 09300.
- E. Ceramic Tile: Comply with application requirements of Division-9 Section 09300.
- F. In wet areas, or areas subject to wash down due to periodic maintenance, install moisture barrier on top of cement board. **NOTE:** This portion of the work to be performed by the Ceramic Tile Contractor per specification Section 09300.

*****END OF SECTION*****

SECTION 09250 - GYPSUM DRYWALL

1.01 GENERAL

- A. Gypsum Board Standard: ASTM C 840
- B. As manufactured in the United States by one of the following approved companies:
 - 1. United States Gypsum Co.
 - 2. National Gypsum Co.
 - 3. Georgia-Pacific Gypsum Co.

1.02 MATERIALS

- A. Drywall Materials: Exposed Gypsum Board ASTM C 36
 - 1. Long Edges: Standard taper
 - a. ½" Gypsum Drywall (Regular).
 - b. ½" Moisture-Resistant Gypsum Drywall.
 - c. 5/8" Gypsum Drywall (Regular).
 - d. 5/8" Moisture-Resistant Gypsum Drywall.
 - e. 5/8" Type-X Fire Resistant Gypsum Drywall.
 - f. 5/8" Vandal Resistant (High Impact) Gypsum Drywall.
- B. Trim Accessories: Provide manufacturer's standard metal trim accessories, of the beaded type with face flanges for concealment in joint compound except where semi-finishing or exposed type is indicated. See plans and details for specific locations and conditions.
- C. Provide corner beads at external corners. Install with nails or screws at minimum of 16" on center. No crimp bead will be accepted unless in combination with nails or screws. As an alternate use Ultratrim-Outside 90 as manufactured by No-Coat. www.no-coat.com 1-888-662-6281
- D. Provide edge trim of the shape indicated where edge of gypsum board would otherwise be exposed or semi-exposed; L-type for abutment at edges, other U-type except special kerfed-type where kerf is provided in adjoining work. See plans and details for specific locations and conditions.
- E. Gypsum Board Fasteners: Self drilling, self-tapping, bugle head, screws.
- F. Joint tape: ASTM C 475, performed, Type II.
- G. Joint Compound: ASTM 475, Type I.
- H. Provide water-resistant type MR manufactured by United States Gypsum

Company for use with water-resistant backing board and cementitious substrate backing board.

1.03 DRYWALL INSTALLATION AND FINISHING

- A. Install gypsum boards in lengths and directions which will minimize number of end joints, and avoid end joints in central area of ceilings. Install walls and partitions with exposed gypsum boards vertical, with joints offset on opposite sides of partitions. Otherwise, install boards with edges perpendicular to supports, with end joints staggered over supports, except where recommended in a different arrangement by manufacturer. Install as per UL#U305 for 1-hour rating when utilizing rated panels or as specified on the Life Safety Plans.
- B. Form "Floating": Construction for gypsum boards at internal corners, except where special isolation or edge trim is indicated.
- C. Screw gypsum boards to supports.
- D. Drywall Finishing: Except as otherwise indicated, apply joint tape and joint compound at joints (both directions) between gypsum boards. Apply compound at accessory flanges, penetrations, fasteners heads and surface defects.
- E. Apply compound in three (3) coats (plus prefill of cracks where recommended by manufacturer); sand after last two (2) coats to achieve a **Level 4 or Level 5 finish** per U.S. Gypsum Corporation guidelines. Refer to the **Room Finish Schedule** for level of finish required for this project.
- F. Ceiling Finish as per **Finish Schedule** on the Construction Plans. Where a textured ceiling is called for on the drawings the drywall finisher shall provide a 24" X 24" sample board for approval by the Owner prior to applying any finished ceiling textures.
- G. The drywall installer shall notify the General Contractor of walls out of plumb in the vertical or horizontal direction, as well as the absence of proper wall, soffit, overhead deadwood blocking, pipe and wire plate protectors prior to installing drywall. Finished walls shall be no more than 3/16" out of dead straight within any (six) 6-foot direction. Walls not conforming to this standard shall be removed and replaced at the General Contractors expense.
- H. The drywall contractor shall remove all debris associated with his portion of the work and remove all dried finishing compound from the floors. All scrap drywall sections must be taken to a scrap yard by the subcontractor for recycling of the gypsum product.

END OF THIS SECTION

SECTION 09300 - CERAMIC TILE/PORCELAIN TILE/DIMENSIONAL STONE WORK

1.01 GENERAL

- A. Coordination: Coordinate all with other trades whose work affects, connects with, or is concealed by tile installations. Before proceeding, make certain all required inspections have been made by local officials and the Architect.
- B. Scope of work:
 - 1. Preparation of substrate and installation of ceramic tile on walls, floors, and ceilings.
 - 2. Preparation of substrate and installation of dimensional stone on floors and walls.
 - 3. Preparation of substrate and installation of porcelain tile on floors.
 - 4. Installation of waterproofing membrane on prepared substrate.

1.02 RELATED WORK IN OTHER SECTIONS

- | | |
|-----------------------------------|---------------|
| 1. Lightgauge Metal Framing | Section 05400 |
| 2. Rough Carpentry | Section 06100 |
| 3. Lathing and Stucco | Section 09100 |
| 4. Cement Backing Board | Section 09230 |
| 5. Toilet Accessories | Section 10800 |
| 6. Floor Drains and Shower Drains | Section 15421 |
| 7. Sealants and Adhesives | Section 07900 |

1.03 QUALITY STANDARDS

- A. Conform to applicable portions of the following:
 - 1. ANSI A108.1A: Installation of ceramic tile in the wet-set method, with Portland cement mortar.
 - 2. ANSI A108.1B: Installation of ceramic tile on a cured Portland cement mortar setting bed with dry-set or Latex-Portland cement mortar.
 - 3. ANSI A108.5: Installation of ceramic tile with dry-set Portland cement mortar or Latex-Portland cement mortar.
 - 4. ANSI A108.13: Installation of load bearing, bonded, waterproof membranes for thin-set ceramic tile and dimension stone.
 - 5. ANSI A118.4: Specifications for Latex-Portland cement mortar.
 - 6. ANSI A108.8: Installation of ceramic tile with chemical resistant furan resin mortar and grout.
 - 7. ANSI 137.1: Porcelain Tile. (ISO standard is equivalent for porcelain manufactured outside the United States).
 - 8. Tile Council of America, Inc.: The Industry's Guide for Installation Practices most current edition.

1.04 SUBMITTALS

- A. Submit samples of all ceramic tiles, porcelain tile and dimensional stone scheduled for installation.
- B. Submit samples of the waterproofing membrane/system proposed for installation.
- C. Submit manufacturer's product data for tile setting compound and grout proposed for installation.

2.01 PRODUCTS

A. Recommended Materials:

1. Ceramic tile and dimensional stone: As selected by the Architect or the Interior Designer. See the Drawing Schedules.
 - a. All ceramic floor tile located in areas that may become slippery when wet shall have a **non-slip** impervious surface. The tile must meet a coefficient of friction of 0.5 to 0.6 using a wet/dry test.
2. Porcelain Tile: shall have a Water Absorption Rate of 0.5% or less, shall have Abrasion Resistance of IV or V, shall have a Hardness on the Moh's Scale of 7 to 9. Tiles shall be Rectified (mechanically ground edges) with 1/8" grout lines.
3. Thin set adhesive per manufacturers recommendations and specification standards of 'The Tile Council of America' and meeting the Low-Emitting requirements of Specifications Section 07900.
4. Marble: Window stools shall be Georgia or Alabama White domestic marble, cultured marble, or an approved, comparable product, unless specified otherwise on the drawings.
5. Waterproofing Membrane: Laticrete 9235 waterproofing membrane in combination with Laticrete Reinforcing Membrane installed in accordance with manufacturer's recommendations.
6. Mortar: Laticrete 4237 latex Thin Set Mortar Additive with Laticrete 211 Crete Filler Powder.
7. Grout: Laticrete Spectra Lock Pro Grout in color selected by the Architect.

3.01 EXECUTION

A. Inspection of Surfaces:

1. Examine surfaces to receive tile, cement substrate backing board, setting beds, pressure treated wood blocking for mounting of toilet accessories and grab bars and accessories, before installation begins.
2. Tile contractor shall be responsible for preparing installed cement backing board including taping of joints and mortar skimming of all faces to a true and level surface prior to installation of any ceramic tile.
3. Walls to receive ceramic tile shall not be out of level and true planes more than 1/8" in 24 inches.
4. Do not proceed with installations until unsatisfactory conditions are corrected.

B. Product delivery, storage and handling: Deliver all manufactured materials in original, unbroken containers bearing name of manufacturer, brand and grade seals. Keep materials dry, clean, and protected against deterioration in any form.

C. Installation:

1. Layout all work so that where possible no tiles less than half size occur. In any event install no half tiles above first course up from the bottom or away from first vertical course at internal and external corners. Align all joints, vertically and horizontally. Cut and drill neatly without marrying tile. Rub smooth any necessary cuts with a fine stone and set no cut edge against any fixture, cabinet, or other tile without a joint at least 1/16" wide. Cut, fit, adjust, and establish tiles neatly and accurately to accommodate accessories, interruptions, chases, returns, mechanical and electrical outlets, and finish at their exact location (as determined by jobsite conditions). Maximum variation shall be plus-or-minus- 1/8" in 2 feet when straight edge is laid on the surface in any direction.
2. Provide all required trim pieces as detailed for the various tiles specified.
3. All floor and wall tile to be set using thin-set products as called out in this section. Utilize proper admixes for exterior installations and frost proof applications. When installing porcelain tile utilizing modified thinset, adhere to guidelines stipulated in ANSI 118.4.
4. Thoroughly wash out joints and saturate with clean water before grouting. Thoroughly grout into all joints to fill entire length and depth. Fill flush with face of tiles making a neatly finished, smooth surface. Prevent staining of grouted joints by applying a clear sealer to all exposed grout joints.

5. Provide preformed metal control joints at door openings and sufficient to isolate maximum areas of 25' X 25'. Color of control joint preformed infill to match the selected grout.
6. Installation of **waterproofing membrane** shall be behind all tiles, full height and full width within showers or areas subject to periodic washdown or wetting as scheduled maintenance. Utilize materials as specified within this section. Insure proper slopes to floor drains. Insure the membrane is installed continuous into drain or adjacent to drains utilizing a perimeter weep hole design. Wall membrane laps over the shower pan membrane. Do not penetrate the membrane with any fasteners within 24 inches above the finished floor tile. Test shower receptor and drainage fitting for leaks before commencing tile work. When installation of grab bars is required, set all concealed stainless steel fasteners in a bed of waterproof white sealant conforming with the Low Emitting requirements in Specifications Section 07900.

3.02 CLEANING AND PROTECTION

- A. Wipe surfaces clean after grouting, remove all traces of mortar and grout. Do not use acid solution for cleaning glazed tile.
- B. Close spaces to traffic or other work until tile is firmly set. Protect all work from damage at no additional cost to Owner.

*****END OF SECTION*****

SECTION 09510 - LAY IN PANEL CEILINGS (See schedule next page)

A. GENERAL

1. Acceptable Manufacturers:

a. Grid System: Chicago Metallic Corporation
Donn Corporation
U.S. Gypsum Corp.
W.J. Haertel Division; Leslie-Locke
National Rolling Mills Company
Armstrong Ceilings

b. Lay-in-Panels: Celotex
Armstrong
Conwed
U.S. Gypsum

2. Product delivery storage and handling: Store materials in protective packaging to prevent soiling or physical damage.

B. PRODUCTS

1. Lay-in Panels: **As per the attached schedule included in this specification section**, or an approved equal.

2. Grid Systems: With all components conforming to the requirements of ASTM C-635 in a low-sheen, baked-on white enamel finish or in a color and material to be selected by the Architect. See the plans for a complete description.

3. Perimeter Molding: Channel formed, of not less than 22-gauge steel, 1" horizontal exposed face with exposed edge hemmed; low sheen, baked-on white enamel finish or in a color to be selected by Architect.

4. Suspension System:

a. Hangers: Annealed zinc-coated wire #12 gauge or heavier.

b. Carrying Channels: 1-1/2" x 3/4" x #16 gauge for greater spans.

C. EXECUTION

1. Condition of Surfaces: Examine surfaces scheduled to receive suspended or directly attached lay in panels for unevenness, irregularities that would affect quality or execution of work. Install ceiling system in strict accordance with the manufacturers printed specifications.

2. Cleaning: Clean soiled units after installation.

3. Remove and replace damaged or improperly installed units.

SCHEDULE OF SELECTED CEILINGS:

Location	Type	Lay In Panel & Grid
Typical Throughout	I	ARMSTRONG 24" X 48" X 7/8" Cirus Open Plan 583 Beveled Tegular, Class – A, with 9/16" silhouette bolt slot grid
Kitchen EMS Storage P.P.E. Men Women Unisex Restroom Laundry/Facilities Storage D-Con Room	II	ARMSTRONG 24" X 48" X 5/8", 608 Ceramaguard lay-in edge with 15/16" profile. Grid – 15/169"

*****END OF SECTION*****

SECTION 09624 – RESILIENT RUBBER FLOORING IN FITNESS ROOMS

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

Work under this section is subject to the provisions of the contract documents which in any way affect the work specified herein.

1.02 SCOPE

Provide all resilient rubber flooring and adhesive as indicated on the plans and scheduled in the specifications.

PART 2 – PRODUCTS

2.01 MATERIALS

A. Resilient rubber flooring shall have the following minimum requirements:

1. be compounded to sufficient density to preclude the possibility of creeping, stretching, or shrinking under traffic.
2. have optimum resiliency.
3. have coloring matter of the highest quality and all pigments shall be insoluble in water and non-bleeding.
4. have thickness with tolerances of (-) .005 inch or (+) 0.015 inch.
5. have a hardness not to exceed 70 when tested by a Shore A durometer test.
6. be 3/8 inch thick and in square tiles 27" X 27".
7. be Tuflex resilient rubber flooring as manufactured by Rubber Products, Inc., 4521 W. Crest Ave., Tampa, Florida 33614, Ph: 1-800-543-0390.

B. Technical Data (Typical Properties):

Composition: 100% recycled elastomers

Physical Properties **Results**

- | | |
|---|---------------|
| 1. Hardness-Shore A (ASTM D-2240) | 60 +/- 5pts |
| 2. Taber Abrasion (ASTM C-501-1kg. wt. 7000 cycles) | 4.0% wt. loss |

3. Tear Resistance (ASTM D-624)	93 +/- 15 lbs/in
4. Tensile Strength (ASTM D-412)	525 +/- 100psi
5. Elongation (ASTM D-412)	130% +/- 25%
6. 100% Modulus (ASTM D-412)	390 +/- 50 psi
7. Compression Set (ASTM D-395 method B)	6.0% +/- 1%
8. Ozone Resistance (ASTM D-1149-50pphm, 70 hrs. @ 104 degrees F, Bent Loop Method)	Pass
9. Impact Resilience (ASTM D-2632)	32.0% Rebound
10. Coefficient of Friction (ASTM D-2047)	1.20 dry or wet
11. Critical Radiant Flux (ASTM E-648 class II)	0.25 watts per sq. cm.
12. Specific Gravity	1.14 +/- 0.03
13. Acoustic Properties	0.60 Sound Abs. Coef.
14. Stain Resistance	Good
15. Chemical Resistance	Good
16. Spike/Skate Traffic	Excellent

PART 3 – EXECUTION

3.01 INSTALLATION – TUFLEX RUBBER FLOORING

- A. Specific instructions for installation must be followed as described on the cans of adhesive and in the manufacturer’s instruction manual.
1. Material shall be installed by a qualified installer.
 2. Acceptance of Surfaces: No tile shall be installed if variation of the subfloor exceeds 1/8 inch in any direction when tested with a ten-foot straight edge.
 3. Temperatures: A temperature of at least 70 degrees F shall be maintained in the surrounding area and on the surface receiving the floor covering for 24 hours prior to beginning work, during installation, and for 48 hours after the installation is completed.
 4. Preparation of sub-floors: All oil, grease, wax, old floor finishes and other materials shall be removed by scraping, sanding, or scrubbing.
 5. Surfaces shall be swept clean of dust and dirt. Where detergents are used, surfaces shall be rinsed thoroughly, and time allowed for complete drying.
 - a. Wood Sub-floors: All loose flooring and protruding nailheads shall be secured. Damaged floorboards shall be replaced. All warped or uneven flooring shall be sanded to a true and even surface. All cracks over 1/8” shall be filled with plastic wood or wood stripping. Singly constructed or excessively rough floors shall be covered with plywood or masonite nailed at 4-inch intervals at edges, and 6-inch intervals from center.

- b. Concrete Sub-floors: New concrete sub-floors must be thoroughly cured before Tuflex is installed. If sub-floors are unusually smooth, an application of 50% commercial grade muriatic acid and water shall be used to etch the surface to ensure a permanent bond. Acid shall be removed after effervescence ceases and surface rinsed with clear water and allowed to dry; All cracks, expansion joints or damaged portions of the floor shall be filled with floor fill and moisture tests shall be made on all new concrete surfaces. If a curing compound is used in floor slab it shall be one that is compatible with adhesive for resilient flooring.
6. *Application of Adhesive:* Adhesive shall be applied in strict accordance with manufacturer's directions. Adhesive shall be applied with a notched trowel and in amounts not less than those recommended on labels and published instructions. Notches in the trowel shall be depth 1/8", open area 1/8", flat area 1/16", and care shall be taken to maintain full depth during the entire installation. An approved trowel is Gundlach model FOW. It is essential that the tile be applied promptly as the adhesive sets rapidly by chemical reaction. It is recommended that not more than one unit of adhesive be spread, then tile be laid promptly (approximately 70-8- square feet).
7. *Application of Flooring:* Tile for each space shall be taken from several containers and distributed evenly into one group to reduce variation in pattern. Tile shall be laid to ensure good contact with close, even joints in true and continuous alignment: it shall be carefully scribed to form a tight and neat joint with vertical surfaces. Tile shall be rolled immediately after installation with a 75-lb. sectional roller. Excessive adhesive shall be cleared from tile, while still wet, with a cloth dampened in denatured alcohol.
8. Edging Strips: Use edge strips where tile stops, and the edge is exposed.
9. Cleaning: At completion of floor covering work, all surfaces shall be thoroughly cleaned of all spots, stains, and other foreign substances with TC-1 cleaner.

3.02 SPECIAL CONSIDERATIONS

- A. Colors: Colors given in the "Color Selection Schedule" on the Interiors Drawings were selected from the manufacturer's standard color chart.
- B. Installation of Resilient Tile: Shall be deferred until all other work that might cause damage to the flooring is completed.
- C. Protection of Floor: All traffic shall be prohibited for a period of 24 hours after installation, then limited traffic for an additional 24 hours.

3.03 SUBMITTAL DATA

A. Samples:

1. 4" X 4" X 3/8" samples of each Tuflex color Pattern selected.
2. Feature strips, 9-inch sample.

B. Maintenance: Submit manufacturer's maintenance instructions for the care and maintenance of the specified live rubber tile.

C. Warranty: Submit full manufacturer's written warranty.

Tuflex Flooring products are warranted to withstand the exceptional use and conditions of the intended athletic and commercial applications described in our literature for a period of up to five (5) years from the date of original purchase. It is the responsibility of the purchaser to obtain a copy of the complete Tuflex Limited Warranty terms and conditions and to clarify any questions related to those terms prior to sale. **Any claims regarding physical defects or cosmetic appearance issues must be made prior to installation.**

***** END OF SECTION *****

SECTION 09655 - VINYL TRANSITION MOLDING

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

The bidding and Contract Documents, General Requirements and Addenda as may be issued prior to bidding, shall govern the work under this section.

1.02 DESCRIPTION

Provide vinyl transition strips wherever carpet abuts vinyl flooring systems, ceramic, quarry or porcelain flooring systems. Refer to the Interiors or Floor Plan Drawings to determine the actual model numbers specified and locations.

1.03 QUALITY ASSURANCE

Acceptable Manufacturer: Select product of the following manufacturer or approved equals:

TARKETT
JOHNSONITE
MERCER PRODUCTS COMPANY, INC.
MACKLANBURG-DUNCAN
FLEXCO COMPANY
GENOTEK

1.04 SUBMITTALS

- A. Literature: Submit manufacturers specifications and installation instructions for each type of material specified.
- B. Samples: Submit samples of all materials specified in this Section for approval and color selection.
- C. Maintenance Data: Furnish list of recommended maintenance methods and procedures.

1.05 PRODUCT HANDLING

Deliver and store on the site in original containers with seals unbroken and labels intact until time of use.

1.06 ENVIRONMENTAL REQUIREMENTS

Temperature of the rooms shall be 70 F. (21 C.) minimum for 24 hours prior to

installation, during installation, and for 48 hours after installation.

PART 2 - PRODUCT

- 2.01 Shall consist of 100% first quality homopolymer vinyl accessories to act as an edge trim or transition between dissimilar flooring materials. All trim shall meet the requirements of the ADA sections 4.5.2 (changes in level) and 4.5.3 (carpet-edge trim compliance).

Colors shall be clear through as indicated on the Interior Drawings.

PART 3 - INSTALLATION

- 3.01 Pursuant to manufacturer's published instructions and RFCI "Recommended Work Procedures for Resilient Floor Coverings".
- 3.02 Lay materials true to line, level, and with tight butt and miter joints.
- 3.03 Installations shall be at interior spaces only.
- 3.04 Secure the base strips with manufacturer approved adhesives and remove all excess adhesives with approved thinners upon completion of installations.

PART 4 - WARRANTY

- 4.01 Manufacturer's full warranty shall apply.

***** END OF SECTION *****

SECTION 09730 – SEAMLESS EPOXY FLOORING

PART 1 GENERAL

1.01 SCOPE

- A. Provide all labor and materials for a seamless, decorative, epoxy flooring material, including all surface preparation, primers, and finish coats.
- B. Related work specified elsewhere:
 - 1. Concrete - Division 3
 - 2. Thermal & Moisture Protection - Division 7

1.02 ACCEPTABLE MANUFACTURER AND INSTALLER

- A. DUR-A-FLEX, Inc.
CRAWFORD LAB FLO-ROCKS
CROSSFIELD PROD. CORP. DEX-O-TEX
SELBY SELBACLAD
STONEHARD, Inc. STONESHIELD HRI
VALSPAR Corp: QUARTSITE
- B. Installer shall be a manufacturer's approved installer, who has the technical qualifications, current and certified in writing, and the facilities to install the specified systems.

1.03 DELIVERY AND STORAGE

- A. Material shall be delivered to job-site in clean, clearly labeled containers and inspected by installer prior to start of the job.
- B. Material shall be stored in a dry, enclosed area protected from the elements. Temperatures of storage area shall be kept between 60 degrees and 90 degrees F.

1.04 ENVIRONMENTAL REQUIREMENTS

- A. New concrete shall be cured no less than 28 days under good conditions. Concrete subfloors on or below grade shall be properly equipped with vapor barriers and perimeter drains.
- B. Adequate utilities, including electric, water, heat (between 60 degrees and 90 degrees F.) and lighting of no less than 80 ft. Candles measured at floor surface to be supplied by the General Contractor.

Specifier Note: Heat and light are extremely important parts of the installation. Usually these utilities are functioning before epoxy finishes are scheduled for installation, however in some cases the epoxy coating shall be installed prior to equipment, fixtures and even walls in some cases. Lack of these necessities can and will spoil a good installation. Without heat the curing process can be extended or even stopped. Without adequate light even the best mechanic cannot provide a

quality finish.

- C. Work area shall be free of other trades during, and for a period of 24 hours, after floor installation.
- D. Protection of finished floor from damage by subsequent trades is the responsibility of the General Contractor.

1.05 WARRANTY

- A. Contractor to submit a (one) year warranty against defects in materials and workmanship upon acceptance of the finished product and Certificate of Occupancy by the Owner.

PART 2 PRODUCTS

2.01 PRODUCT DESCRIPTION

- A. The installed product **shall be 3/16" thick** DUR-A-QUARTZ multiple-component, decorative, institutional flooring system, by DUR-A-FLEX, Inc., or an approved equal in **standard non-skid** surface texture.

2.02 PHYSICAL PROPERTIES

- A. Physical Properties - (DUR-A-QUARTZ "BM" EPOXY FLOORING)
 - Mix Ratio (Dur-A-Glaze #4).1 part Hardener, 2 parts Resin.
 - Pot Life....Approximately 22 minutes at 70 degrees F*.
 - Hardness, Shore D....ASTM D-2240...75-80.
 - Compressive Strength...ASTM D-695...17,500 psi.
 - Tensile Strength...ASTM F-638...4,000 psi.
 - Tensile Elongation....ASTM D-638...7.5%.
 - Flexural Strength...ASTM D-790...6,250 psi.
 - Linear Shrinkage....ASTM D-2566...0.02%.
 - Coefficient of Linear Expansion...12 degrees F. to 140 degrees F.
 - In./in./degrees F....ASTM D-696...20 X 10-6.
 - Bond Strength to Concrete....ACI-403...335 psi, concrete fails.
 - Shear from Steel Plate....MIL D-3134...no cracking or delamination.
 - Indentation....MIL D-3134...025.
 - Impact Resistance...MIL D-3134...no cracking or delamination.
 - Elevated Temperature...MIL D-3134...no slip or flow.
 - Water Absorption....ASTM D-570...0.04%.
 - Electrical Conductivity....non-conductive.
 - Flammability....ASTM D-635...self-extinguishing.
 - Abrasion Resistance Taber Abrader...CS-17 wheels, 2000 gm. Load, 1000 cycles...avg. 24.0 mg. loss.
 - Toxicity....non-toxic, USDA approved.

* Pot Life is shorter at higher temperatures. Do not use below 50 degrees F. or above 95 degrees F. Note: Chemical & stain resistance can be improved by using Poly-Thane #2 as a topcoat(s). Scratch resistance can be improved by using Dur-A-Thane or Dur-A-Glaze #2 as a topcoat(s).

2.2 PRODUCT PACKAGING

- A. All materials used shall be precision mixed on site with manufacturer supplied mix and measure apparatus to ensure a timely, accurate mix ratio and minimize waste.

PART 3 EXECUTION

3.01 PREPARATION

- A. Concrete preparation to include use of a steel shotblast machine or a solution of muriatic acid to create a profiled substrate, combined with “dust-free” diamond grinding for all edges and areas where shotblast machine is unable to reach.

Specifier Note: For maximum bond strength, steel shotblasting is always recommended.

3.02 PRODUCT INSTALLATION

- A. **COLORS:** Q28 Colored Quartz Aggregate is available in 21 standard colors. As selected by Architect.
- B. **THICKNESS:** 1/8” for moderate traffic i.e.: corridors, 3/16" thick for heavy traffic ie: restroom and kitchens, or to fill and level eroded concrete. See Article 2.01 for thickness required for this project.
- C. **LIMITATIONS:** Substrate and ambient temperature must be higher than 50 degrees F during the installation and curing period. Eroded or spalled areas must be “filled and leveled” with an epoxy grout composed of Dur-A-Glaze #4 and aggregate.
- D. **SURFACE PREPARATION:** Surface must be dry and perfectly clean, free of all oil, grease, detergent film, sealers and/or curing compounds in accordance with Dur-A-Flex, Inc., preparation guidelines.
- E. **APPLICATION PROCEDURE and SPREAD RATES:** Troweled application and broadcast is acceptable or a Double Broadcast application is acceptable with either yielding a uniform appearance. Either application must achieve the specified 1/8" to 3/16" thickness called out in Article 2.01.

Procedure is as follows:

1. Prepare the surface as recommended.
2. Apply Dur-A-Glaze #4 at approximately 100 sq. Ft. per gallon.

3. Broadcast Q28 Colored Quartz at approximately ½ lb. per sq. foot.
4. Let cure. (Cure times vary depending on hardener selection, from 2 to 10 hours.)
5. Sweep up excess sand.
6. Apply Dur-A-Glaze #4 at approximately 100 sq. ft. per gallon. This application serves as a base coat for a second broadcast.
7. Broadcast Q28 Colored Quartz at approximately ½ lb. per sq. foot.
8. Repeat steps 4 & 5.
9. Apply first top coat of Dur-A-Glaze #4 at 100-125 sq.ft. per gallon.
10. Let Cure.
11. Apply second topcoat of Dur-A-Glaze #4 at 200-250 sq.ft. per gallon, or any Dur-A-Flex high performance topcoat such as Poly-Thane #2, Dur-A-Thane or Dur-A-Glaze #2 at 200-300 sq. ft. per gallon.

NOTE: One top coat is generally sufficient where a high degree of non-skid is required such as a shower room. For shower and bathroom installations, provide only one coat of top coat material to insure a **non-skid** surface.

3.03 DETAILS

- A. Moving cracks and joints shall be thoroughly routed and vacuumed clean, then filled with DUR-A-FILLER #2.
- B. Surface deviations to be pre-patched with patching compound comprised of DUR-A-GLAZE #4 and No-Sag #2 or Q28 Quartz.
- C. A 4" **integral cove base** is to be installed at perimeter walls.
- D. Prime surface with Elast-O-Coat membrane as per manufacturer's recommendations.

*****END OF SECTION*****

SECTION 09900 - PAINTING

1.01 GENERAL

1. Submittals:

- a. In addition to manufacturer's data, application instructions, and label analysis for each coating material, submit samples for Architect's review of color and texture only. Resubmit samples if requested until required sheen, color and texture is achieved. Submittals must also include material requirements data per Article 1.08.
- b. On 8" x 8" hardboard, provide two (2) samples of each color and material, with texture to simulate finish conditions.
- c. On wood surfaces provide two (2) 4" x 8" samples for natural and stained wood finish.
- d. On actual wall surfaces and other building components, duplicate painted finishes of acceptable samples, for approval by the Architect.

1.02 DESCRIPTION OF WORK

1. Painting and finishing of interior and exterior items and surfaces, unless otherwise indicated.
2. Paint exposed surfaces, except as otherwise indicated, whether or not colors are designated. If not designated, colors will be selected by Architect from standard colors available for the coatings required.
3. Work Not Included: Unless otherwise indicated, shop priming of ferrous metal items and fabricated components are included under their respective trades. Unless otherwise indicated, painting not required on surfaces of concealed areas. Finished metals such as anodized aluminum, stainless steel, bronze, and specialty metals will not be painted. Do not paint any moving parts of operating units, or over any equipment identification, performance rating, name or nomenclature plates or code-required labels.

1.03 DELIVERY AND STORAGE

1. Deliver materials to job site in new, original, and unopened containers bearing manufacturer's name, trade name, and label analysis. Store where indicated in accordance with manufacturer's instructions.

1.04 PROTECTION:

1. Protect work of other trades. Correct any painting related damage, by cleaning, repairing or replacing, and refinishing, as directed by Architect.

1.05 PROJECT CONDITIONS:

1. Apply paints only when temperature of surfaces to be painted and ambient air temperatures are between 50 and 98 degrees. Do not apply paints in rain, fog or mist; when relative humidity exceeds 95 percent; at temperatures less than 5 degrees F above the dew point; or to damp or wet surfaces.
2. Provide finish coats which are compatible with prime paints used. Provide barrier coats over incompatible primers where required. Notify Architect in writing of anticipated problems using specified coatings with substrates primed by others.
3. Surface Conditions: Apply paint and coatings when the following surface conditions have been met:
 - a. Interior Drywall - 12% maximum moisture content.
 - b. Exterior Stucco and Cementitious Wall Panels- 12% maximum moisture content.
 - c. Exposed Wood, Wood Doors, Wood Trim- 15% maximum moisture content.

1.06 EXTRA MATERIALS:

1. Provide a minimum of 1 gallon of each material and color of paint as materials applied that are packaged and stored with identification labels describing contents.

1.07 SURFACE PREPARATION:

1. Perform preparation and cleaning procedures in strict accordance with coating manufacturer's instructions of each substrate condition.
2. Remove hardware and accessories, machined surfaces, plates, lighting fixtures and similar items in place that are not to be finish-painted or provide surface-applied protection. Re-install removed items and remove protective coverings at completion of work.
3. Seal all wood required to be job-painted. Prime edges, ends, face, undersides and backsides of counters, cases, fascias, soffits, cabinets, counters, etc.

4. Back-prime with one coat on interior paneling only where masonry, plaster, or other wall construction occurs on backside.
5. Seal tops, bottoms, and cut-outs of wood doors with heavy coat of quick drying sealer immediately upon delivery to job. Do not paint door UL Labels.

1.08 MATERIAL REQUIREMENTS:

1. Paints and coatings used on the interior of the building (i.e., inside of the weatherproofing system and applied on site) must comply with the following criteria as applicable to the project scope:
 - a. Architectural paints and coatings applied to interior walls and ceilings must not exceed the volatile organic compound (VOC) content limits established in Green Seal Standard GS-11, Paints, 1st Edition, May 20, 1993.
 - b. Anti-corrosive and anti-rust paints applied to interior ferrous metal substrates must not exceed the VOC content limit of 250 g/L established in Green Seal Standard GC-03, Anti-Corrosive Paints, 2nd Edition, January 7, 1997.
 - c. Clear wood finishes, floor coatings, stains, primers, sealers and shellacs applied to interior elements must not exceed the VOC content limits established in South Coast Air Quality Management District (SCAQMD) Rule 1113, Architectural Coatings, rules in effect on January 1, 2004.

1.09 MATERIAL PREPARATION:

1. Mix, prepare, and store painting and finishing materials in accordance with manufacturer's directions.

1.10 APPLICATION:

1. Apply painting and finishing materials in accordance with manufacturer's directions. Use applicators, and techniques best suited for materials and surfaces to which applied, but in no case will spray application be used unless approved by Architect.
2. Apply additional coats when undercoats, stains, or other conditions show through final paint coat, until paint film is of uniform finish, color and appearance.
3. Paint surfaces behind movable equipment same as similar exposed surfaces. Paint surfaces behind permanently fixed equipment with prime coat only before equipment is installed.
4. Finish exterior doors on tops, bottoms and edges same as exterior faces, unless otherwise indicated. Do not paint door UL Labels.
5. Sand lightly between succeeding enamel, urethane or varnish coats.

6. Omit first coat (primer) on metal surfaces which have been shop-primed and touch-up painted, unless otherwise specified.
7. Apply prime coat to material which is required to be painted or finished, and which has not been prime coated by others.
8. Apply each material at not less than the manufacturer's recommended spreading rate, to provide a total dry film to thickness of not less than 4.0 mils for entire coating system of prime and finish coats for (3) coat work.
9. Provide a total dry film thickness of not less than 2.5 mils for entire coating system of prime and finish coat for two (2) coat work.

1.11 COMPLETED WORK:

1. Match approved samples for color, texture and coverage. Remove, finish or repaint work not in compliance with specified requirements.

1.12 TOUCHING UP AND CLEANING:

1. Upon completion, all touching up as required shall be done and paint removed from all surfaces which are not specified to receive paint.

1.13 PAINT, GENERAL:

1. Material Compatibility:
 - a. Provide materials for use within each paint system that are compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
 - b. For each coat in a paint system, provide products recommended in writing by manufacturers of topcoat for use in paint system and on substrate indicated.

1.14 PAINTING SCHEDULE

The following paints specified shall be manufactured by one of the following manufacturer's or an approved, comparable product:

Benjamin Moore Paints
Sherwin Williams Paints
Porter Paints
Devoe Paints
MAB Paints
ICI Paints

Armourcoat, USA

NOTE: Color selections to be by the Owner, the Architect, and/or the Interior Designer. See Finishes Schedule on the plans for location of paint. When more than five (5) colors are selected for interior or for exteriors, a painting upcharge shall be negotiated prior to application of paints.

- A. Exterior wood Trim, Wood Siding, Wood Fascias & Soffits, Etc.: One (1) coat sealer primer on all faces and edges
Two (2) coats Benjamin Moore Exterior Acrylic Latex paint on exposed surfaces.
- B. Interior Drywall: Two (2) coats Benjamin Moore Regal AquaVelvet Eggshell (319) over base sealer coat. Specialty finishes may apply also.
- C. Galvanized Metal: One (1) coat Benjamin Moore Galvanized Iron Primer. Two (2) coats Benjamin Moore Meta-lastic Paint.
- D. Metal Surfaces: Structural Steel Beams & Columns, Wall girts, Roof purlins, Fire Sprinkler Riser Assemblies, Steel Trusses, Steel Tanks:

Exterior Exposed – Two (2) coats Benjamin Moore Retard-X Rust Inhibitive Latex Primer 162 over the shop delivered primer, welds and bolts. Allow a minimum of 4 hours between coats. Finish with two (2) coats Benjamin Moore Eggshell alkyd house paint 108.

Interior Exposed – Same applications but one (1) coat only of latex Primer 162.

NOTE: All galvanized metal to be washed with mineral spirits to remove any oil.

- E. Exterior Stucco and Cementitious Wall Panels: finish. One (1) coat Benjamin Moore Masonry sealer. Two (2) coats Benjamin Moore Latex, or Acrylic Latex paint.
- F. Steel Doors & Frames: Spot prime any scratches in factory primer with Benjamin Moore Iron Clad Rust Inhibiter Red Oxide. Finish with (2) coats Benjamin Moore oil based or water based enamel, (semi-gloss).
- G. Wood Doors and (When Finish Schedule calls for Painted): Trim (Interior) One (1) coat sealer primer. Two (2) coats Benjamin Moore oil based enamel, (semi-gloss).
- H. Wood Doors and (When Finish Schedule calls for Sealed): Trim (Interior) Three coats of Satin Finish clear urethane, lightly sanded between coats.
- I. Interior Aluminum or Steel Handrails: One coat metal primer and two coats shop applied industrial enamel, or factory powder coating, (both gloss finish).

- J. Exposed finish Grade Concrete Block: One coat block filler and sealer primer. Specialty Paint, two (2) coats acrylic latex, over primer in accordance with the Manufacturers Specifications.
- K. Exterior Aluminum Tubing, Handrails, Guardrails, Caps, Cast Trim and Frames: Powder coated after completed fabrication and assembly and prior to installation. Powder Coat RAL standard color as specified on Architectural Details.
- L. Exterior Architectural Masonry Units (such as decorative split faced, split ribbed, and smooth faced colored block, and any manufactured stone such as Herpel), including the mortar used to set the units, shall be sealed with a water repellent-anti graffiti coating after installation and cleaning of all block faces.
EXCEPTION: If the block manufacturer supplies an integral water repellent admixture in their block and a water repellent is added to the grout (mortar) during installation, then no exterior sealer is required.
- M. Toilet Room Walls: Apply water base epoxy coating full height on the wall materials scheduled in toilet rooms/bathrooms, to achieve an impervious finish.

NOTE: DO NOT APPLY EPOXY PAINTS TO ANY INTERIOR FACES OF BARE BLOCK AT MASONRY EXTERIOR WALLS. UTILIZE LATEX PAINTS WITH BREATHABILITY OF 1 PERM OR GREATER.

- 1. **ON INTERIOR MASONRY** - Semigloss Finish using Sherwin Williams Paints.
 - a. **1st coat:** S-W KEM CATI-COAT EPOXY FILLER/SEALER B42 WA8/B42 WA9 (87-108 sq. ft./gal @ 8-10 mild dry).
 - b. **2nd coat:** S-W Water Based Catalyzed Epoxy B70/B60 V25.
 - c. **3rd coat:** S-W Water Based Catalyzed Epoxy B70/B60 V25, (8mils wet, 3 mils wet per coat).
- 2. **ON DRYWALL** - Semi-Gloss Finish using Sherwin Williams Paints.
 - a. **1st coat:** S-W PrepRite 200 Latex Primer, B28W200, (4 mils wet, 1.2 mils dry).
 - b. **2nd coat:** S-W Heavy Duty Epoxy, B67 Series/B60 V3. (3 mils dry per coat)
 - c. **3rd coat:** S-W Heavy Duty Epoxy, B67 Series/ B60 V3. (3 mils dry per coat)

- N. Stained Concrete Floors when called for on Finish Schedule: Two coats solid color stain material as per Specification Section 09940. Apply over a clean, cured, dry, dirt and dust free, lightly broomed finished concrete slab. Color as selected by the Architect. Make a special effort to never apply concrete sealers to any surface to receive concrete stains.

- O. Specialty Coatings, when scheduled on the Interior Finish Schedule, shall be placed in accordance with manufacturer's specification for application and protected until the project is occupied by the end user.

- P. Specialty coatings approved, when scheduled on the interiors include:
 - a. Amourcoat
 - b. Polymix

***** END OF THIS SECTION*****

SECTION 10155 - SOLID PLASTIC TOILET PARTITIONS

PART I - GENERAL

1.01 RELATED DOCUMENTS

Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to work of this section.

1.02 SUMMARY

Extent of toilet partitions as indicated on drawings.

Types of toilet compartments include: 1" thick, solid plastic (polymer) homogenous in color.

Styles of toilet compartments include: Floor-anchored, overhead braced, with integral hinge system.

Styles of screens include: Floor-anchored, wall hung, and overhead braced.

Toilet accessories, such as toilet paper holders and grab bars, are specified elsewhere in Section 10800.

1.03 SUBMITTALS

- A. Product Data: Submit manufacturer's detailed technical data for materials, fabrication, and installation, including catalog cuts of anchors, hardware, fastenings, and accessories.
- B. Recycled Content: Indicate recycled content; indicate percentage of pre-consumer and post-consumer recycled content per unit of product.
- C. Local/Regional materials: Indicate location of manufacturing facility; indicate distance between manufacturing facility and the project site.
- D. Submit environmental data in accordance with Table 1 of ASTM E2129 for products provided under work of this section.
- E. Verify that plastic products to be incorporated into this Project are labeled in accordance with ASTM D1972.
- F. Shop Drawings: Submit shop drawings for fabrication and erection of toilet partition assemblies not fully described by product drawings, templates, and instructions for installation for installation of anchorage devices built into other work. Backing in walls and ceilings supplied under Section 06100.

- G. Samples: Submit full range of color samples for each type of unit required. Submit 6" square samples of each color and finish on same substrate to be used in work, for color verification after selections have been made.

1.04 QUALITY ASSURANCE

- A. Field Requirements: Take field measurements prior to preparation of shop drawings and fabrication where possible, allowing for acceptable tolerances, to ensure proper fittings of work.
- B. Coordination: Furnish inserts and anchorages which must be built into other work for installation of toilet partitions and related work; coordinate delivery with other work to avoid delay.
- C. Regulatory Requirements: Conform to ANSI A117.1 and FBC Chapter 11 codes for access for the handicapped operation of toilet compartment door and hardware and screens for urinal access.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

Manufacturer: Subject to compliance with requirements, provide products of one of the following:

Accurate Partitions Div., U.S. Gypsum Co.
Bobrick Washroom Equipment, Inc.
Santana Products Company
AMPCO, Hialeah, FL
Capitol Partitions, Inc.
Global Steel Products Corporation
Rockville Partitions Inc.
Columbia Partitions, a division of PSISC

2.02 MATERIALS

- A. General: Provide materials that have been selected for surface flatness and smoothness. Exposed surfaces that exhibit pitting, seam marks, roller marks, stain, discoloration, telegraphing of core material, or other imperfection on finished units are not acceptable.
- B. Solid Plastic: High Density Polyethylene (HDPE) with homogenous color throughout. Provide material not less than 1" thick, seamless construction with edges eased to a radius of .250".
 - 1. Recycled Content: Minimum 20% post-consumer recycled content OR a

minimum of 40% pre-consumer recycled content at Contractor's option.

- C. Pilaster Shoes: ASTM A 167, Type 302/304 stainless steel, not less than 3" high, 20-gauge, finished to match hardware. Anchor to finish floor with plastic anchors and #14 X 1 1/2" star head security pin, stainless steel screws.
- D. Stirrup Brackets: Manufacturer's standard design for attaching panels to walls and pilaster, either chromium-plated non-ferrous cast alloy ("Zamac") or anodized aluminum. Continuous stirrups required.
- E. Edging Strips: Anodized aluminum.
- F. Hardware and Accessories: Manufacturer's standard design, heavy-duty operating hardware and accessories of chromium-plated non-ferrous cast alloy ("Zamac").
- G. Wall Brackets: Full length, continuous, (6063-T Alloy) with mill finish weighing not less than .822 lbs. per linear foot. Wall brackets shall be pre-drilled by manufacturer with holes spaced every 6" along full length of brackets. Wall brackets shall be thru-bolted to panels and pilaster with one-way anti-theft bolts. Attachment of brackets to adjacent wall construction shall be accomplished by (1) theft proof Zamac mushroom nail in head anchor directly behind the vertical edge of panels and pilasters at every 12" along the full length of bracket and (2) No. 5 plastic anchors and No. 14 x 1 1/4" stainless steel phillips head screws at each 12" interval alternately spaced between anchor connections.
- H. Headrail: Shall be heavy aluminum extrusion (6063-T6 Alloy) with mill finish in anti-grip configuration weighing not less than 1.88 lbs. per linear foot. Headrail shall be fastened to tops of pilasters and headrail brackets by thru-bolting with star-head security pins, stainless steel barrel bolts (no cadmium plated bolts will be accepted).
- I. Headrail Brackets: Shall be of 16 or 18-gauge stainless steel.
- J. Anchorages and Fasteners: Unless otherwise indicated, use manufacturer's standard exposed fasteners of stainless steel, with theft-resistant type heads and nuts.

2.03 FABRICATION

- A. General: Furnish standard doors, panels, screens, and pilasters fabricated for partition system, unless otherwise indicated. Furnish units with cutouts, drilled holes, and internal reinforcement to receive partition-mounted hardware, accessories, and grab bars, as indicated.
- B. Door Dimensions: Unless otherwise indicated, furnish 24" wide inswinging doors for ordinary toilet stalls and 32" to 36" wide (clear opening) outswinging or inswinging doors at stalls equipped for use by handicapped. See plans for sizes

and configurations of stall components.

- C. Doors: Fabricated 55" in length to be mounted 13" A.F.F. with edging strip fastened to full bottom edge unless stipulated otherwise on interior elevations.
- D. Pilasters: 82" high and fastened to floor and to wall brackets with pilaster shoes.
- E. Overhead-Braced Partitions: Furnish galvanized steel supports and leveling bolts at pilasters, as recommended by manufacturer to suit floor conditions. Make provisions for setting and securing continuous extruded aluminum anti-grip overhead-bracing at top for each pilaster. Furnish shoe at each pilaster to conceal supports and leveling mechanism.
- F. Floor-Supported Screens: Furnish pilasters not less than 1" in thickness, panels and pilasters of same construction and finish as toilet partitions. Furnish specified anchorage devices, complete with threaded rods, lock washers, and leveling adjusting nuts at pilasters, to permit structural connection to floor. Furnish shoe at pilaster to conceal anchorage.
- G. Hardware: Furnish hardware for each compartment partition system, as follows:
- H. Hinges: Heavy aluminum extrusion (6063-T6 Alloy) with bright dip anodized finish with wrap around flanges, and thru-bolted to doors and pilasters with one-way anti-theft bolts. Hinges will be factory set to a full close position unless otherwise noted. (Recessed flush mounted hinges not acceptable).
- I. Door Pull: Heavy chrome plated Zamac. Include wall stop in handicapped stall.
- J. Coat Hook/Bumper: Heavy chrome plated Zamac with rubber bumper.
- K. Door Strike and Keeper: Heavy aluminum extrusion (6063-T6 Alloy) with bright dip anodized finish with wrap-around flange surface, mounted, and thru bolted to pilaster with one-way anti-theft bolts.
- L. Door Latch Housing: Heavy aluminum extrusion (6063-T6-Alloy) with bright dip anodized finish surface mounted and thru-bolted to door with one-way ant-theft bolts. Slide bolt and bottom shall be heavy aluminum with "Tough-Coat Black" finish.

2.04 FINISHES

- A. Surface: Of all Polymer Resin components to be similar and equal to "Plasti-Glaze 280" by Santana products Co., or approved manufacturer listed. Colors are to be selected from manufacturer's standard colors by Architect and confirmed during the submittal process with a maximum of two colors.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. **General:** Comply with manufacturer's recommended procedures and installation sequence. Install partitions rigid, straight, plumb, and level. Provide clearances of not more than 1/2" between pilasters and panels, and not more than 1" between panels and walls. Secure panels to walls with not less than two stirrup brackets attached near top and bottom of panel. Locate wall brackets so that holes for wall anchorages occur in masonry or tile joints. Secure panels to pilasters with not less than two stirrup brackets located to align with stirrup brackets at wall. Secure panels in position with manufacturer's recommended anchoring devices.
- B. **Overhead-Braced Partitions:** Secure pilasters to floor and level, plumb, and tighten installation with devices furnished. Secure overhead-brace to each pilaster with not less than two fasteners. Hang doors and adjust so that tops of doors are parallel with overhead-brace when doors are in closed position.
- C. **Screens:** Attach with concealed anchoring devices, as recommended by manufacturer to suit supporting structure. Set units to provide support and to resist lateral impact.

3.02 ADJUST AND CLEAN

- A. **Hardware Adjustment:** Adjust and lubricate hardware for proper operation. Set hinges on inswinging doors to hold open approximately 30 degrees from closed position when unlatched. Set hinges on outswinging doors (and entrance swing doors) to return to fully closed position.
- B. **Cleaning:** Clean exposed surfaces of partition system using materials and methods recommended by manufacturer, and provide protection as necessary to prevent damage during remainder of construction period.

*****END OF SECTION*****

SECTION 10200 - LOUVERS AND VENTS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including general and Supplementary Conditions and Division-1 Specification sections, apply to work of this section.

1.02 DESCRIPTION OF WORK

- A. Extent of louvers and vents is indicated on drawings, including indications of sizes and locations.
- B. Types of louvers and vents include the following: Extruded aluminum louvers.
- C. Sealants including installation are specified in Division 7.
- D. Air-handling louvers connected to ductwork are specified in Division 15.
- E. Louvers in hollow metal doors and frames are specified in Division 8.

1.03 QUALITY ASSURANCE

- A. Performance Requirements: Provide louvers with AMCA Certified Ratings Seal evidencing that product complies with AMCA Standard 500.
- B. Comply with SMACNA "Architectural Sheet Metal Manual" recommendations for fabrication, construction details and installation procedures, except as otherwise indicated.
- C. Field Measurements: Verify size, location and placement of louver units prior to fabrication, wherever possible.
- D. Shop Assembly: Coordinate field measurements and shop drawings with fabrication and shop assembly to minimize field adjustment, splicing, mechanical joints and field assembly of unit. Preassemble units in shop to greatest extent possible and disassemble as necessary for shipping and handling limitations.

1.04 SUBMITTALS

- A. Product Data: Submit manufacturer's specifications; certified test data, where applicable; and installation instructions for required products, including finishes.
- B. Shop Drawings: Submit shop drawings for fabrication and erection of louver units and accessories. Include plans, elevations and details of sections and connections to

adjoining work. Indicate materials, finishes, fasteners, joinery and other information to determine compliance with specified requirements.

- C. Samples: Submit 6" square samples of each required finish. Prepare samples on metal of same gauge and alloy to be use in work. Where normal

Color and texture variations are to be expected include 2 or more units in each sample showing limits of such variations.

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

- A. Manufacturer: Subject to compliance with requirements, provide products of one of the following:
1. Airline Products Co.
 2. The Airolite Co.
 3. American Warming & Ventilating Co.
 4. Construction Specialties, Inc.
 5. Industrial Louvers, Inc.
 6. Ruskin Mfg. Co.
 7. DOWCO Products Group, Cicero, IL

2.02 MATERIALS

- A. Aluminum Sheet: ASTM B 209, ALLOY 3003 or 5005 with temper as required for forming, or as otherwise recommended by metal producer to provide required finish.
- B. Aluminum Extrusions: ASTM B 221, Alloy 6063-T52.
- C. Fastenings: Use 3/8" diameter stainless steel machine screws. Provide, gages and lengths to suit unit installation conditions. Use Phillips flat-head machine screws for exposed fasteners.
- D. Anchors and Inserts: Cadmium plated steel, self-drilling type.
- E. Bituminous Paint: SSPC-Paint 12 (cold-applied asphalt mastic).

2.03 FABRICATION - GENERAL

- A. Provide louvers and accessories of design, materials, sizes, depth, arrangement, and metal thicknesses indicated.
- B. Fabricate frames including integral sills to suit adjacent construction with tolerances for installation, including application of sealants in joints between louvers and

adjoining work.

- C. Include supports, anchorages, and accessories required for complete assembly.
- D. Provide vertical mullions of type and at spacings indicated but not further apart than recommended by manufacturer or 72" o.c., provide horizontal mullions except where continuous vertical assemblies are indicated.
- E. Provide sill extensions and loose sills made of same material as louvers, where required for drainage to exterior and to prevent water penetrating to interior.
- F. Join frame members to one another and to stationary louver blades by welding, except where indicated otherwise or where field bolted connections between frame members are made necessary by size of louvers. Maintain equal blade spacing, including separation between blades and frames at head and sill, to produce uniform appearance.

2.04 STATIONARY EXTRUDED ALUMINUM WALL LOUVERS

- A. Horizontal Drainable Blade Louvers: Dual drain recessed mullion type. Units designed to collect and drain water to exterior at sill by means of gutters in front edges of blades, and channels in jambs and mullions. Furnish units with extrusions not less than 0.081" thick, of depth, and sizes indicated, equal to C/S Model 6155.
 - 1. Free Area: Not less than 50% for a 48" x 48" size.
 - 2. Static Pressure Loss: Not more than 0.15" of water gage at an airflow of 1050 fpm free area velocity in intake direction.
 - 3. Water Penetration: Not more than 0.05 oz. Per sq. Ft. of free area at an airflow of 1000 fpm free area velocity.
 - 4. AMCA Certification: Furnish units bearing AMCA Certified Ratings Seal.
 - 5. Continuous Horizontal Blades: Conceal supporting framework from vision on outside face of louver by placing braces, mullions and brackets on inside face; with close fitting, field-made splice joints in blades designed to permit expansion and contraction without deforming blades or framework.

2.05 LOUVER SCREENS:

- A. Provide removable screens for exterior louvers.
- B. Fabricate extruded aluminum screen frames of same finish as louver units to which secured.

- C. Use bird screens of the following: 1/2" sq. Mesh, 0.063" aluminum or stainless steel wire.
- D. Use insect screens of the following: 18 X 16 X .011 grey fiberglass mesh.
- E. Locate screens on inside face of louvers.
- F. Secure screens to louver frames with stainless machine screws, spaced at each corner and at 12" o.c. between.

2.06 METAL FINISHES

- A. General: Comply with NAAMM "Metal Finishes Manual" for finish designations and application recommendations, except as otherwise indicated. Apply finishes in factory after products are assembled. Protect finishes on exposed surfaces with protective covering, prior to shipment. Remove scratches and blemishes from exposed surfaces which will be visible after completing finishing process.
- B. Provide Colors or color matches as selected by Architect.
- C. Aluminum Finishes:
 - 1. Baked Enamel Finish: AA-C12C42R1x (cleaned with inhibited chemicals, conversion coated with an acid-chromate-fluoride-phosphate treatment, and painted with organic coating specified below). Apply where factory painted finish is indicated, in strict compliance with paint manufacturer's specifications.
 - 2. Organic Coating: Manufacturer's standard thermosetting acrylic enamel, 0.8 mil minimum dry fill thickness.

PART 3 - EXCUTION

3.01 PREPARATION

- A. Coordinate setting drawings, diagrams, templates, instructions and directions for installation of anchorages which are to be imbedded in concrete or masonry construction. Coordinate delivery of such items to project site.

3.02 INSTALLATION:

- A. Locate and place louver units plumb, level and in proper alignment with adjacent work.
- B. Use concealed anchorages wherever possible. Provide brass or lead washers fitted to screws where required to protect metal surfaces and to make a weathertight

connection.

- C. Form tight joints with exposed connections accurately fitted together. Provide reveals and openings for sealants and joint fillers, as indicated.
- D. Repair finishes damaged by cutting, welding, soldering and grinding operations require for fitting and jointing. Restore finishes so there is no evidence of corrective work. Return items which cannot be refinished in field to shop, make required alterations, and refinish entire unit, or provide new units, at Contractor's option.
- E. Provide concealed gaskets, flashings, joint fillers, and insulations, and install as work progresses to make installations weathertight.
- F. Refer to Division-7 sections for sealants in connection with installations of louvers.

*****END OF SECTION*****

SECTION 10260 - CORNER GUARDS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

Drawings and general provisions of Contract, including General and Supplementary Conditions and Division - Specification sections, apply to work of this section.

1.02 DESCRIPTION OF WORK

Furnish and install, as detailed, as located on the Drawings, at all exterior doors with drywall corners, and at corridor interior corners C/S Acrovyn Surface Mounted Corner Guard 90 degree Models SM20, SSM-20 and the 135-degree Model SM-20M. All as manufactured by Construction Specialties, Inc. or an approved equal. Complete details, locations and samples of selected models and colors, including end caps, and mounting hardware shall be submitted to the Architect for approval.

1.03 APPROVED MANUFACTURER'S OR EQUAL

Construction Specialties, Inc., Acrovyn
Arden Architectural
Balco Metalines, Inc.
IPC/InPro Corp.
Korogard, RJF International Inc.
Pawling Corporation, Pro Tek

1.04 MATERIAL

Corner guards shall be manufactured from .078" thick nominal high impact vinyl/acrylic extrusions, designed to absorb and resist abrasions under impact. The extrusion shall include a matte finish pebblette grain surface, and be supplied in a **color to be selected by Owner & Architect**. Continuous retainers shall be a minimum .063" thickness. End caps and mounting hardware shall be furnished to complete the assembly.

1.05 DESIGN

Corner guards shall be securely locked in place yet provide for free-floating action to absorb heavy impact without damage to guard, retainer or adjacent wall. Corner guard shall be straight and true over full length.

1.06 PERFORMANCE

Vinyl/acrylic extrusions shall be U.L. tested, Classified and Labeled reflection a Class I Fire Rating in accordance with UL=723 (ASTM-E84-91a) (CAN 4S102-2-M83 in Canada) test procedures. Chemical and stain resistance shall be per CSAV-280 standards, established by manufacturer.

Color shall be integral with components matched in accordance with SAE J-1545-(Delta E) with color difference no greater than 1.0 units using the Hunter (Lab) scale. Impact tested in accordance with applicable provisions of ASTM-F476-76.

*****END OF THIS SECTION*****

SECTION 10440 - SPECIALTY SIGNS

PART I - GENERAL

1.01 RELATED DOCUMENTS

Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to work of this section.

1.02 DESCRIPTION OF WORK

Areas of specialty signage may include:

1. Construction Signs
2. Exterior Handicapped Signs at Parking Areas
3. Toilet Room Handicapped Signs
4. Interior Room Number and Name Signs
5. Occupancy Capacity Signs
6. Regulatory Signs

1.03 QUALITY ASSURANCE

Uniformity of Manufacturer: For each sign form a graphic image process indicated furnish products of a single manufacturer.

Americans with Disabilities Act: All signage shall meet the requirements of the A.D.A. including grade 2 braille raised lettering, etc.

As manufactured by one of the following approved companies:

ASI Sign Systems, Tampa, FL (813) 620-4360 Attn: Ilene
Advance Corporation, Braille-Tac (800) 825-0150
The Southwell Corp. San Antonio, TX (210) 223-1831
Best Manuf. Sign Systems (800) 235-2378
Bunting Graphics Inc. (800) 735-0445
FRS Industries (800) 747-4795
HART Arch. Signage, Chesapeake, VA (804) 420-1666
Mohawk Sign Systems, Schenectady, NY (518) 370-3433
Metallic Arts, Spokane, WA 1-800-541-3200
In-Pro Signscape, Muskego, WI, inprocorp.com

1.04 SUBMITTALS

- A. Shop Drawings: Submit shop drawings for all items in this Section including all accessories.

- B. Submit samples of all interior signage and graphics.

PART II - PRODUCTS

2.01 ENVIRONMENTALLY FRIENDLY MATERIALS

- A. Signage materials for interior signage only, shall include at a minimum, the following:
 - 1. Up to 60% of product is comprised of renewable paper resources
 - 2. 3 to 5% pre-consumer recycled content
 - 3. Paper-based materials; no chemically formulated substrates
 - 4. NEMA Class A fire-rated "self-extinguishing"
 - 5. Raw materials regionally extracted and manufactured
 - 6. Low VOC paints and finishes
 - 7. GREENGUARD Indoor Air Quality Certified materials

2.02 CONSTRUCTION SIGN

- A. Furnish and install 8' - 0' long x 4' - 0' high construction sign, on 3/4 plywood.
- B. Locate on site in compliance with Local Permitting Agency requirements and as directed by Owner.
- C. Sign shall have two coats of exterior oil base paint.
- D. All work shall be performed by an experienced sign painter.
- E. Furnish and install supporting structure.
- F. Sign shall indicate: Name of Project, Name of Owner, Name of Contractor, Name of Architect, Name of Structural Engineer, Name of Mech/Elec. Engineer and Name of Civil Engineer. (For all School and Municipal Government projects, verify the sign information required with the Owner or Owner's agent prior to painting sign panel.)

2.03 EXTERIOR HANDICAPPED SIGNS AT PARKING AREAS

- A. Provide one (1) sign for each handicapped parking space.
- B. Sign shall comply with the "Accessibility Codes and Standards" latest edition, State of Florida, for the physically handicapped, and F.T.O. 25 or 26.
- C. Sign shall read: "Parking By Disabled Permit Only" depicting National Handicapped Symbol (wheelchair) as detailed. Signs erected after 1 Oct. 1996 must indicate the dollar penalty for illegal use of the space.

- D. Signs shall be 1' - 0" wide x 16" high, aluminum.
- E. Provide standard painted green steel post set in 6" diameter concrete foundation. Post and concrete foundation shall be by the Contractor.
- F. Height to bottom of lowest sign shall be seven feet minimum and nine feet maximum.
- G. Lettering style shall be Helvetica Medium.

2.04 TOILET ROOM HANDICAPPED SIGN

- A. Provide one (1) sign depicting National Handicapped Symbol (wheelchair) at each toilet room, equipped with facilities for the handicapped. Size shall be as per Signage Legend.
- B. Color and Material shall be as per Signage Legend
- C. Mounting shall be with non-removable head stainless steel screws at locations detailed in Architectural Signage.

2.05 "INTERIOR" ROOM NAME AND NUMBER SIGNS AND OCCUPANCY CAPACITY

- A. Separate signs for room name, room number, or room capacity required. Sizes shall be in accordance with the Signage Legend.
- B. Color shall be as per Signage Legend.
- C. Material shall be 1/8" thick with raised symbol for identification by blind.
- D. Mounting shall be with non-removable head stainless steel screws at locations detailed in Architectural Signage Legend.

2.06 MONUMENT SIGNAGE

- A. When depicted on the plans, provide individually mounted letters. Letters as manufactured by the Southwell Company. Letters to be height as scheduled and in style and finish specified on plans. Mounting system as specified on plans.

2.07 REGULATORY SIGNAGE

- A. Provide standard graphic and descriptive signage at all elevator lobbies stipulating "In Case of Fire Use Stairs".

- B. At all public buildings mount in clear view the no smoking signage as required by Florida Clean Indoor Act of 1985, which became law effective July 1, 2003. Signage must read, "NO SMOKING is permitted in this establishment". Signage letters shall be in color on a white background, Size 14" wide X 10" high. Signs shall be posted adjacent to all required entry and exit doors on the wall or on glass.

PART 3 - EXECUTION

3.01 CLEANING AND PROTECTION

- A. At completion of the installation, clean soiled sign surfaces in accordance with the manufacturer's instructions. Protect units from damage until acceptance by the Owner.
- B. Mount standard Signs on middle of doors at 48" above the finish floor.
- C. Mount A.D.A. and Regulatory Compliant Signs adjacent to door openings, at the latch side, with the center of the sign at 60" above the finish floor. Where there is no wall space to the latch side of the door, signs shall be placed on the nearest adjacent wall.

SIGN LEGEND

SIGN TYPE "A": As manufactured by ASI, 3" high x 8" long or 12" long, square corner 390S Series with molded plastic frames, (interior only), White background with 2" high **in color to be selected**. Letters/Numbers in Upper Case Sans Serif, with raised symbols for blind. Note: Utilize 1 ½" high letters for longer room descriptions to insure that the description will fit on a 12" long sign.

SIGN TYPE "B": As manufactured by ASI, 10" high x 20" long, Sign Etch-2, 3/8" aluminum base metal with etched letters. Radiused corner 390R Series design (exterior only). White background with 5" high paint filled text, **in color to be selected**. Letters/Numbers in Upper Case Sans Serif, with raised symbols for the blind.

SIGN TYPE "C": As manufactured by ASI, 9" square to meet ADA, 390R Series, (interior and exterior rated), with radiused corners, White background with S-5 Unisex Symbols in black, and S-6 Handicapped symbol in standard blue and white colors, per schedule, with raised symbols for blind.

SIGN TYPE "D": As manufactured by ASI, 3" high and 12" long, square corner 390S Series (interior only), Red background with 1" high White letters in Upper Case Sans Serif.

SIGN TYPE "E": As manufactured by ASI, Closed-Circuit TV Door (In Use) Sign: Three (3) SL Series SLO 66 with Sans Serif Regular Lettering. First letter capitalized, remaining letter to be lower case. Install at location determined by the Architect.

SIGN TYPE "F": As manufactured by ASI, 3" high x 12" maximum length, Sign Etch-1, zinc base metal with etched letters. Match square corner 390S Series design (exterior only), **in color to be selected** background with 1 ½" high White Letters/Numbers in Upper Case Sans Serif, with raised symbols for blind.

SIGN TYPE "G": As manufactured by ASI, 9" square to meet ADA, 390R Series, (interior and exterior rated), with radiused corners. White background with S-1 & S-2 Symbols in black, and S-6 Handicapped symbol in standard blue and white colors, per schedule, with raised symbols for blind.

SIGN TYPE "H": As manufactured by ASI, 8" high X 36" long X 1/2" thick, 323BE Series with beveled edges, aluminum frame. **In color to be selected** background with 5" high letters/numbers in Upper Case Sans Serif Bold. **Exterior rated.** Color of letters/numbers shall be **White**.

Where two lines of letters are required, provide a 14-1/2" high X 36" long X 1/2" thick panel.

SIGN TYPE "J": As manufactured by InPro Signscape, or equal, 8" X 8", tactile style, with molded frames with square corners. Color of sign is red background with lettering. Signage to read "In case of Fire use Stairs". Locate signage adjacent to elevator call boxes at 60" to centerline AFF.

SIGN TYPE "K": As manufactured by ASI or equal, 12" w. X 10" h. vinyl peel and stick signage. Adhere to the exterior face of the door glass as scheduled.

SIGN TYPE "L": As manufactured by ASI or equal, 9" square to meet ADA, 390R series, with radius corners. White background with unisex symbols in black and S-6 handicapped symbol in standard blue and white colors, with raised symbols for blind.

LOCATIONS AND DESCRIPTIONS:

COUNT	LOCATION
	<u>TYPICAL FIRE STATION- INDIAN RIVER COUNTY</u>
(11)	<u>Item # 1</u> Sign type "A" / OFFICE, MEN, WOMEN, DORMITORY #1, DORMITORY #2, UNISEX, A.H.U. ROOM #1, A.H.U. ROOM #2, DAY ROOM, JANITOR. PHONE ROOM, KITCHEN Secure to the wall at the latch side of the appropriate door.
(3)	<u>Item #2</u> Sign type "D" / FIRE EXTINGUISHER - located above the wall mounted extinguishers as located on the plans.
(5)	<u>Item #3</u> Sign type "F" / D-CON ROOM, E.M.S. STORAGE, BUNKER GEAR, EQUIP. STORAGE, ELEC. ROOM. Secure to the wall at the latch side of the appropriate door.
(2)	<u>Item #4</u> Sign type "G" (consists of two signs per count)- located on the wall at the latch side of the two doors that access the MEN & WOMEN restrooms. Mount them side by side.
(2)	<u>Item #5</u> Sign type "C" (consists of two signs per count)- located on the wall at the latch side of the two doors that access the UNISEX clinic restroom. Mount them side by side or one above the other.

NOTE: IN ADDITION TO THIS SCHEDULE, THE FIRE 7 RESCUE SIGN SIGN SHALL HAVE WELDED OR CAST ALUMINUM LETTERS AND HOUSE NUMBER AFFIXED TO THE FACE OF THE FRONT EXTERIOR OF THE STATION, SEE FRONT ELEVATION.

SECTION 10520 - PORTABLE FIRE EXTINGUISHERS AND CABINETS

PART I - GENERAL

1.01 RELATED DOCUMENTS

Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to work of this section.

1.02 DESCRIPTION OF WORK

- A. Definition: "Portable fire extinguishers" includes units which can be hand-carried as opposed to those which are equipped with wheels or to fixed fire extinguishing systems, unless otherwise indicated.
- B. Extent of fire extinguishers is indicated on drawings with a **FE** designation.
- C. Accessories include: Mounting brackets and recessed cabinets.

NOTE: All Fire Extinguishers for this project are wall hung and not recessed cabinets.

1.03 QUALITY ASSURANCE

- A. Provide portable fire extinguishers and accessories by one manufacturer of those specified.
- B. Portable Fire Extinguisher Standard: Provide new portable fire extinguishers which comply with applicable UL standard and are labeled by UL. All extinguishers shall be installed and maintained in accordance with NFPA 10, "Portable Fire Extinguishers." Install only fully charged fire extinguishers.

1.04 SUBMITTALS

- A. Product Data: Submit manufacturer's technical data, detail drawings, and installation instructions for each portable fire extinguisher and/or recessed cabinet for the project.
- B. Schedule: Submit schedule indicating types, quantities, sizes and installation locations for each portable fire extinguisher and/or cabinet for the project.

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURER'S

A. Manufacturer: Subject to compliance with requirements, provide extinguishers and cabinets manufactured by one of the following:

J.L. Industries, Inc.
Larsen's Manufacturing Co.
Modern Metal Products by Muckle
Potter-Roemer, Inc.

2.02 MATERIALS - GENERAL

A. Provide the following types of extinguishers in accordance with area/occupancy uses:

1. In General Office Spaces Fire Extinguishers: Multi-purpose dry chemical type (2A-10BC-FE): UL rated 2-A:10:B:C, 5 lb. Nominal capacity, in enameled steel container, for class A, Class B, and Class C fires. Equal to J.L. Industries Cosmic 5E.
2. In Kitchen/Breakroom/Employee Lounge Spaces/ Electrical Rooms: Liquid carbon dioxide, UL rated, 10 lb nominal capacity, in enameled steel container for class B, and Class C fires only. Equal to J.L. Industries Sentinal 10.
3. In Electronic Equipment/Computer Room: Inergen clean agent EPA approved fire extinguishing system complete with metal supply piping, heads, regulators, sensors and steel tanks secured to approved wall brackets. Discharges as an odorless clear gas leaving no residue to clean-up or reclaim. Class A,B,C fires, with system sized to match volume of room to be protected. This system is not considered portable and is specified under a separate section, when utilized in lieu of sprinkler systems in these specialty rooms.

2.03 MOUNTING BRACKETS

- A. Provide manufacturer's standard bracket designed to prevent accidental dislodgment of extinguisher, of proper size for type and capacity of extinguisher indicated, in manufacturer's standard plated finish. Extinguishers must be mounted with the bottom of the cylinder at 26 inches above the finished floor if the unit projects more than 4 inches off the face of the wall.
- B. Provide a recessed or semi-recessed cabinet, clear anodized aluminum, clear bubble, no letters on the bubble. NOTE: All semi-recessed cabinets must meet ADA guidelines for projections into rooms and hallways. Projections cannot exceed 4 inches. Mount cabinet tubs with case access handles and extinguisher handles at a maximum of 48 inches above finished floor.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Install items included in this section in locations and at mounting heights indicated, or if not indicated, at heights to comply with applicable regulations of governing authorities. Where exact location of surface-mounted cabinets and/or bracket-mounted fire extinguishers is not indicated, locate as directed by Architect.

3.02 IDENTIFICATION

- A. Identify bracket-mounted extinguishers with a permanently affixed sign with a red background and white letters spelling “**FIRE EXTINGUISHER**” applied to wall surface above extinguisher. Letter size, style and location as scheduled in Section 10440- Specialty Signs.

*****END OF SECTION*****

SECTION 10800 - TOILET ACCESSORIES

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

Drawings and general provisions of Contract, including General and Supplementary conditions and Division - 1 Specifications sections, apply to work of this Section.

1.02 DESCRIPTION OF WORK

A. Extent and location of each type of toilet accessory is shown on drawings.
Provide accessory only if drawn and identified on the Architectural Drawings.

B. Types of toilet accessories required may include the following:
(Refer to plans and interior elevations for locations of specific items)

- Paper towel dispensers
- Toilet tissue dispensers
- Grab bars
- Soap dispensers
- Shower Rods
- Mirrors
- Heavy Duty Clothes Hook
- Shelf with Mop and Broom Holders
- Reversible Folding Shower Seat
- Diaper Changing Stations
- Wall Mounted Electric Hand Dryers

C. Some type of toilet accessories are included as part of toilet partitions elsewhere in Division 10.

1.03 QUALITY ASSURANCE

A. Inserts and Anchorages: Furnish inserts and anchoring devices which must be set in concrete or built into masonry; provide PT wood backing as required, coordinate delivery with other work to avoid delay.

B. Accessory Locations: Coordinate accessory locations with other work to avoid interference and to assure proper operation and servicing of accessory units.

C. Manufacturer: Provide each type of toilet accessory required as manufactured by one of the following:

1. American Specialties Inc.
2. Bradley Corporation
3. Nutone
4. ASI Group Watrous

5. Bobrick Washroom Equipment, Inc.
6. Gamco
7. Franklin Brass
8. A & J Washroom Accessories
9. San Jamar Dispensers
10. Brocar
11. Koala
12. World Dryer

1.04 SUBMITTALS

- A. Product Data: Submit manufacturer's technical data and installation instructions for each toilet accessory.
- B. Setting Drawings: Provide setting drawings, templates, instructions, and directions for installation of anchorage devices and cut out requirements in other work.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Stainless Steel: AISI Type 302/304, with satin No. 4 finish, 22 gage minimum, unless otherwise indicated.
- B. Galvanized Steel Mounting Devices: ASTM A 153, hot dip galvanized after fabrication.
- C. Fasteners: Screws, bolts, and other devices of same material as accessory unit or of galvanized steel where concealed.

2.02 FABRICATION

- A. General: Stamped names or labels on exposed faces of toilet accessory units are not permitted, except where otherwise indicated. Wherever locks are required for a particular type of toilet accessory, provide same keying throughout project. Furnish two keys for each lock.
- B. Surfaced-Mounted Toilet Accessories, General: Except where otherwise indicated, fabricate units with tight seams and joints, exposed edges rolled. Hang doors or access panels with continuous piano hinge or minimum of two 1 ½" pin hinges of same metal as unit cabinet. Provide concealed anchorage wherever possible.
- C. Recessed Toilet Accessories, General: Except where otherwise indicated, fabricate units of all welded construction, without mitered corners. Hang doors or

access panels with full-length stainless steel piano hinge. Provide anchorage which is fully concealed when unit is closed.

2.03 TOILET TISSUE DISPENSERS

- A. General Toilet Rooms – Toilet Tissue Dispenser: BOBRICK B - 2740
- B. Public Park Restroom Buildings (non-oceanfront): BOBRICK B-2892
- C. Public Park Restroom Buildings (oceanfront): SAN JAMAR SANR4000TBK

2.04 SURFACE MOUNTED TOWEL DISPENSERS

BOBRICK B - 262

2.05 GRAB BARS (GR BR)

Stainless Steel Type: Equal to Bobrick B-6806 x 36 and B - 6806 x 42.

2.06 SOAP DISPENSERS

Bobrick B-4112 or Bradley 6542 Surface Mounted Dispensers capable of dispersing anti-bacterial soaps.

2.07 SHOWER RODS

Bradley Model 9531 Heavy Duty 1 1/4" O.D., 18 ga. Satin finish stainless steel.

2.08 MIRRORS

- A. General Toilet Rooms: Bobrick B-165, 18" X 30" mirror. Satin finish stainless steel frame with 1/4" float/plate glass mirror electrolytically copper plated. Mount with reflecting surface a maximum of 40 inches above finished floor.
- B. Public Park Restroom Buildings: Polished Stainless Steel Mirror BOBRICK B-1656, 24" wide X 48" high. Same mounting height requirement as above.

2.09 HEAVY DUTY CLOTHES HOOK

Bobrick B-2116, heavy duty clothes hook with concealed mounting. Withstands 300-lb downward pull. Hook and flange are one-piece brass casting with satin nickelplated finish. Supply 2 X 6 pressure treated wood backing in wall for proper mounting. Flange diameter is 2 3/4" and unit projects 3 7/16" from wall.

2.10 SHELF WITH MOP AND BROOM HOLDERS

Bobrick B-239 X 34, 18-gauge, type 304 stainless steel, satin finish, 13" high, 8" deep, 34" long. Anti-slip mop holders have spring loaded rubber cam that grips handles 7/8" to 1 1/4" diameter. Stainless steel hooks.

2.11 REVERSIBLE FOLDING SHOWER SEAT

Bobrick B-5181, complying with ADA accessibility standards. Seat is ivory colored solid phenolic. Reversible for left- or right-hand installation in the field. Frame and mounting brackets are type 304 stainless steel and feature a self-locking mechanism. Seat measures 33" wide, projects 22 5/16" from wall. Average mounting height 17 to 20" from top of floor to seat.

2.12 DIAPER CHANGING STATION

ASI Model No. 9012, Bobrick B-2200, Brocar Model 100EH, Koala KB100-00, or World Dryer ABC-100, colors grey or white. Sizes are 34.5 to 35 inches wide, 19 to 20 inches high, and 4 inches deep. Changing surface mounted at 34" to 38" above the finished floor. Use manufacturer's mounting hardware and comply with their installation requirements to support a minimum 100-pound load in the open position. Surface mount only, do not recess unit.

2.13 WALL MOUNTED ELECTRIC HAND DRYERS

As manufactured by one of the following: World Dryer SLIMdri Model #L-971 110-120V, 8.3-amp Hand Dryer with brushed chrome cover, Bobrick Model B-7120 115V, 15-amp Hand Dryer with stainless steel cover, Saniflow SPEEDFLOW Model M06ACS, 100-120V, 9.5-amp Hand Dryer with satin finish stainless steel cover or NOVA 1 Model 0830 120V, 10-amp Hand Dryer with white epoxy enamel on die cast aluminum cover. All units include infrared sensors for automatic hands-free operation and both include auto shutoff. Projection off wall is 4 inches to comply with ADA requirements. Mounting height to bottom edge of units for front approach is 44 to 48 inches.

2.14 INSTALLATION

Install toilet accessory units in accordance with manufacturers' instructions, using fasteners which are appropriate to substrate and recommend by manufacturer of unit. Install units plumb and level, firmly anchored in locations indicated.

2.15 ADJUST AND CLEAN

- A. Adjust toilet accessories for proper operation and verify that mechanisms function smoothly.
- B. Replace damaged or defective units.
- C. Clean and polish all exposed surfaces after removing protective coatings.

***** END OF SECTION*****

DIVISION 11 - EQUIPMENT

SECTION 11400 - FOOD SERVICE EQUIPMENT

The kitchen equipment depicted on the plans is being purchased and delivered to the site by the Owner. The kitchen equipment by Owner are the gas range, electric dishwasher, and three (3) refrigerators. All equipment to be placed by General Contractor and connected to waste, water supply, electric and natural gas by the General Contractor as part of the Base Bid. The General Contractor is responsible for providing the exhaust hood complete with exhaust fans and make-up air fans, roof curbs, fire suppression in each hood completed to satisfy the local Fire Inspector and local codes, two compartment sink with side drain trays and swing head fittings. These hood items will be supplied and installed by the General Contractor as part of the Base Bid.

*****END OF SECTION*****

SECTION 12290 - MANUFACTURED CASEWORK: LIGHT COMMERCIAL

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

The Bidding and Contract Documents, General Requirements and Addenda, as may be issued during the bid process, shall govern the work under this Section.

A. References

1. AWI - Architectural Woodwork Institute: Applicable Quality Standards.
2. FS MM-L-736 - Lumber, Hardwood.
3. FS MMM-A-130 - Adhesive, Contact.
4. NEMA LD3 - High Pressure Decorative Laminates.
5. ANSI A156.9 - American National Standard for Cabinet Hardware.
6. PS 1 - Construction and Industrial Hardwood.
7. PS 20 - American Softwood Lumber Standard.
8. PS 51 - Hardwood and Decorative Plywood.
9. ASTM E84 - Test Method for Surface Burning Characteristics of Materials
10. BHMA A156.9 - Cabinet Hardware

1.02 SCOPE OF THE WORK

- A. Provide all labor, materials, necessary equipment and service to complete the casework and related work, as indicated on the drawings, as specified herein or both, except as for items specifically indicated as "NOT IN CONTRACT" (NIC).
- B. Including, but not necessarily limited to the following:
1. Fabrication of Casework.
 2. Installation.
 3. Accessories.
 4. Hardware.
 5. Filler Panels.

1.03 WORK OF OTHER SECTIONS

- A. Rough Carpentry, Section 06100, and Finish Carpentry Section 06200. Provide blocking within wall, floor, or ceiling, required to give adequate support for casework.
- B. Mechanical Division 15000: Stainless steel sinks and fittings which are integral with casework, including all work for plumbing rough-in, supply waste and vent, including shut-off valves at floor or wall. All heating and ventilating ductwork and grilles in cabinets where required including connections, flashings, caps or

hoods.

- C. Electrical Division 16000: Electrical rough-in and connections from rough-in to cabinet or equipment fixtures and devices requiring same, whatever type and kind.

1.04 BIDDING

Do not bid sections of casework separately. Any item required to make the casework a complete and workable unit will be by the casework Subcontractor, including installation.

1.05 QUALITY ASSURANCE

- A. The “Quality Assurance” of the Architectural Woodwork Institute shall apply and by reference are made part of this specification. Perform work in compliance with AWI standards. All work shall conform to section 400B - Laminate Clad Cabinets as defined in the latest edition of the AWI “Quality Standards” unless detailed as a higher grade.
- B. Design Type: Reveal overlay design in accordance with AWI Architectural Casework - General Details, except as otherwise specified herein or detailed on the drawings.
- C. Competence: The approved casework manufacturer must have a reputation for doing satisfactory work on time and shall have completed comparable work.
- D. The Woodwork Manufacturer and the Contractor shall be jointly responsible to make certain that casework is not delivered until the building and storage areas are sufficiently dry so that the casework will not be damaged by excessive changes in moisture content.
- E. Fire Hazard Classification: Comply with required NFPA, ANSI and UL surface burning characteristics for plastic laminates, lumber and plywood.

1.06 LIST OF SAMPLES, CERTIFICATES AND SHOP DRAWINGS

- A. This list shall consist of samples, certificates and shop drawings which require review by the Contractor prior to submission to the Architect for approval.
- B. Any omission of items which require the Contractor’s compliance under the contract documents does not relieve said Contractor from such responsibility.
- C. Submit samples, product data, certificates and shop drawings as required or requested by the Architect, whether included in this list or not.

1.07 SUBMITTALS

- A. Submit complete shop drawings on all items showing details, materials, location in building and installation requirements prior to starting work.
- B. Submit sample cabinet built to specification, prior to starting of work, for approval of all materials.
- C. The casework manufacturer is responsible for details and dimensions not controlled by job conditions and shall show on his shop drawings all required field measurements beyond his control. The General Contractor and the casework manufacturer shall cooperate to establish and maintain these field dimensions prior to final fabrication.
- D. Submit samples of laminated plastic for color selection by Architect.
- E. Submit manufacturer's descriptive literature of all items not manufactured by the casework contractor, as requested by the Architect, including, MSD (manufacturer's safety data) sheets, for composite wood and agrifiber products, MDF (medium density fiberboard), plywood (Columbia Forest Products Purebond Plywood or equal), panel substrates and door covers to demonstrate these products do not contain any added urea-formaldehyde resins. In addition, laminating adhesives used to fabricate on-site and shop-applied composite and wood and agrifiber assemblies must not contain added urea-formaldehyde resins.
- F. The Contractor is solely responsible for reviewing MSD sheets, signed attestations or other official literature from the manufacturer prior to submittal to the Architect, to insure compliance for projects pursuing a Sustainable (Green Building) rating.

1.08 DELIVERY, STORAGE AND HANDLING

- A. Protect woodwork during transit, delivery, storage and handling to prevent damage, soiling and deterioration.
- B. Do not deliver woodwork until painting, wet work, grinding or similar operations which could damage, soil or deteriorate the woodwork, have been completed in the installation areas. If, due to unforeseen circumstances, woodwork must be stored in other than installation areas, store only in areas meeting the requirements specified for the installation area.

1.09 ENVIRONMENTAL REQUIREMENTS AND PROTECTION

- A. Conditioning: Woodwork manufacturer and installer shall advise the Contractor of temperature and humidity requirements for the woodwork installation and storage areas.

- B. Maintain temperature and humidity in installation areas as required to maintain moisture content of installed woodwork within a 1.0% tolerance of optimum moisture content, from date of installation to through remainder of construction period. Require woodwork manufacturer to establish optimum moisture content and required temperature and humidity conditions.
- C. Protect all work from damage until final acceptance.

PART 2 - PRODUCTS

2.01 CABINET MATERIALS

- A. Softwood Lumber for stiles and rails: PS 20; graded in accordance with AWI; moisture content of 6 to 11 percent; 8 to 13 percent for damp locations (as defined by AWI).
- B. All lumber in contact with concrete floor shall be pressure treated. See plan details for base rail requirements.
- C. Softwood Plywood for box construction to be 3/4" 9-ply closed grain luan or hardwood plywood with melamine finish for bottoms, tops and sides of wall cabinets, ends and sides of base cabinets, and all upper and base unit shelving. Backs shall be 1/4" luan plywood on wall cabinets and 1/2" luan plywood on base cabinets; both with heat fused melamine finish, color white. All base and upper shelving adjustable, recessed K & V metal standards with metals shelf support clips. Adjustable shelving on open-front book storage cabinets shall be 3/4" BC plywood with a maximum span of 30" with plastic laminate on sides and back and edge trim slotter black vinyl bumper moulding on the horizontal face edge. Fixed vertical and horizontal rails on open-front book storage cabinets shall be laminate covered.
- D. Countertops all 3/4" BC plywood construction with 3/4" buildup, and all exposed faces plastic laminate covered.
- E. Doors shall be 3/4" MDF or 3/4" BC plywood covered with plastic laminate and with thermally fused melamine backs. Door edges on base cabinets in high use conditions will be allowed .018 PVC edge banding machine applied with waterproof hot melt adhesive in lieu of laminate to prevent spalling of the laminate edges.
- F. Drawer faces shall be 3/4" MDF or 3/4" BC plywood covered with plastic laminate and with thermally fused melamine backs. Drawer sides shall be 5/8" plywood with heat fused melamine faces and interiors. Door bottoms shall be 1/4" plywood with heat fused melamine surface.

Note: Particleboard, hardboard and flake-board are not acceptable products.

2.02 LAMINATED PLASTIC

All laminated plastic shall meet NEMA LD-3 Standards and application of various types shall be as follows:

- A. 0.050" Nominal thickness, matte finish, standard quality: located at counter tops, back-splashes and counter top edges and faces.
- B. 0.042" Nominal thickness, matte finish, vertical surface grade: located on door fronts and edges, drawer fronts and edges, cabinet facings, ends and bottom of uppers, shelving faces and edges, and edges of other exposed vertical and postformed surfaces.
- C. BK 20 for concealed facings over plywood, .020" thick, matte finish, vertical grade, white unless otherwise: located on interior faces of cabinets and cabinet base interior faces. Use in lieu of melamine.
- D. Acceptable Laminate Manufacturers:
 - 1. Nevamar
 - 2. Wilsonart
 - 3. Pionite
 - 4. Formica
 - 5. Substitutions: Only allowed with prior written approval from the Architect.

2.03 ACCESSORIES

- A. Adhesive: FS MMM-A-130 or Type II, CS 35 type recommended by laminate manufacturer to suit application. NOTE: Laminating adhesives utilized on Sustainable (Green Building) projects for field and shop-applied assemblies, must not contain any added urea-formaldehyde resins. Utilize water based low VOC, non-toxic, PVA adhesives or equal products.
- B. Fasteners: Size and type to suit application. All base and wall cabinets shall be screwed together. Dowels are not acceptable.
- C. Bolts, Nuts, Washers, Lags, Pins and Screws: Of size and type to suit application; galvanized finish in concealed locations and stainless steel finish in exposed locations.

2.04 HARDWARE

- A. TYPES AND MANUFACTURERS
 - 1. Doors Hinges: Stanley, Grant, Hettich America or approved equal.
 - 2. Drawer and Door Pulls: Stanley, Grant, Hettich America or approved

- equal.
3. Cabinet Locks: CCL or approved equal. (Provide only if called for on cabinet drawings).
 4. Robe Hooks: Ives or Stanley.
 5. Drawer Glides: Accuride, Keil, Blum, NSF, K&V, Sugatsune or approved equal.

B. HINGES

1. 1 pair, heavy-duty institutional, self-closing for doors up to 48" in height, Stanley HT1592, US28, anodized dull aluminum.
2. 2 pair, heavy duty institutional, self-closing for doors over 48" in height, Stanley HT1592, US28, anodized dull aluminum.

C. PULLS

1. 3" drill centers, wire pulls, brushed aluminum finish, Stanley 4483, US28, anodized dull aluminum.

D. DRAWER GLIDES

1. Drawer glides all metal zinc coated, rated for 75 lbs. to 100 lbs., 3/4 extension, ball bearing, by K & V model 8400 or equal.
2. Utilize 150# full extension, ball bearing drawer glides at file drawers.

E. SILENCERS

1. Neoprene type with self-adhesive at all upper and lower cabinet doors.

F. GLAZING

1. Provide clear, tempered glass for glazed doors in cabinetwork, 1/4" thick unless otherwise indicated or approved.

G. TRIM FOR TOP DROP AND HORIZONTAL CORD CHASES

1. Provide PVC round 1½" to 2" diameter trim rings for electrical or low voltage cord chases. Color: black. Manufacturer of fabricators choice.

2.05 ANCHORS

- A. Select material, type, size and finish required by each substrate for secure anchorage. Provide non-ferrous metal or hot-dipped galvanized anchors and inserts for exterior installations and elsewhere as required for corrosion-resistances. Provide toothed steel or lead expansion bolt shields for drilled-in-place anchors. Furnish inserts and anchors, as required, to be set into concrete or

masonry work for subsequent woodwork anchorage.

2.06 CASEWORK FABRICATION

Detail shall conform to AWI (flush overlay design) and or as shown on drawings.

- A. Wood moisture Content: Comply with requirements of referenced quality standard for moisture content of lumber at time of fabrication and for relative humidity conditions in the installation areas.
- B. Shop assemble casework for delivery to site in units easily handled and to permit passage through building openings. Condition to average prevailing humidity conditions prior to installation.
- C. Measurements: Before proceeding with fabrication of casework required to be fitted to other construction, obtain field measurements and verify dimensions and shop drawing details as required for accurate fit. Where sequence of measuring substrates before fabrication would delay the project, proceed with fabrication (without field measurements) and provide ample borders and edges to allow for subsequent scribing and trimming of casework for accurate fit.
- D. Complete fabrication, assembly, finishing, hardware application and other work before shipment to project site to maximum extent possible. Disassemble components only as necessary for shipment and installation.
- E. Apply plastic laminate finish in full uninterrupted sheets consistent with manufactured sizes. Make joints hairline. Ease edges of laminate as required to eliminate sharp edges.
- F. Fully bed back-splashes and end-splashes to top and each other with Dow Corning, or equal, low VOC mildew resistant silicone sealant.
- G. Pre-Cut Openings: Fabricate architectural casework with pre-cut openings, where possible, to receive hardware, appliances, plumbing fixtures, electrical work and similar items. Locate openings accurately and use templates or rough-in diagrams for proper size and shape. Treat all cutouts in plywood with a water resistant coating.

PART 3 - EXECUTION

3.01 COORDINATION

- A. Casework manufacturer is responsible for coordinating his work with work of other trades, such as structural, plumbing, electrical and air conditioning. In so far as possible, dimensional adjustments are to be determined before fabrication, and reflected on the Shop Drawings to minimize changes required by field conditions.

3.02 INSPECTION

- A. Prior to installation of casework, examine shop fabricated work for completion and complete work as required, including back priming and removal of packing.
- B. Condition casework to average prevailing humidity conditions in the installation areas prior to installing.

3.03 INSTALLATION:

- A. Pre-Installation Meeting: Set up a meeting at the project site with the general contractor prior to delivery of casework and review coordination and environmental controls required for proper installation and ambient conditioning in areas to receive work. Proceed with casework installation only when everyone concerned agrees that required ambient conditions can be properly maintained.
- B. Install casework plumb, level, true and straight with no distortions. Shim as required using concealed shims. Install to a tolerance of 1/16" in 10' - 0" for plumb and level (including tops); and with no variations in flushness of adjoining surfaces.
- C. Anchor casework to anchors or blocking built-in or directly attached to substrates. Secure to grounds, stripping and blocking with countersunk, concealed fasteners and blind nailing as required for a complete installation.
- D. Cabinets: Install without distortion so that doors and drawers fit openings properly and are accurately aligned. Adjust hardware to center doors and drawers in openings and to provide unencumbered operation. Complete the installation of hardware and accessory items as indicated.
- E. Tops: Anchor securely to base units and other support systems as indicated and secure cabinet and counter bases to the floor using appropriate angles and anchorages.
- F. Use threaded steel concealed joint fasteners to align and secure adjoining cabinet units and countertops.
- G. Carefully scribe and cut casework to fit adjoining casework or other building materials, leaving gaps of 1/32" maximum. Do not use additional overlay trim for this purpose but refinish the cut surface.
- H. Fasten tops to bases with screws driven through base cabinet top frame into bottom of countertop.
- I. Do not install cabinetry or millwork closer than 24" to ceilings in fully sprinklered

buildings or such that installation obstructs any fire sprinkler head.

3.04 ADJUSTMENT, CLEANING, FINISHING AND PROTECTION

- A. Repair damaged and defective casework where possible to eliminate defects functionally and visually; where not possible to repair the casework, replace it. Adjust joinery for uniform appearance. Adjust doors, drawers, hardware, fixtures and other moving or operating parts to function smoothly and correctly.
- B. Clean casework on exposed and semi-exposed surfaces. Touch-up shop-applied finishes to restore damaged or soiled areas.
- C. Complete the finishing work specified as work of this section to whatever extent not completed at the shop or prior to installation of casework.
- D. Provide final protection and maintain conditions, in manner acceptable to Fabricator and Installer, which ensures architectural casework being without damage or deterioration at time of substantial completion.
- E. Caulk top of backsplash at walls with paintable sealant by GE or equal. If wall varies over 1/8" at back splash, the gypsum wall is to be refinished to correct waves.
- F. All casework to receive finished base, by other trades, at the portion that touches the floor as scheduled on the drawings.

*****END OF SECTION*****

SECTION 13900 - FIRE PROTECTION AND FIRE SUPPRESSION SYSTEMS

PART 1 - GENERAL:

- 1.01 The work performed under this Section shall be by the State of Florida certified Fire Protection Contractor with a minimum of 5 years experience.
- 1.02 This section shall govern the furnishing of all labor, equipment, materials and services necessary to install complete operating wet sprinkler systems, fire pump, in strict accordance with NFPA-13,-20 and 24 and all applicable specifications.
- 1.03 All threads shall be in accordance with local fire department specifications.
- 1.04 Standards: All equipment and devices shall be U.L. / F.M. approved.
- 1.05 SCOPE:
 - A. Work includes, but is not necessarily limited to the following:
 1. Automatic sprinkler systems, (1) free standing fire department connection and fire hydrant with supply underground mains, any and all accessories as shown on drawings or as required by the local fire department and NFPA-13, -14,-20, -24 and 25, or Architect/Engineer.
 2. Contractor shall visit site to check all existing conditions prior to bidding.
 3. Contractor shall perform and be responsible for the cost of a flow test for this project prior to performing hydraulic calculations and shop drawing layout to verify requirements specified in this section. Inform Architect/Engineer if changes in design parameters are indicated based on the latest flow test.
 4. Not less than three (3) sets dated, signed shop drawings and hydraulic calculations shall be submitted to the local fire department planning office for stamped approval. The approved copies are then to be submitted to Architect and Engineer for approval prior to commencing any construction.
 5. Material submittals shall be submitted to Architect/Engineer on all fire protection items and/or equipment for approval and shall be approved before any installation.
 6. Tests, shall be conducted pursuant to NFPA-13, and 25.
 7. Inspection and final approval shall be by local Fire Department and

Architect/Engineer.

8. Obtain all applicable permits and adhere to all governmental requirements.
 9. Backfill and compaction to normal grade will be by this Contractor. Contractor to verify water tables and be responsible for de-watering if required.
- 1.06 Auxiliaries and Accessories: Include all auxiliaries and accessories for complete and properly operating systems.
 - 1.07 Coordination: Provide all required coordination and supervision where work connects to or is affected by work of other trades.
 - 1.08 Layout of Work: Correlate final equipment location with governing Architectural and Structural drawings. Lay out work before installation so that all trades may install equipment in spaces available. Provide coordination as required for installation in a neat and workmanlike manner.
 - 1.09 Provisions for Openings: Locate all openings required for work performed under this section. Provide approved fire rated black steel Schedule 40 sleeves to allow passage of items installed under this section.
 - 1.10 Supervision of the Work: Provide a field superintendent who has had previous successful experience on projects of comparable size and complexity. Superintendent shall be present at all times that work is being installed. Submit the proposed superintendents experience qualifications for Architect/Engineer's review.
 - 1.11 Protection and Clean-Up: Suitably protect all equipment furnished under this Division during construction. All rubbish generated by this installation shall be periodically collected and recycled and all exposed work shall be thoroughly cleaned prior to final acceptance. Restore any damaged surfaces and items to "like new" condition before a request for final acceptance.
 - 1.12 Reports on Progress of Work: Items noted during construction and before final acceptance which do not comply with the Contract Documents will be listed in a "Project Progress Report" which will be sent to the General Contractor for action. The General Contractor shall have these items corrected and notify the Architect or Engineer upon completion of the corrections. Items noted after acceptance and manifesting during the one-year guarantee period shall be checked by the Contractor and corrected.
 - 1.13 Progress and Record Drawings: Keep two sets of construction prints on the job. Neatly mark up one copy of the designed drawings with colored pencils each day as components (incorporate any/all changes to original design) are installed. Different colored pencils shall be used for different systems. At the end of the project, all changes shall be forwarded to the Engineer for as-built document preparation.

- 1.14 Until this system is completed, tested and accepted, the Sprinkler Contractor shall be responsible for repair of leaks, and accidental breaks.
- 1.15 Contractor shall instruct Owner's designated employee in the proper operation and maintenance of all fire protection systems and/or equipment. Contractor will also furnish Owner with two (2) sets of typed operating instructions in hard-cover, 3-ring binders.
- 1.16 Performance Verification: Operate systems as required to demonstrate that the systems are operating correctly in accordance with the design, (this is to include line pressure testing). Supply instruments required to read data. Adjust systems to operate at the required performance levels. Advise Engineer 3 working days in advance of the time that the work will be done. Tabulate data for submission. Submit tabulated data on 8 1/2 x 11" sheets with data, time and name of checker with one copy for each technical information brochure. Data shall be submitted and approved before Checking out Memos are to sign a request for final inspection is made.
- 1.17 Guarantee: Contractor shall guarantee in writing, his responsibility for defective materials and workmanship for a period of one (1) year from date of Final Acceptance issued by the Architect and correct any deficiencies, labor and material, without additional cost to Owner.
- 1.18 Instructions to Owner: Submit all required items for checking one week before final inspection of the building is scheduled. When all items are approved and placed in the proper 3 ring binders, the Contractor shall give notice in writing that he is ready to give the Owner an "Instruction in Operation Conference". After the above-mentioned request is received, the Contractor will be notified of the time the conference can be held with the Owner. At the Conference, the Contractor shall review with the Owner all appropriate information. At the end of the conference, two copies of an Instruction in Operation Conference Memo shall be signed by the Contractor, Subcontractor and Owner and one copy inserted in each 3-ring binder.
- 1.19 Time schedule for Final Inspection of System: All work on the System shall be complete and all forms and other information shall have been submitted and approved before the request for a substantial completion inspection is made.
- 1.20 Roughing-in for equipment by others: Rough-in all equipment requiring connections to systems furnished by this division and by others. Verify requirements and correct locations before proceeding with work.
- 1.21 Technical Information Submittals: Submit before start of construction or within ten days after award of the Contract in accordance with Section 01300 - Submittals.
 - A. Each submittal shall consist of an adequately sized, 3-ring or bound binder for 8 1/2" x 11" sheets. Provide correct designation on outside cover.

PART 2 - MATERIALS AND METHODS

- 2.01 Pipe shall be new, designed for 175 PSI working pressure, conforming to ASTM specifications, and have the manufacturer's name or brand, along with the applicable ASTM standard, marked on each length of pipe.
- 2.02 2" or smaller pipe and all screwed pipe shall be steel, Schedule 40, black, and in accordance with specifications, and in accordance with specifications ASTM A120 or A53.
- 2.03 2-1/2" or larger pipe shall be steel, Schedule 10, black, and in accordance with specification ASTM A135.
- 2.04 Schedule 40 black steel pipe shall be joined by screwed (threaded) joints in accordance with specification ANSI B2.1.
- 2.05 Schedule 10 black steel ASTM A135 sprinkler pipe shall be joined by UL and FM approved mechanical couplings. Couplings may be of the rolled groove type or the mechanical locking type (push-on). Grooves for the rolled groove type shall be rolled only (die cut grooving will not be permitted) and they shall be dimensionally compatible with the coupling.
- 2.06 All black steel pipe must be preoxidized with a suitable protective coating. All pipe and valving shall be installed rust-free.
- 2.07 All ASTM A53 and ASTM120 sprinkler pipe must be hydrostatic tested at the mill pursuant to the ASTM standard.
- 2.08 All ASTM A135 sprinkler pipe must be tested with a non-destructive electric test for continuous and uninterrupted inspection of the welded seam.
- 2.09 Screwed fitting shall be cast iron, 125 lb. Class, black, and in accordance with ANSI B16.4 or malleable iron, 150 lb. Class, black, and in accordance with ANSI B16.3. Style of fittings shall be Stockham or ITT Grinnell.
- 2.10 Flanged fittings shall be threaded, cast iron, short body, Class 125, black, and in accordance with ANSI B16.1. Gaskets shall be full face of 1/8" minimum thickness red sheet rubber. Flange bolts shall be hexagon head machine bolts with heavy semi-finished hexagon head nuts, cadmium plated, having dimensions in accordance with ANSI B118.2. Grooved flanges shall not be permitted. Style of fittings shall be Stockham or ITT Grinnell.
- 2.11 Welded branch connections shall be steel; standard weight, black, in accordance with AWS D10.9 and ANSI B31.1. Weld branch connections to main shall be permitted when

pipe size of the branch line is more than two (2) nominal pipe sizes smaller than main. Style of welded connections shall be Allied.

- 2.12 Grooved couplings and mechanical fittings shall be malleable iron, 500 psi working pressure, in accordance with ASTM A47. Coupling gasket material shall be butyl rubber. Grooved couplings and mechanical fitting shall be tested and listed by UL and/or FM. Style of grooved coupling/fittings shall be Victaulic. Grooved mechanical fittings such as; mechanical teed, roust-a-bout, plain end fitting, hookers, etc. shall not be used unless written permission from Engineer is obtained prior to any submissions or installation.
- 2.13 Underground piping shall be UL-FM approved, ductile iron, water pipe Class 250, Mechanical Joints. Install in strict accordance with NFPA-24. All underground bends shall be rodded and thrust blocked. All pipe shall be installed rust-free.
- 2.14 Corrosion Protection: Supply pipes, risers, branch lines, fittings, hangers, sprinkler, or any/all fire protection materials that are installed where corrosive conditions exist, or moisture may be present, the contractor shall provide protective coating that resists corrosion ie. Galvanization. Galvanized painting shall not be permitted.
- 2.15 Automatic sprinkler heads shall be quick response type and have temperature ratings of fusible elements to be in accordance with NFPA-13.
- 2.16 Furnish spare sprinkler heads of each type, with wrench, in wall mounted cabinet. As required by NFPA-13, 3-16.7.3.
- 2.17 See drawings for sprinkler types and locations and/or Architect/Engineer.
- 2.18 Coordinate sprinkler spacing with all other trades as required.
- 2.19 Hangers: Methods of hanging pipes, headers and branches shall be approved by NFPA-13. All hangers on 4" pipe and larger is to be Clevis type hangers. Powder driven studs shall not be permitted. All hangers shall be U.L./F.M. approved.
- 2.20 Tests: Hydrostatic tests shall be conducted in accordance with the "National Fire Codes." Tests must be witnessed by Owner's representative.
- 2.21 Codes: Wherever, or whenever questions may arise, approval and directions shall be guided by the "National Fire Codes" and the Local Authority having jurisdiction.
- 2.22 All wet-pipe system pipe sizes have been hydraulically proven and classified in strict accordance to NFPA-13.
- 2.23 Fire extinguishers shall be provided under other divisions of this specification.
- 2.24 Furnish and install (1) alarm check valve with variable pressure trim - see drawings for

- detail size and locations. Style of valve, trim shall be Gem F200 valve/variable pressure trim.
- 2.25 The fire protection contractor shall submit to the Architect/Engineer a complete set of drawings indicating pipe layout, valve configuration and all details required for system installation. The fire protection contractor shall coordinate with the fire alarm contractor to provide proper interface with the fire alarm system.
- 2.26 Furnish and install (2) 2-1/2" x 2-1/2" x 4" fire department connection with chrome finish; see drawings for location. F.D.C. shall be Potter Roemer or Elkhart.
- 2.27 Provide and install post indicator valves. As required by local codes. Style of post indicator valves shall be Mueller Adjustable #G-1 or Stockham #G-951.
- 2.28 Electric Waterflow Devices and Supervisory Switches:
- A. Furnish devices for installation of electrical flow and valve supervisory switches, whose function is to respond to flow in the sprinkler system and to sound an alarm if any system valve is closed.
 - B. Waterflow detector device shall have built-in pneumatic retard device with automatic reset dial and two snap-action SpDT switches (U.L./F.M. approved).
 - C. Flow switches shall be Notifier.
 - D. All exterior switches shall be rated for outside installation.
- 2.29 Coordinate with electrical Contractor to ensure all fire protection electrical items have been properly completed.
- 2.30 Electrical switches shall be furnished and installed under this Division and wired under Division-16.
- 2.31 Gate valves for fire service shall be approved by the Underwriters' Laboratories, Inc., and the Factory Mutual Laboratories. Valves shall be factory marked "UL" and "FM", 175 PSI working pressure. Gate valves 2-1/2" or larger shall be flanged OS&Y type. Butterfly valves shall not be used. Gate valves 2" or smaller shall be butterball type. Style of valves shall be Stockham #G-634 or Mueller #B-1.
- 2.32 Check vales for fire service shall be approved by the Underwriters' Laboratories, Inc., and the Factory Mutual Laboratories. Valves shall be factory marked "UL" and "FM", 175 PSI working pressure. Spring loaded wafer check valves shall be used above ground. Style of valves shall be mueller or mission.
- 2.33 Furnish and install 2-1/2" fire department hose valves with U.L./F.M. 2-1/2" x 1-1/2" reducer, cap and chain. See drawings for locations. Valves shall be Potter Roemer or

Elkhart.

- 2.34 Furnish and install backflow preventor; see drawings for size and location. Style of backflow preventor shall be FEBCO #806. Backflow preventor shall include backflow preventor and (1) OS&Y's factory assembled and shipped as one unit.
- 2.35 Furnish and install 10" electric bell(s) 24DC. Style of electric bells shall be Notifier N-CO-Bell.

PART 3 - INSTALLATION

- 3.01 GENERAL: All materials, equipment and accessories shall be installed in accordance with NFPA Standard No. 13, 20 and 24.
- 3.02 All pipe hangers shall be securely anchored to the building structural components utilizing expansion anchors and shall be listed and approved by UL-FM, and Architect/Engineer. (Powder or pneumatic driven anchors are not permissible.)
- 3.03 The entire system shall be flushed with clean water to remove debris resulting from installation.
- 3.04 All required grouting shall be with non-shrink grout.

PART 4 - TESTING

4.01 ACCEPTANCE TESTS:

- A. Underground mains and lead-in connections to system risers shall be flushed before connection is made to sprinkler piping in order to remove foreign materials which may have entered the underground piping during the course of the installation. For all systems, the flushing operation shall be continued until water is clear.
- B. Underground mains and lead-in connections shall be flushed at a flow rate not less than indicated in the following table or at the hydraulically calculated water demand rate of the system, whichever is greater,
- C. Main Flushing Rate Table:

Main Pipe Size	Flow Rate
4 in.	390 gpm
6 in.	880 gpm
8 in.	1560 gpm
10 in.	2440 gpm
12 in.	3520 gpm

- D. Provision shall be made for the disposal of water issuing from test outlets to avoid property damage.

4.02 HYDROSTATIC TESTS:

- A. Systems including yard piping shall be hydrostatically tested at not less than 200 psi pressure for 2 hours, or at 50 psi in excess of the maximum pressure, when the maximum pressure to be maintained in the system is in excess of 150 psi.
- B. The test pressure shall be read from a gauge located at the low elevation point of the individual system or portion of the system being tested.
- C. The inside sprinkler piping shall be installed in such a manner that there will be no visible leakage when the system is subjected to the hydrostatic pressure test.
- D. Piping between the check valve in the fire department inlet pipe and the outside connection shall be tested that same as the balance of the system.
- E. Whenever a test blank is used it shall be of the self-indicating type. Test blanks shall have red painted lugs protruding beyond the flange in such a way as to clearly indicate their presence. The Contractor shall have all test blanks numbered so as to keep track of their use and assure their removal after the work is completed.
- F. Approval of Sprinkler Systems:
 - 1. The Contractor shall perform all required acceptance tests in accordance with NFPA-13, and 24. Complete the Contractor's Material and Test Certificate(s) and forward the fire department approved certificate(s) to the Architect/Engineer for approval of the installation.
 - 2. All test certificate(s) shall be dated, signed and witnessed by the local fire department and/or other authority having jurisdiction. Submit one copy of each test certificate to Architect/Engineer.

PART 5 - HYDRAULIC CALCULATIONS

- A. Contractor shall perform, and be responsible for the cost of, a flow test and hydraulic calculations at the time of construction to verify system size and adequacy based on the latest flow data.
- B. Submit calculations along with applicable drawings for review by local fire department.
- C. The Architect shall provide Auto Cad Drawings in electronic format of the areas to receive the Fire Protection System to the General Contractor's sprinkler sub-contractor

for their exclusive use in developing the final design and calculations for permitting.

*****END OF SECTION*****

APPENDIX A

PERMITS

St. Johns River Water Management District
Permit No. 200266

Indian River Farms Water Control District
Permit No. 23-26

Sebastian River Improvement District
Permit No. 2022-05

Indian River County ROW Commercial
Permit No. 2023051918

Indian River County Utility
Permit No. 3677

FDEP Domestic Wastewater Collection
Permit No. 0038890-44-DWC-CL

FDEP Potable Water
Permit No. 0039206-1066

City of Fellsmere Construction Plan Approval Letter

City of Fellsmere Final Development Plan - Resolution No. 2023-50

(Statute requires us to list all entities with permitting authority in the project area, but if no permits are required, please list the following entities that have permitting authority in the project area: for example - IRC, COVB, SJRWMD, IRFWCD, FDEP)



St. Johns River Water Management District

Michael A. Register, P.E., Executive Director

4049 Reid Street • P.O. Box 1429 • Palatka, FL 32178-1429 • 386-329-4500 • www.sjrwmd.com

January 30, 2024

John A Titkanich -
Indian River County
1801 27th St
Vero Beach, FL 32960-3388

SUBJECT: Permit Number: 200266-1
Project Name: IRC Fire Rescue Fire Station #7

Dear Mr. Titkanich:

Enclosed is your individual permit issued by the St. Johns River Water Management District on January 30, 2024. This permit is a legal document and should be kept with your other important documents. Permit issuance does not relieve you from the responsibility of obtaining any necessary permits from any federal, state, or local agencies for your project.

Technical Staff Report:

If you wish to review a copy of the Technical Staff Report (TSR) that provides the District's staff analysis of your permit application, you may view the TSR by going to the Permitting section of the District's website at www.sjrwmd.com/permitting. Using the "search applications and permits" feature, you can use your permit number or project name to find information about the permit. When you see the results of your search, click on the permit number and then on the TSR folder.

Noticing Your Permit:

For noticing instructions, please refer to the noticing materials in this package regarding closing the point of entry for someone to challenge the issuance of your permit. Please note that if a timely petition for administrative hearing is filed, your permit will become non-final and any activities that you choose to undertake pursuant to your permit will be at your own risk. Please refer to the attached Notice of Rights to determine any legal rights you may have concerning the District's agency action.

Compliance with Permit Conditions:

To submit your required permit compliance information, go to the District's website at www.sjrwmd.com/permitting. Under the "Apply for a permit or submit compliance data" section, click to sign-in to your existing account or to create a new account. Select the "Compliance Submittal" tab, enter your permit number, and select "No Specific Date" for the Compliance Due Date Range. You will then be able to view all the compliance submittal requirements for your project. Select the compliance item that you are ready to submit and then attach the appropriate information or form. The forms to comply with your permit conditions are available at www.sjrwmd.com/permitting under the section "Handbooks, forms, fees, final orders". Click on forms to view all permit compliance forms, then scroll to the ERP application forms section and select the applicable compliance forms. Alternatively, if you have difficulty finding forms or need

GOVERNING BOARD

Rob Bradley, CHAIR
FLEMING ISLAND

Ryan Atwood
MOUNT DORA

Maryam H. Ghyabi-White, VICE CHAIR
ORMOND BEACH

Doug Bournique
VERO BEACH

J. Chris Peterson, SECRETARY
WINTER PARK

Douglas Burnett
ST. AUGUSTINE

Ron Howse
COCOA

Cole Oliver, TREASURER
MERRITT ISLAND

Janet Price
FERNANDINA BEACH

copies of the appropriate forms, please contact the Bureau of Regulatory Support at (386) 329-4570.

Transferring Your Permit:

Your permit requires you to notify the District within 30 days of any change in ownership or control of the project or activity covered by the permit, or within 30 days of any change in ownership or control of the real property on which the permitted project or activity is located or occurs. You will need to provide the District with the information specified in rule 62-330.340, Florida Administrative Code (F.A.C.). Generally, this will require you to complete and submit Form 62-330.340(1), "Request to Transfer Permit," available at <http://www.sjrwmd.com/permitting/permitforms.html>.

Please note that a permittee is liable for compliance with the permit before the permit is transferred. The District, therefore, recommends that you request a permit transfer in advance in accordance with the applicable rules. You are encouraged to contact District staff for assistance with this process.

Thank you and please let us know if you have additional questions. For general questions contact e-permit@sjrwmd.com or (386) 329-4570.

Sincerely,



Michelle Reiber, Bureau Chief
Division of Regulatory Services
St. Johns River Water Management District
525 Community College Parkway, S.E.
Palm Bay, FL 32909
(321) 409-2129

Enclosures: Permit
Notice of Rights
List of Newspapers for Publication

cc: District Permit File
George Kulczycki – *Sent via email:* GKE@ME.COM
G.K.Environmental
Aaron Stanton – *Sent via email:* aarons@mbveng.com
MBV Engineering, Inc

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT
Post Office Box 1429
Palatka, Florida 32178-1429

PERMIT NO: 200266-1

DATE ISSUED: January 30, 2024

PROJECT NAME: IRC Fire Rescue Fire Station #7

A PERMIT AUTHORIZING:

Construction and operation of a Stormwater Management System for a 4.42-acre project known as IRC Fire Rescue Fire Station #7 as per plans received by the District on January 29, 2024.

LOCATION:

Section(s): 34 Township(s): 32S Range(s): 38E
Indian River County

Receiving Water Body:

Name	Class
Main Canal	III Fresh, IW

ISSUED TO:

Indian River County
1801 27th St
Vero Beach, FL 32960-3388

Emergency Services District of IRC
1801 27th St
Vero Beach, FL 32960-3388

The permittee agrees to hold and save the St. Johns River Water Management District and its successors harmless from any and all damages, claims, or liabilities which may arise from permit issuance. Said application, including all plans and specifications attached thereto, is by reference made a part hereof.

This permit does not convey to the permittee any property rights nor any rights or privileges other than those specified herein, nor relieve the permittee from complying with any law, regulation or requirement affecting the rights of other bodies or agencies. All structures and works installed by permittee hereunder shall remain the property of the permittee.

This permit may be revoked, modified, or transferred at any time pursuant to the appropriate provisions of Chapter 373, Florida Statutes.

PERMIT IS CONDITIONED UPON:

See conditions on attached "Exhibit A", dated January 30, 2024

AUTHORIZED BY: St. Johns River Water Management District
Division of Regulatory Services

By: 

Marjorie Cook
Supervising Professional Engineer

"EXHIBIT A"
CONDITIONS FOR ISSUANCE OF PERMIT NUMBER 200266-1
IRC Fire Rescue Fire Station #7
DATED: January 30, 2024

1. All activities shall be implemented following the plans, specifications and performance criteria approved by this permit. Any deviations must be authorized in a permit modification in accordance with Rule 62-330.315, F.A.C. Any deviations that are not so authorized may subject the permittee to enforcement action and revocation of the permit under Chapter 373, F.S.
2. A complete copy of this permit shall be kept at the work site of the permitted activity during the construction phase, and shall be available for review at the work site upon request by the District staff. The permittee shall require the contractor to review the complete permit prior to beginning construction.
3. Activities shall be conducted in a manner that does not cause or contribute to violations of state water quality standards. Performance-based erosion and sediment control best management practices shall be installed immediately prior to, and be maintained during and after construction as needed, to prevent adverse impacts to the water resources and adjacent lands. Such practices shall be in accordance with the State of Florida Erosion and Sediment Control Designer and Reviewer Manual (Florida Department of Environmental Protection and Florida Department of Transportation June 2007), and the Florida Stormwater Erosion and Sedimentation Control Inspector's Manual (Florida Department of Environmental Protection, Nonpoint Source Management Section, Tallahassee, Florida, July 2008), which are both incorporated by reference in subparagraph 62-330.050(9)(b)5, F.A.C., unless a project-specific erosion and sediment control plan is approved or other water quality control measures are required as part of the permit.
4. At least 48 hours prior to beginning the authorized activities, the permittee shall submit to the District a fully executed Form 62-330.350(1), "Construction Commencement Notice," (October 1, 2013) (<http://www.flrules.org/Gateway/reference.asp?No=Ref-02505>), incorporated by reference herein, indicating the expected start and completion dates. A copy of this form may be obtained from the District, as described in subsection 62-330.010(5), F.A.C., and shall be submitted electronically or by mail to the Agency. However, for activities involving more than one acre of construction that also require a NPDES stormwater construction general permit, submittal of the Notice of Intent to Use Generic Permit for Stormwater Discharge from Large and Small Construction Activities, DEP Form 62-621.300(4)(b), shall also serve as notice of commencement of construction under this chapter and, in such a case, submittal of Form 62-330.350(1) is not required.
5. Unless the permit is transferred under Rule 62-330.340, F.A.C., or transferred to an operating entity under Rule 62-330.310, F.A.C., the permittee is liable to comply with the plans, terms and conditions of the permit for the life of the project or activity.
6. Within 30 days after completing construction of the entire project, or any independent portion of the project, the permittee shall provide the following to the Agency, as applicable:
 - a. For an individual, private single-family residential dwelling unit, duplex, triplex, or quadruplex — "Construction Completion and Inspection Certification for Activities Associated with a Private Single-Family Dwelling Unit" [Form 62-330.310(3)]; or
 - b. For all other activities — "As-Built Certification and Request for Conversion to

Operation Phase” [Form 62-330.310(1)].

c. If available, an Agency website that fulfills this certification requirement may be used in lieu of the form.

7. If the final operation and maintenance entity is a third party:

a. Prior to sales of any lot or unit served by the activity and within one year of permit issuance, or within 30 days of as-built certification, whichever comes first, the permittee shall submit, as applicable, a copy of the operation and maintenance documents (see sections 12.3 thru 12.3.4 of Volume I) as filed with the Florida Department of State, Division of Corporations and a copy of any easement, plat, or deed restriction needed to operate or maintain the project, as recorded with the Clerk of the Court in the County in which the activity is located.

b. Within 30 days of submittal of the as- built certification, the permittee shall submit “Request for Transfer of Environmental Resource Permit to the Perpetual Operation and Maintenance Entity” [Form 62-330.310(2)] to transfer the permit to the operation and maintenance entity, along with the documentation requested in the form. If available, an Agency website that fulfills this transfer requirement may be used in lieu of the form.

8. The permittee shall notify the District in writing of changes required by any other regulatory District that require changes to the permitted activity, and any required modification of this permit must be obtained prior to implementing the changes.

9. This permit does not:

a. Convey to the permittee any property rights or privileges, or any other rights or privileges other than those specified herein or in Chapter 62-330, F.A.C.;

b. Convey to the permittee or create in the permittee any interest in real property;

c. Relieve the permittee from the need to obtain and comply with any other required federal, state, and local authorization, law, rule, or ordinance; or

d. Authorize any entrance upon or work on property that is not owned, held in easement, or controlled by the permittee.

10. Prior to conducting any activities on state-owned submerged lands or other lands of the state, title to which is vested in the Board of Trustees of the Internal Improvement Trust Fund, the permittee must receive all necessary approvals and authorizations under Chapters 253 and 258, F.S. Written authorization that requires formal execution by the Board of Trustees of the Internal Improvement Trust Fund shall not be considered received until it has been fully executed.

11. The permittee shall hold and save the District harmless from any and all damages, claims, or liabilities that may arise by reason of the construction, alteration, operation, maintenance, removal, abandonment or use of any project authorized by the permit.

12. The permittee shall notify the District in writing:

a. Immediately if any previously submitted information is discovered to be inaccurate; and

b. Within 30 days of any conveyance or division of ownership or control of the property or the system, other than conveyance via a long-term lease, and the new owner shall request transfer of the permit in accordance with Rule 62-330.340, F.A.C. This does not apply to the sale of lots or units in residential or commercial subdivisions or condominiums where the stormwater management system has been completed and converted to the operation phase.

13. Upon reasonable notice to the permittee, District staff with proper identification shall have permission to enter, inspect, sample and test the project or activities to ensure conformity with the plans and specifications authorized in the permit.
14. If prehistoric or historic artifacts, such as pottery or ceramics, projectile points, stone tools, dugout canoes, metal implements, historic building materials, or any other physical remains that could be associated with Native American, early European, or American settlement are encountered at any time within the project site area, the permitted project shall cease all activities involving subsurface disturbance in the vicinity of the discovery. The permittee or other designee shall contact the Florida Department of State, Division of Historical Resources, Compliance Review Section (DHR), at (850) 245-6333, as well as the appropriate permitting agency office. Project activities shall not resume without verbal or written authorization from the Division of Historical Resources. If unmarked human remains are encountered, all work shall stop immediately and the proper authorities notified in accordance with Section 872.05, F.S. For project activities subject to prior consultation with the DHR and as an alternative to the above requirements, the permittee may follow procedures for unanticipated discoveries as set forth within a cultural resources assessment survey determined complete and sufficient by DHR and included as a specific permit condition herein.
15. Any delineation of the extent of a wetland or other surface water submitted as part of the permit application, including plans or other supporting documentation, shall not be considered binding unless a specific condition of this permit or a formal determination under Rule 62-330.201, F.A.C., provides otherwise.
16. The permittee shall provide routine maintenance of all components of the stormwater management system to remove trapped sediments and debris. Removed materials shall be disposed of in a landfill or other uplands in a manner that does not require a permit under Chapter 62-330, F.A.C., or cause violations of state water quality standards.
17. This permit is issued based on the applicant's submitted information that reasonably demonstrates that adverse water resource-related impacts will not be caused by the completed permit activity. If any adverse impacts result, the District will require the permittee to eliminate the cause, obtain any necessary permit modification, and take any necessary corrective actions to resolve the adverse impacts.
18. A Recorded Notice of Environmental Resource Permit may be recorded in the county public records in accordance with Rule 62-330.090(7), F.A.C. Such notice is not an encumbrance upon the property.
19. This permit for construction will expire five years from the date of issuance.
20. At a minimum, all retention and detention storage areas must be excavated to rough grade prior to building construction or placement of impervious surface within the area to be served by those facilities. To prevent reduction in storage volume and percolation rates, all accumulated sediment must be removed from the storage area prior to final grading and stabilization.

21. All wetland areas or water bodies that are outside the specific limits of construction authorized by this permit must be protected from erosion, siltation, scouring or excess turbidity, and dewatering.
22. The operation and maintenance entity shall inspect the stormwater or surface water management system once within two years after the completion of construction and every two years thereafter to determine if the system is functioning as designed and permitted. The operation and maintenance entity must maintain a record of each required inspection, including the date of the inspection, the name and contact information of the inspector, and whether the system was functioning as designed and permitted, and make such record available for inspection upon request by the District during normal business hours. If at any time the system is not functioning as designed and permitted, then within 30 days the entity shall submit a report electronically or in writing to the District using Form 62-330.311(1), "Operation and Maintenance Inspection Certification," describing the remedial actions taken to resolve the failure or deviation.
23. This permit does not authorize the permittee to cause any adverse impact to or "take" of state listed species and other regulated species of fish and wildlife. Compliance with state laws regulating the take of fish and wildlife is the responsibility of the owner or applicant associated with this project. Please refer to Chapter 68A-27 of the Florida Administrative Code for definitions of "take" and a list of fish and wildlife species. If listed species are observed onsite, FWC staff are available to provide decision support information or assist in obtaining the appropriate FWC permits. Most marine endangered and threatened species are statutorily protected and a "take" permit cannot be issued. Requests for further information or review can be sent to FWCConservationPlanningServices@MyFWC.com.
24. The proposed project must be constructed and operated as per plans received by the District on January 29, 2024.

Notice of Rights

1. A person whose substantial interests are or may be affected has the right to request an administrative hearing by filing a written petition with the St. Johns River Water Management District (District). Pursuant to Chapter 28-106 and Rule 40C-1.1007, Florida Administrative Code, the petition must be filed (received) either by delivery at the office of the District Clerk at District Headquarters, P. O. Box 1429, Palatka Florida 32178-1429 (4049 Reid St., Palatka, FL 32177) or by e-mail with the District Clerk at Clerk@sjrwmd.com, within twenty-six (26) days of the District depositing the notice of District decision in the mail (for those persons to whom the District mails actual notice), within twenty-one (21) days of the District emailing the notice of District decision (for those persons to whom the District emails actual notice), or within twenty-one (21) days of newspaper publication of the notice of District decision (for those persons to whom the District does not mail or email actual notice). A petition must comply with Sections 120.54(5)(b)4. and 120.569(2)(c), Florida Statutes, and Chapter 28-106, Florida Administrative Code. The District will not accept a petition sent by facsimile (fax), as explained in paragraph no. 4 below.
2. Please be advised that if you wish to dispute this District decision, mediation may be available and that choosing mediation does not affect your right to an administrative hearing. If you wish to request mediation, you must do so in a timely-filed petition. If all parties, including the District, agree to the details of the mediation procedure, in writing, within 10 days after the time period stated in the announcement for election of an administrative remedy under Sections 120.569 and 120.57, Florida Statutes, the time limitations imposed by Sections 120.569 and 120.57, Florida Statutes, shall be tolled to allow mediation of the disputed District decision. The mediation must be concluded within 60 days of the date of the parties' written agreement, or such other timeframe agreed to by the parties in writing. Any mediation agreement must include provisions for selecting a mediator, a statement that each party shall be responsible for paying its pro-rata share of the costs and fees associated with mediation, and the mediating parties' understanding regarding the confidentiality of discussions and documents introduced during mediation. If mediation results in settlement of the administrative dispute, the District will enter a final order consistent with the settlement agreement. If mediation terminates without settlement of the dispute, the District will notify all the parties in writing that the administrative hearing process under Sections 120.569 and 120.57, Florida Statutes, is resumed. Even if a party chooses not to engage in formal mediation, or if formal mediation does not result in a settlement agreement, the District will remain willing to engage in informal settlement discussions.
3. A person whose substantial interests are or may be affected has the right to an informal administrative hearing pursuant to Sections 120.569 and 120.57(2), Florida Statutes, where no material facts are in dispute. A petition for an informal hearing must also comply with the requirements set forth in Rule 28-106.301, Florida Administrative Code.

Notice of Rights

4. A petition for an administrative hearing is deemed filed upon receipt of the complete petition by the District Clerk at the District Headquarters in Palatka, Florida during the District's regular business hours. The District's regular business hours are 8:00 a.m. – 5:00 p.m., excluding weekends and District holidays. Petitions received by the District Clerk after the District's regular business hours shall be deemed filed as of 8:00 a.m. on the District's next regular business day. The District's acceptance of petitions filed by e-mail is subject to certain conditions set forth in the District's Statement of Agency Organization and Operation (issued pursuant to Rule 28-101.001, Florida Administrative Code), which is available for viewing at sjrwmd.com. These conditions include, but are not limited to, the petition being in the form of a PDF or TIFF file and being capable of being stored and printed by the District. Further, pursuant to the District's Statement of Agency Organization and Operation, attempting to file a petition by facsimile is prohibited and shall not constitute filing.
5. Failure to file a petition for an administrative hearing within the requisite timeframe shall constitute a waiver of the right to an administrative hearing. (Rule 28-106.111, Florida Administrative Code).
6. The right to an administrative hearing and the relevant procedures to be followed are governed by Chapter 120, Florida Statutes, Chapter 28-106, Florida Administrative Code, and Rule 40C-1.1007, Florida Administrative Code. Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means the District's final action may be different from the position taken by it in this notice. A person whose substantial interests are or may be affected by the District's final action has the right to become a party to the proceeding, in accordance with the requirements set forth above.
7. Pursuant to Section 120.68, Florida Statutes, a party to the proceeding before the District who is adversely affected by final District action may seek review of the action in the District Court of Appeal by filing a notice of appeal pursuant to Rules 9.110 and 9.190, Florida Rules of Appellate Procedure, within 30 days of the rendering of the final District action.
8. A District action is considered rendered, as referred to in paragraph no. 7 above, after it is signed on behalf of the District and filed by the District Clerk.
9. Failure to observe the relevant timeframes for filing a petition for judicial review as described in paragraph no. 7 above will result in waiver of that right to review.

NOTICING INFORMATION

Please be advised that the St. Johns River Water Management District will not publish a notice in the newspaper advising the public that it has issued a permit for this project.

Newspaper publication, using the District's notice form, notifies members of the public of their right to challenge the issuance of the permit. If proper notice is given by newspaper publication, then there is a 21-day time limit for someone to file a petition for an administrative hearing to challenge the issuance of the permit.

To close the point of entry for filing a petition, you may publish (at your own expense) a one-time notice of the District's decision in a newspaper of general circulation within the affected area as defined in Section 50.011 of the Florida Statutes. If you do not publish a newspaper notice to close the point of entry, the time to challenge the issuance of your permit will not expire and someone could file a petition even after your project is constructed.

A copy of the notice form and a partial list of newspapers of general circulation are attached for your convenience. However, you are not limited to those listed newspapers. If you choose to close the point of entry and the notice is published, the newspaper will return to you an affidavit of publication. In that event, it is important that you either submit a scanned copy of the affidavit by emailing it to compliancesupport@sjrwm.com (preferred method) or send a copy of the original affidavit to:

Office of Records and Regulatory Support
4049 Reid Street
Palatka, FL 32177

If you have any questions, please contact the Office of Records and Regulatory Support at (386) 329-4570.

NOTICE OF AGENCY ACTION TAKEN BY THE
ST. JOHNS RIVER WATER MANAGEMENT DISTRICT

Notice is given that the following permit was issued on _____:

(Name and address of applicant) _____
permit#_____. The project is located in _____ County, Section
_____, Township _____ South, Range _____ East. The permit authorizes a surface
water management system on _____ acres for
_____ known as
_____. The receiving water body is _____.

A person whose substantial interests are or may be affected has the right to request an administrative hearing by filing a written petition with the St. Johns River Water Management District (District). Pursuant to Chapter 28-106 and Rule 40C-1.1007, Florida Administrative Code (F.A.C.), the petition must be filed (received) either by delivery at the office of the District Clerk at District Headquarters, P.O. Box 1429, Palatka FL 32178-1429 (4049 Reid St, Palatka, FL 32177) or by e-mail with the District Clerk at Clerk@sjrwmd.com, within twenty-one (21) days of newspaper publication of the notice of District decision (for those persons to whom the District does not mail or email actual notice). A petition must comply with Sections 120.54(5)(b)4. and 120.569(2)(c), Florida Statutes (F.S.), and Chapter 28-106, F.A.C. The District will not accept a petition sent by facsimile (fax). Mediation pursuant to Section 120.573, F.S., may be available and choosing mediation does not affect your right to an administrative hearing.

A petition for an administrative hearing is deemed filed upon receipt of the complete petition by the District Clerk at the District Headquarters in Palatka, Florida during the District's regular business hours. The District's regular business hours are 8 a.m. – 5 p.m., excluding weekends and District holidays. Petitions received by the District Clerk after the District's regular business hours shall be deemed filed as of 8 a.m. on the District's next regular business day. The District's acceptance of petitions filed by e-mail is subject to certain conditions set forth in the District's Statement of Agency Organization and Operation (issued pursuant to Rule 28-101.001, Florida Administrative Code), which is available for viewing at www.sjrwmd.com. These conditions include, but are not limited to, the petition being in the form of a PDF or TIFF file and being capable of being stored and printed by the District. Further, pursuant to the District's Statement of Agency Organization and Operation, attempting to file a petition by facsimile (fax) is prohibited and shall not constitute filing.

The right to an administrative hearing and the relevant procedures to be followed are governed by Chapter 120, Florida Statutes, Chapter 28-106, Florida Administrative Code, and Rule 40C-1.1007, Florida Administrative Code. Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means the District's final action may be different from the position taken by it in this notice. **Failure to file a petition for an administrative hearing within the requisite time frame shall constitute a waiver of the right to an administrative hearing. (Rule 28-106.111, F.A.C.).**

If you wish to do so, please visit http://www.sjrwmd.com/nor_dec/ to read the complete Notice of Rights to determine any legal rights you may have concerning the District's decision(s) on the permit application(s) described above. You can also request the Notice of Rights by contacting the Director of Office of Records and Regulatory Support, 4049 Reid St., Palatka, FL 32177-2529, tele. no. (386)329-4570.

NEWSPAPER ADVERTISING

ALACHUA

Gainesville Sun, Legal Advertising
2700 SW 13th Street
Gainesville, FL 32608
866-858-9652

BRAFORD

Bradford County Telegraph, Legal Advertising
P. O. Drawer A
Starke, FL 32901
904-964-6305/ fax 904-964-8628

CLAY

Clay Today, Legal Advertising
1560 Kinsley Ave., Suite 1
Orange Park, FL 32073
904-264-3200/ fax 904-264-3285

FLAGLER

Flagler Tribune, c/o News Journal
P. O. Box 2831
Daytona Beach, FL 32120-2831
386- 681-2322

LAKE

Daily Commercial, Legal Advertising
P. O. Drawer 490007
Leesburg, FL 34749
352-365-8235/fax 352-365-1951

NASSAU

News-Leader, Legal Advertising
P. O. Box 766
Fernandina Beach, FL 32035
904-261-3696/fax 904-261-3698

ORANGE

Sentinel Communications, Legal Advertising
633 N. Orange Avenue
Orlando, FL 32801
407-420-5160/ fax 407-420-5011

PUTNAM

Palatka Daily News, Legal Advertising
P. O. Box 777
Palatka, FL 32178
386-312-5200/ fax 386-312-5209

SEMINOLE

Sanford Herald, Legal Advertising
300 North French Avenue
Sanford, FL 32771
407-323-9408

BAKER

Baker County Press, Legal Advertising
P. O. Box 598
MacLenny, FL 3206 3
904-259-2400/ fax 904-259-6502

BREVARD

Florida Today, Legal Advertising
P. O. Box 419000
Melbourne, FL 32941-9000
321-242-3832/ fax 321-242-6618

DUVAL

Daily Record, Legal Advertising
P. O. Box 1769
Jacksonville, FL 32201
904-356-2466 / fax 904-353-2628

INDIAN RIVER

Treasure Coast News
760 NW Enterprise Dr.
Port St. Lucie, FL 34986
772-283-5252

MARION

Ocala Star Banner, Legal Advertising
2121 SW 19th Avenue Road
Ocala, FL 34474
352-867-4010/fax 352-867-4126

OKEECHOBEE

Okeechobee News, Legal Advertising
P. O. Box 639
Okeechobee, FL 34973-0639
863-763-3134/fax 863-763-5901

OSCEOLA

Little Sentinel, Legal Advertising
633 N. Orange Avenue
Orlando, FL 32801
407-420-5160/ fax 407-420-5011

ST. JOHNS

St. Augustine Record, Legal Advertising
P. O. Box 1630
St. Augustine, FL 32085
904-819-3439

VOLUSIA

News Journal Corporation, Legal Advertising
P. O. Box 2831
Daytona Beach, FL 32120-2831
(386) 681-2322



St. Johns River Water Management District

Michael A. Register, P.E., Executive Director

4049 Reid Street • P.O. Box 1429 • Palatka, FL 32178-1429 • 386-329-4500 • www.sjrwmd.com

January 30, 2024

Dave Johnson – *Sent via email:* djohnson@ircgov.com

Emergency Services District of IRC

1801 27th St

Vero Beach, FL 32960-3388

SUBJECT: Permit Number: 200266-1
Project Name: IRC Fire Rescue Fire Station #7

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For noticing instructions, please refer to the noticing materials in this package regarding closing the point of entry for someone to challenge the issuance of your permit. Please note that if a timely petition for administrative hearing is filed, your permit will become non-final and any activities that you choose to undertake pursuant to your permit will be at your own risk. Please refer to the attached Notice of Rights to determine any legal rights you may have concerning the District's agency action.

Compliance with Permit Conditions:

To submit your required permit compliance information, go to the District's website at www.sjrwmd.com/permitting. Under the "Apply for a permit or submit compliance data" section, click to sign-in to your existing account or to create a new account. Select the "Compliance Submittal" tab, enter your permit number, and select "No Specific Date" for the Compliance Due Date Range. You will then be able to view all the compliance submittal requirements for your project. Select the compliance item that you are ready to submit and then attach the appropriate information or form. The forms to comply with your permit conditions are available at www.sjrwmd.com/permitting under the section "Handbooks, forms, fees, final orders". Click on forms to view all permit compliance forms, then scroll to the ERP application forms section and select the applicable compliance forms. Alternatively, if you have difficulty finding forms or need

GOVERNING BOARD

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COCOA

Janet Price
FERNANDINA BEACH

copies of the appropriate forms, please contact the Bureau of Regulatory Support at (386) 329-4570.

Transferring Your Permit:

Your permit requires you to notify the District within 30 days of any change in ownership or control of the project or activity covered by the permit, or within 30 days of any change in ownership or control of the real property on which the permitted project or activity is located or occurs. You will need to provide the District with the information specified in rule 62-330.340, Florida Administrative Code (F.A.C.). Generally, this will require you to complete and submit Form 62-330.340(1), "Request to Transfer Permit," available at <http://www.sjrwmd.com/permitting/permitforms.html>.

Please note that a permittee is liable for compliance with the permit before the permit is transferred. The District, therefore, recommends that you request a permit transfer in advance in accordance with the applicable rules. You are encouraged to contact District staff for assistance with this process.

Thank you and please let us know if you have additional questions. For general questions contact e-permit@sjrwmd.com or (386) 329-4570.

Sincerely,



Michelle Reiber, Bureau Chief
Division of Regulatory Services
St. Johns River Water Management District
525 Community College Parkway, S.E.
Palm Bay, FL 32909
(321) 409-2129

Enclosures: Permit
Notice of Rights
List of Newspapers for Publication

cc: District Permit File
George Kulczycki – *Sent via email:* GKE@ME.COM
G.K.Environmental
Aaron Stanton – *Sent via email:* aarons@mbveng.com
MBV Engineering, Inc

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT
Post Office Box 1429
Palatka, Florida 32178-1429

PERMIT NO: 200266-1

DATE ISSUED: January 30, 2024

PROJECT NAME: IRC Fire Rescue Fire Station #7

A PERMIT AUTHORIZING:

Construction and operation of a Stormwater Management System for a 4.42-acre project known as IRC Fire Rescue Fire Station #7 as per plans received by the District on January 29, 2024.

LOCATION:

Section(s): 34 Township(s): 32S Range(s): 38E
Indian River County

Receiving Water Body:

Name	Class
Main Canal	III Fresh, IW

ISSUED TO:

Indian River County
1801 27th St
Vero Beach, FL 32960-3388

Emergency Services District of IRC
1801 27th St
Vero Beach, FL 32960-3388

The permittee agrees to hold and save the St. Johns River Water Management District and its successors harmless from any and all damages, claims, or liabilities which may arise from permit issuance. Said application, including all plans and specifications attached thereto, is by reference made a part hereof.

This permit does not convey to the permittee any property rights nor any rights or privileges other than those specified herein, nor relieve the permittee from complying with any law, regulation or requirement affecting the rights of other bodies or agencies. All structures and works installed by permittee hereunder shall remain the property of the permittee.

This permit may be revoked, modified, or transferred at any time pursuant to the appropriate provisions of Chapter 373, Florida Statutes.

PERMIT IS CONDITIONED UPON:

See conditions on attached "Exhibit A", dated January 30, 2024

AUTHORIZED BY: St. Johns River Water Management District
Division of Regulatory Services

By: 

Marjorie Cook
Supervising Professional Engineer

"EXHIBIT A"
CONDITIONS FOR ISSUANCE OF PERMIT NUMBER 200266-1
IRC Fire Rescue Fire Station #7
DATED: January 30, 2024

1. All activities shall be implemented following the plans, specifications and performance criteria approved by this permit. Any deviations must be authorized in a permit modification in accordance with Rule 62-330.315, F.A.C. Any deviations that are not so authorized may subject the permittee to enforcement action and revocation of the permit under Chapter 373, F.S.
2. A complete copy of this permit shall be kept at the work site of the permitted activity during the construction phase, and shall be available for review at the work site upon request by the District staff. The permittee shall require the contractor to review the complete permit prior to beginning construction.
3. Activities shall be conducted in a manner that does not cause or contribute to violations of state water quality standards. Performance-based erosion and sediment control best management practices shall be installed immediately prior to, and be maintained during and after construction as needed, to prevent adverse impacts to the water resources and adjacent lands. Such practices shall be in accordance with the State of Florida Erosion and Sediment Control Designer and Reviewer Manual (Florida Department of Environmental Protection and Florida Department of Transportation June 2007), and the Florida Stormwater Erosion and Sedimentation Control Inspector's Manual (Florida Department of Environmental Protection, Nonpoint Source Management Section, Tallahassee, Florida, July 2008), which are both incorporated by reference in subparagraph 62-330.050(9)(b)5, F.A.C., unless a project-specific erosion and sediment control plan is approved or other water quality control measures are required as part of the permit.
4. At least 48 hours prior to beginning the authorized activities, the permittee shall submit to the District a fully executed Form 62-330.350(1), "Construction Commencement Notice," (October 1, 2013) (<http://www.flrules.org/Gateway/reference.asp?No=Ref-02505>), incorporated by reference herein, indicating the expected start and completion dates. A copy of this form may be obtained from the District, as described in subsection 62-330.010(5), F.A.C., and shall be submitted electronically or by mail to the Agency. However, for activities involving more than one acre of construction that also require a NPDES stormwater construction general permit, submittal of the Notice of Intent to Use Generic Permit for Stormwater Discharge from Large and Small Construction Activities, DEP Form 62-621.300(4)(b), shall also serve as notice of commencement of construction under this chapter and, in such a case, submittal of Form 62-330.350(1) is not required.
5. Unless the permit is transferred under Rule 62-330.340, F.A.C., or transferred to an operating entity under Rule 62-330.310, F.A.C., the permittee is liable to comply with the plans, terms and conditions of the permit for the life of the project or activity.
6. Within 30 days after completing construction of the entire project, or any independent portion of the project, the permittee shall provide the following to the Agency, as applicable:
 - a. For an individual, private single-family residential dwelling unit, duplex, triplex, or quadruplex — "Construction Completion and Inspection Certification for Activities Associated with a Private Single-Family Dwelling Unit" [Form 62-330.310(3)]; or
 - b. For all other activities — "As-Built Certification and Request for Conversion to

Operation Phase” [Form 62-330.310(1)].

c. If available, an Agency website that fulfills this certification requirement may be used in lieu of the form.

7. If the final operation and maintenance entity is a third party:

a. Prior to sales of any lot or unit served by the activity and within one year of permit issuance, or within 30 days of as-built certification, whichever comes first, the permittee shall submit, as applicable, a copy of the operation and maintenance documents (see sections 12.3 thru 12.3.4 of Volume I) as filed with the Florida Department of State, Division of Corporations and a copy of any easement, plat, or deed restriction needed to operate or maintain the project, as recorded with the Clerk of the Court in the County in which the activity is located.

b. Within 30 days of submittal of the as- built certification, the permittee shall submit “Request for Transfer of Environmental Resource Permit to the Perpetual Operation and Maintenance Entity” [Form 62-330.310(2)] to transfer the permit to the operation and maintenance entity, along with the documentation requested in the form. If available, an Agency website that fulfills this transfer requirement may be used in lieu of the form.

8. The permittee shall notify the District in writing of changes required by any other regulatory District that require changes to the permitted activity, and any required modification of this permit must be obtained prior to implementing the changes.

9. This permit does not:

a. Convey to the permittee any property rights or privileges, or any other rights or privileges other than those specified herein or in Chapter 62-330, F.A.C.;

b. Convey to the permittee or create in the permittee any interest in real property;

c. Relieve the permittee from the need to obtain and comply with any other required federal, state, and local authorization, law, rule, or ordinance; or

d. Authorize any entrance upon or work on property that is not owned, held in easement, or controlled by the permittee.

10. Prior to conducting any activities on state-owned submerged lands or other lands of the state, title to which is vested in the Board of Trustees of the Internal Improvement Trust Fund, the permittee must receive all necessary approvals and authorizations under Chapters 253 and 258, F.S. Written authorization that requires formal execution by the Board of Trustees of the Internal Improvement Trust Fund shall not be considered received until it has been fully executed.

11. The permittee shall hold and save the District harmless from any and all damages, claims, or liabilities that may arise by reason of the construction, alteration, operation, maintenance, removal, abandonment or use of any project authorized by the permit.

12. The permittee shall notify the District in writing:

a. Immediately if any previously submitted information is discovered to be inaccurate; and

b. Within 30 days of any conveyance or division of ownership or control of the property or the system, other than conveyance via a long-term lease, and the new owner shall request transfer of the permit in accordance with Rule 62-330.340, F.A.C. This does not apply to the sale of lots or units in residential or commercial subdivisions or condominiums where the stormwater management system has been completed and converted to the operation phase.

13. Upon reasonable notice to the permittee, District staff with proper identification shall have permission to enter, inspect, sample and test the project or activities to ensure conformity with the plans and specifications authorized in the permit.
14. If prehistoric or historic artifacts, such as pottery or ceramics, projectile points, stone tools, dugout canoes, metal implements, historic building materials, or any other physical remains that could be associated with Native American, early European, or American settlement are encountered at any time within the project site area, the permitted project shall cease all activities involving subsurface disturbance in the vicinity of the discovery. The permittee or other designee shall contact the Florida Department of State, Division of Historical Resources, Compliance Review Section (DHR), at (850) 245-6333, as well as the appropriate permitting agency office. Project activities shall not resume without verbal or written authorization from the Division of Historical Resources. If unmarked human remains are encountered, all work shall stop immediately and the proper authorities notified in accordance with Section 872.05, F.S. For project activities subject to prior consultation with the DHR and as an alternative to the above requirements, the permittee may follow procedures for unanticipated discoveries as set forth within a cultural resources assessment survey determined complete and sufficient by DHR and included as a specific permit condition herein.
15. Any delineation of the extent of a wetland or other surface water submitted as part of the permit application, including plans or other supporting documentation, shall not be considered binding unless a specific condition of this permit or a formal determination under Rule 62-330.201, F.A.C., provides otherwise.
16. The permittee shall provide routine maintenance of all components of the stormwater management system to remove trapped sediments and debris. Removed materials shall be disposed of in a landfill or other uplands in a manner that does not require a permit under Chapter 62-330, F.A.C., or cause violations of state water quality standards.
17. This permit is issued based on the applicant's submitted information that reasonably demonstrates that adverse water resource-related impacts will not be caused by the completed permit activity. If any adverse impacts result, the District will require the permittee to eliminate the cause, obtain any necessary permit modification, and take any necessary corrective actions to resolve the adverse impacts.
18. A Recorded Notice of Environmental Resource Permit may be recorded in the county public records in accordance with Rule 62-330.090(7), F.A.C. Such notice is not an encumbrance upon the property.
19. This permit for construction will expire five years from the date of issuance.
20. At a minimum, all retention and detention storage areas must be excavated to rough grade prior to building construction or placement of impervious surface within the area to be served by those facilities. To prevent reduction in storage volume and percolation rates, all accumulated sediment must be removed from the storage area prior to final grading and stabilization.

21. All wetland areas or water bodies that are outside the specific limits of construction authorized by this permit must be protected from erosion, siltation, scouring or excess turbidity, and dewatering.
22. The operation and maintenance entity shall inspect the stormwater or surface water management system once within two years after the completion of construction and every two years thereafter to determine if the system is functioning as designed and permitted. The operation and maintenance entity must maintain a record of each required inspection, including the date of the inspection, the name and contact information of the inspector, and whether the system was functioning as designed and permitted, and make such record available for inspection upon request by the District during normal business hours. If at any time the system is not functioning as designed and permitted, then within 30 days the entity shall submit a report electronically or in writing to the District using Form 62-330.311(1), "Operation and Maintenance Inspection Certification," describing the remedial actions taken to resolve the failure or deviation.
23. This permit does not authorize the permittee to cause any adverse impact to or "take" of state listed species and other regulated species of fish and wildlife. Compliance with state laws regulating the take of fish and wildlife is the responsibility of the owner or applicant associated with this project. Please refer to Chapter 68A-27 of the Florida Administrative Code for definitions of "take" and a list of fish and wildlife species. If listed species are observed onsite, FWC staff are available to provide decision support information or assist in obtaining the appropriate FWC permits. Most marine endangered and threatened species are statutorily protected and a "take" permit cannot be issued. Requests for further information or review can be sent to FWCConservationPlanningServices@MyFWC.com.
24. The proposed project must be constructed and operated as per plans received by the District on January 29, 2024.

Notice of Rights

1. A person whose substantial interests are or may be affected has the right to request an administrative hearing by filing a written petition with the St. Johns River Water Management District (District). Pursuant to Chapter 28-106 and Rule 40C-1.1007, Florida Administrative Code, the petition must be filed (received) either by delivery at the office of the District Clerk at District Headquarters, P. O. Box 1429, Palatka Florida 32178-1429 (4049 Reid St., Palatka, FL 32177) or by e-mail with the District Clerk at Clerk@sjrwmd.com, within twenty-six (26) days of the District depositing the notice of District decision in the mail (for those persons to whom the District mails actual notice), within twenty-one (21) days of the District emailing the notice of District decision (for those persons to whom the District emails actual notice), or within twenty-one (21) days of newspaper publication of the notice of District decision (for those persons to whom the District does not mail or email actual notice). A petition must comply with Sections 120.54(5)(b)4. and 120.569(2)(c), Florida Statutes, and Chapter 28-106, Florida Administrative Code. The District will not accept a petition sent by facsimile (fax), as explained in paragraph no. 4 below.
2. Please be advised that if you wish to dispute this District decision, mediation may be available and that choosing mediation does not affect your right to an administrative hearing. If you wish to request mediation, you must do so in a timely-filed petition. If all parties, including the District, agree to the details of the mediation procedure, in writing, within 10 days after the time period stated in the announcement for election of an administrative remedy under Sections 120.569 and 120.57, Florida Statutes, the time limitations imposed by Sections 120.569 and 120.57, Florida Statutes, shall be tolled to allow mediation of the disputed District decision. The mediation must be concluded within 60 days of the date of the parties' written agreement, or such other timeframe agreed to by the parties in writing. Any mediation agreement must include provisions for selecting a mediator, a statement that each party shall be responsible for paying its pro-rata share of the costs and fees associated with mediation, and the mediating parties' understanding regarding the confidentiality of discussions and documents introduced during mediation. If mediation results in settlement of the administrative dispute, the District will enter a final order consistent with the settlement agreement. If mediation terminates without settlement of the dispute, the District will notify all the parties in writing that the administrative hearing process under Sections 120.569 and 120.57, Florida Statutes, is resumed. Even if a party chooses not to engage in formal mediation, or if formal mediation does not result in a settlement agreement, the District will remain willing to engage in informal settlement discussions.
3. A person whose substantial interests are or may be affected has the right to an informal administrative hearing pursuant to Sections 120.569 and 120.57(2), Florida Statutes, where no material facts are in dispute. A petition for an informal hearing must also comply with the requirements set forth in Rule 28-106.301, Florida Administrative Code.

Notice of Rights

4. A petition for an administrative hearing is deemed filed upon receipt of the complete petition by the District Clerk at the District Headquarters in Palatka, Florida during the District's regular business hours. The District's regular business hours are 8:00 a.m. – 5:00 p.m., excluding weekends and District holidays. Petitions received by the District Clerk after the District's regular business hours shall be deemed filed as of 8:00 a.m. on the District's next regular business day. The District's acceptance of petitions filed by e-mail is subject to certain conditions set forth in the District's Statement of Agency Organization and Operation (issued pursuant to Rule 28-101.001, Florida Administrative Code), which is available for viewing at sjrwmd.com. These conditions include, but are not limited to, the petition being in the form of a PDF or TIFF file and being capable of being stored and printed by the District. Further, pursuant to the District's Statement of Agency Organization and Operation, attempting to file a petition by facsimile is prohibited and shall not constitute filing.
5. Failure to file a petition for an administrative hearing within the requisite timeframe shall constitute a waiver of the right to an administrative hearing. (Rule 28-106.111, Florida Administrative Code).
6. The right to an administrative hearing and the relevant procedures to be followed are governed by Chapter 120, Florida Statutes, Chapter 28-106, Florida Administrative Code, and Rule 40C-1.1007, Florida Administrative Code. Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means the District's final action may be different from the position taken by it in this notice. A person whose substantial interests are or may be affected by the District's final action has the right to become a party to the proceeding, in accordance with the requirements set forth above.
7. Pursuant to Section 120.68, Florida Statutes, a party to the proceeding before the District who is adversely affected by final District action may seek review of the action in the District Court of Appeal by filing a notice of appeal pursuant to Rules 9.110 and 9.190, Florida Rules of Appellate Procedure, within 30 days of the rendering of the final District action.
8. A District action is considered rendered, as referred to in paragraph no. 7 above, after it is signed on behalf of the District and filed by the District Clerk.
9. Failure to observe the relevant timeframes for filing a petition for judicial review as described in paragraph no. 7 above will result in waiver of that right to review.

NOTICING INFORMATION

Please be advised that the St. Johns River Water Management District will not publish a notice in the newspaper advising the public that it has issued a permit for this project.

Newspaper publication, using the District's notice form, notifies members of the public of their right to challenge the issuance of the permit. If proper notice is given by newspaper publication, then there is a 21-day time limit for someone to file a petition for an administrative hearing to challenge the issuance of the permit.

To close the point of entry for filing a petition, you may publish (at your own expense) a one-time notice of the District's decision in a newspaper of general circulation within the affected area as defined in Section 50.011 of the Florida Statutes. If you do not publish a newspaper notice to close the point of entry, the time to challenge the issuance of your permit will not expire and someone could file a petition even after your project is constructed.

A copy of the notice form and a partial list of newspapers of general circulation are attached for your convenience. However, you are not limited to those listed newspapers. If you choose to close the point of entry and the notice is published, the newspaper will return to you an affidavit of publication. In that event, it is important that you either submit a scanned copy of the affidavit by emailing it to compliancesupport@sjrwm.com (preferred method) or send a copy of the original affidavit to:

Office of Records and Regulatory Support
4049 Reid Street
Palatka, FL 32177

If you have any questions, please contact the Office of Records and Regulatory Support at (386) 329-4570.

NOTICE OF AGENCY ACTION TAKEN BY THE
ST. JOHNS RIVER WATER MANAGEMENT DISTRICT

Notice is given that the following permit was issued on _____:

(Name and address of applicant) _____
permit#_____. The project is located in _____ County, Section
_____, Township _____ South, Range _____ East. The permit authorizes a surface
water management system on _____ acres for
_____ known as
_____. The receiving water body is _____.

A person whose substantial interests are or may be affected has the right to request an administrative hearing by filing a written petition with the St. Johns River Water Management District (District). Pursuant to Chapter 28-106 and Rule 40C-1.1007, Florida Administrative Code (F.A.C.), the petition must be filed (received) either by delivery at the office of the District Clerk at District Headquarters, P.O. Box 1429, Palatka FL 32178-1429 (4049 Reid St, Palatka, FL 32177) or by e-mail with the District Clerk at Clerk@sjrwm.com, within twenty-one (21) days of newspaper publication of the notice of District decision (for those persons to whom the District does not mail or email actual notice). A petition must comply with Sections 120.54(5)(b)4. and 120.569(2)(c), Florida Statutes (F.S.), and Chapter 28-106, F.A.C. The District will not accept a petition sent by facsimile (fax). Mediation pursuant to Section 120.573, F.S., may be available and choosing mediation does not affect your right to an administrative hearing.

A petition for an administrative hearing is deemed filed upon receipt of the complete petition by the District Clerk at the District Headquarters in Palatka, Florida during the District's regular business hours. The District's regular business hours are 8 a.m. – 5 p.m., excluding weekends and District holidays. Petitions received by the District Clerk after the District's regular business hours shall be deemed filed as of 8 a.m. on the District's next regular business day. The District's acceptance of petitions filed by e-mail is subject to certain conditions set forth in the District's Statement of Agency Organization and Operation (issued pursuant to Rule 28-101.001, Florida Administrative Code), which is available for viewing at www.sjrwm.com. These conditions include, but are not limited to, the petition being in the form of a PDF or TIFF file and being capable of being stored and printed by the District. Further, pursuant to the District's Statement of Agency Organization and Operation, attempting to file a petition by facsimile (fax) is prohibited and shall not constitute filing.

The right to an administrative hearing and the relevant procedures to be followed are governed by Chapter 120, Florida Statutes, Chapter 28-106, Florida Administrative Code, and Rule 40C-1.1007, Florida Administrative Code. Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means the District's final action may be different from the position taken by it in this notice. **Failure to file a petition for an administrative hearing within the requisite time frame shall constitute a waiver of the right to an administrative hearing. (Rule 28-106.111, F.A.C.).**

If you wish to do so, please visit http://www.sjrwm.com/nor_dec/ to read the complete Notice of Rights to determine any legal rights you may have concerning the District's decision(s) on the permit application(s) described above. You can also request the Notice of Rights by contacting the Director of Office of Records and Regulatory Support, 4049 Reid St., Palatka, FL 32177-2529, tele. no. (386)329-4570.

NEWSPAPER ADVERTISING

ALACHUA

Gainesville Sun, Legal Advertising
2700 SW 13th Street
Gainesville, FL 32608
866-858-9652

BRAFORD

Bradford County Telegraph, Legal Advertising
P. O. Drawer A
Starke, FL 32901
904-964-6305/ fax 904-964-8628

CLAY

Clay Today, Legal Advertising
1560 Kinsley Ave., Suite 1
Orange Park, FL 32073
904-264-3200/ fax 904-264-3285

FLAGLER

Flagler Tribune, c/o News Journal
P. O. Box 2831
Daytona Beach, FL 32120-2831
386- 681-2322

LAKE

Daily Commercial, Legal Advertising
P. O. Drawer 490007
Leesburg, FL 34749
352-365-8235/fax 352-365-1951

NASSAU

News-Leader, Legal Advertising
P. O. Box 766
Fernandina Beach, FL 32035
904-261-3696/fax 904-261-3698

ORANGE

Sentinel Communications, Legal Advertising
633 N. Orange Avenue
Orlando, FL 32801
407-420-5160/ fax 407-420-5011

PUTNAM

Palatka Daily News, Legal Advertising
P. O. Box 777
Palatka, FL 32178
386-312-5200/ fax 386-312-5209

SEMINOLE

Sanford Herald, Legal Advertising
300 North French Avenue
Sanford, FL 32771
407-323-9408

BAKER

Baker County Press, Legal Advertising
P. O. Box 598
MacLenny, FL 3206 3
904-259-2400/ fax 904-259-6502

BREVARD

Florida Today, Legal Advertising
P. O. Box 419000
Melbourne, FL 32941-9000
321-242-3832/ fax 321-242-6618

DUVAL

Daily Record, Legal Advertising
P. O. Box 1769
Jacksonville, FL 32201
904-356-2466 / fax 904-353-2628

INDIAN RIVER

Treasure Coast News
760 NW Enterprise Dr.
Port St. Lucie, FL 34986
772-283-5252

MARION

Ocala Star Banner, Legal Advertising
2121 SW 19th Avenue Road
Ocala, FL 34474
352-867-4010/fax 352-867-4126

OKEECHOBEE

Okeechobee News, Legal Advertising
P. O. Box 639
Okeechobee, FL 34973-0639
863-763-3134/fax 863-763-5901

OSCEOLA

Little Sentinel, Legal Advertising
633 N. Orange Avenue
Orlando, FL 32801
407-420-5160/ fax 407-420-5011

ST. JOHNS

St. Augustine Record, Legal Advertising
P. O. Box 1630
St. Augustine, FL 32085
904-819-3439

VOLUSIA

News Journal Corporation, Legal Advertising
P. O. Box 2831
Daytona Beach, FL 32120-2831
(386) 681-2322

**INDIAN RIVER FARMS WATER CONTROL DISTRICT
(IRFWCD)
7305 4th Street
Vero Beach, Florida 32968
(772) 562-2141**

APPLICATION FOR CONNECTION TO OR USE OF DISTRICT FACILITIES

(Pipe material requirements for culverting sub lateral ditches under public roadways and private lands and for driveways crossing IRFWCD sublaterals)

Date: _____

No. 23-26

A. Applicant Information:

Utility Owner: Emergency Services District of Indian River County

Address: 1801 27th Street

Vero Beach, FL 32960

Authorized Agent and Title: Chief Dave Johnson

Telephone Number: 772-226-3953

B. Proposed Connection or Use: (check appropriate box or boxes):

NON-REFUNDABLE

Culvert connection to District canal for irrigation or drainage	\$100.00
Pump connection to District canal for irrigation or drainage	\$300.00
Culvert and/or control stricture in District canal for crossing and/or water storage	\$200.00
Other (specify): <u>Paving of existing road area.</u>	<u>\$100.00</u>

C. Location: Tract _____, Section 34, Township 32, Range 38, Canal No. North- Dike & Ditch

Other appropriate description: _____

Property ID/Parcel No.: 32-38-34-00000-1000-00005.0

Attach drawing to show details (include acreage to be served).

D. Details of proposed Construction: (Give diameter and length of culvert; diameter and rated capacity of pump; height and width of riser or other details on water control structure.)

No pipe or connections proposed. Only paving of existing 98th Avenue road area crossing the 100' easement area.

E. Special Conditions: (for District use only)

F. Estimated Date of Construction Commencement:


September 2023

Estimated Date of Construction Completion:

September 2024


G. As the Applicant for permit, I do understand and agree that:

1. The use of, or construction within, the right-of-way of the Indian River Farms Water Control District will be in accordance with the details of the approved sketch and/or permit conditions shown hereon, supporting this application; and if any changes are required, same will be cleared with the District.
2. If a permit is granted, successive owners and holders of title to property as described herein shall be on notice of Permitter's obligations to the Water Control District to protect and preserve the property described herein and the uses allowed by the Water Control District to its property in or abutting areas and property as described within.

Signed: 
 Date 8-1-23
 Applicant & Permittee

(For District Use Only)

Application approved by: 
 for the Indian River Farms Water Control District

Application approved by:  8/7/2023
 for Carter Associates, Inc., Engineer for District

Date of approval: 8/7/2023
 Expiration Date of this approved application: 8/7/2024

PERMISSION, WHEN GRANTED, WILL BE SUBJECT TO THE
 STANDARD PROVISOS SET FORTH HEREAFTER.

G. (continued)

3. (a) I accept full responsibility for any erosion to, or shoaling in, the District's canal or levee due to my work and I shall remove or repair same promptly and at no expense to the District; and I will prevent the discharge of any hyacinths or other aquatic growth into the District's canal through my connection.

(b) Due to corrosion and metal loss with the exposure to moisture of metal covered pipe failures in Water Control District canals can cause significant impacts to downstream service and must be removed immediately. Therefore, in the case of a property under the management of a homeowners' association:
4. I will neither plant trees nor shrubs or erect any structure that will impede or limit the existing access of District equipment or vehicles without securing proper authorization therefor.
5. It is further understood and agreed that any other requirements of the District are binding upon me, the Applicant, and I do hereby indicate acceptance of notice thereof.
6. It is further understood and agreed that the lands to be benefited by this request are, or may be, subject to flooding during periods of high water due to heavy rains or other acts of God, and that the permit will be accepted subject to this possibility which is recognized by Applicant not to be within the control of the District.

STANDARD PROVISOS

1. Permittee assumes full responsibility for any construction, operation or maintenance of or in District property or right-of-way subject to this Permit and shall save and hold harmless District from any expense, loss, damage or claim in regard thereto, and the District will not assume and shall have no liability in connection therewith.
2. This Permit is subject always to the paramount right of the District to keep and maintain its drainage district functions and operations and is subject to revocation and cancellation upon thirty days' notice from District to Permittee.
3. (a) If Applicant's property is managed by a homeowners' association, or any other entity, an unexpected and unbudgeted amount for the removal and replacement of a failed pipe is highly possible and the managing entity must join in the signing of this Application and be subject jointly with the Applicant and will provide a signed copy of a resolution authorizing an individual to act for the entity if need arises, which resolution shall be delivered with the signed copy of this application form so that delay in emergency of a failure can be dealt with immediately, Such resolution must be in the hand of the Water Control District before work is taken on removal or replacement of a failed pipe so as to avoid delays and dealing with such an accident.

(b) In no event shall the District be liable for any damages done or caused by the District to the Public, to Permittee or any other person using the right-of-way or property subject to this Permit, and Permittee shall save the District, its officers, agents, supervisors and employees harmless from any costs, charge or expense of claim or demand of any person or entity against the District arising from or pertaining to any use made of the property or right-of-way subject to this permit. Permittee shall, upon submission of this application, provide to District evidence, satisfactory to District, of liability insurance coverage, in amounts and with companies as may be required by District, protecting the interests of District and naming District as an additional insured.

(c) Because pipe or culvert failures may occur unexpectedly, but require immediate removal or replacement or both, Permittee agrees that the District may estimate the work to be done which shall be an amount to be paid to District in advance to be held and used for payment of costs for

**SPECIAL CONDITIONS
FOR
INDIAN RIVER FARMS WATER CONTROL DISTRICT
PERMIT NO. 23-24
PROJECT: Fire Station 7 Project
9700 26th Place, Fellsmere, FL
08-03-2023**

The project is for a Fire Station located just north of the IRFWCD north Dike and Ditch.

- (1) This permit is issued based on the project plans prepared by MBV, signed, and sealed by Aaron Stanton, P.E. on July 27, 2023.
- (2) The proposed drainage design includes dry retention areas that overflow to the land north of the North Dike of the IRFWCD along 26th Street near 98th Avenue.
- (3) No drainage calculations are required since no discharge from the site into the IRFWCD drainage system.
- (4) The Engineer of Record will schedule a pre-construction meeting with the Contractor and an IRFWCD representative prior the start of construction.
- (5) Drainage in all IRFWCD facilities shall be maintained during construction.
- (6) Provide signed and sealed as-built plans prepared by a Florida registered surveyor within 30 days of the completion of the project.
- (7) Provide a certified directional boring log for all utilities crossing under the IRFWCD facilities.

REF - R - 22 - 12

SEBASTIAN RIVER IMPROVEMENT DISTRICT



P.O. Box 690336
(925 SW 122nd Ave.)
Vero Beach, FL 32969



Office: 772-562-9176
Fax: 772-569-5541



APPLICATION for Connection TO or USE of Sebastian River Improvement District (SRID) Facilities/Rights of Ways

Date of Application: 05/16/23
~~10/14/22~~ Application Number: 2022-05

A. Application Information: Name: Emergency Services District of Indian River County
Address: 1801 27th Street
Vero Beach, FL 32960

Contact Number(s) Chief Dave Johnson
772-226-3953

Authorized Agent (Name/Title/Address): Authorized Designee Statement must be included.
MBV Engineering, Inc.- Todd Howder
1835 20th Street
Vero Beac, FL 32960

Contact Number(s) 772-569-0035

Non-Refundable Fee Schedule*

- B. Proposed **New/Modified** Connection or Use (check all applicable lines):
- Culvert Connection to SRID System Up to \$ 200.00*
 - Pump Connection to SRID System Up to \$ 300.00*
 - For Crossing of SRID System and/or Water Storage:
 - Culvert and/or Control Structure Up to \$ 500.00*
 - Other (Specify) 8" WM, 4" SewFM * As determined by SRID
- New Asphalt Road

*Note: The amount of the **NON REFUNDABLE APPLICATION FEE** is at the discretion of the SRID Administrator as based on the potential project complexity and associated review process.

Given the potential complexity of certain projects, the SRID Administrator may need to seek professional advice, review and assistance from SRID Legal Counsel and/or Engineers as well as other parties as may be relevant to this project's review. If the need for that specialized assistance is utilized, the applicant/representative will be responsible for the timely and complete payment of all associated costs within fifteen (15) calendar days of payment due notification by the SRID. In conjunction with this application submission and upon the determination of the SRID, the applicant may be required to submit a **RETAINER FEE** up to \$2,500.00 **PRIOR TO THE COMMENCEMENT OF THE ACTUAL REVIEW PROCESS**. This retainer fee will be returned to the applicant upon the timely payment of all applicable project fees and the submission of all required project information to the satisfaction of the SRID upon project completion.

- C. Project Location (Specific to SRID- System i.e. R-12 East)) Include Section/Township/Range Info
North and Adjacent to the SRID Canal Easement just north of 98th Ave & the
IRFWCD North dike ditch

Attach DETAILED SITE drawings to depict specific project location

- D. Details of proposed Project Activities. As applicable, details should include but not be limited to :
(Diameter/Length of Culvert; Diameter/Rated Capacity of Pumps; Height/Width of riser or other structural
details; signed and sealed engineering drawings/ survey information; engineering calculations; applicable
other agency (SJRWMD and Indian River County) general correspondence, technical staff reports,
approved permits, special conditions; etc.)

- E. Special Conditions: (To be determined by the SRID)

F: Estimated date of Project Commencement: ~~4 / 1 / 2023~~ 8/30/2023

Estimated date of Project Completion: ~~4 / 1 / 2024~~ 8/30/2024

- G. As the Applicant/Representative, I do understand and agree by my signature and through the
submission of this SRID Application, that;

1. The use of, or construction within, the rights -of-ways of the Sebastian River Improvement District will be in accordance with the details of the approved information submitted in support of this application; and if any changes are required, same will be cleared/approved with the SRID.
2. I accept full responsibility for any erosion to or shoaling in the SRID's canal or levee system due to my project work, and I shall remove or repair same promptly and at no expense to the SRID; and I will prevent the discharge of any vegetative materials-aquatic growth or sediments into the SRID system through this connection.
3. I will neither plant trees or shrubs or effect any structure that will prohibit the access of SRID equipment or vehicles or those of their contractors, without securing proper SRID authorization thereof. The SRID or its successor will be given priority perpetual access.
4. It is further understood and agreed that any requirements of the SRID are binding upon me, the applicant/representative, and I do hereby indicate acceptance of this notice.
5. It is further understood and agreed that the lands to be benefitted by this requested permit are or may be, subject to flooding during periods of high water due to heavy rains or acts of God, and that the permit will be accepted subject to this possibility which is recognized not to be within the control of the SRID.

Standard Provisos

1. Permittee assumes full responsibility for any construction, operation or maintenance of SRID property or rights of way subject to this Permit and shall save and hold harmless the SRID from any expense, loss, damage or claim in regard thereto, and the SRID assumes and shall have no liability in connection therewith.
2. This Permit may not be assigned or sublet to a third party and any transfer of Permittee's property abutting SRID property or rights of way shall immediately cancel, nullify, and revoke this Permit.
3. This Permit is subject **always to the paramount right of the SRID** to keep and maintain its Improvement District functions and operations, and is subject to revocation and cancellation upon thirty (30) calendar days notice from the SRID to the Permittee.

4. In no event shall the SRID be liable for any damage done or caused by the SRID to the public, to Permittee or any other persons using the rights of way property subject to this Permit. Permittee shall save the SRID, its officers, agents, administrator, supervisors and employees harmless from any costs, charge or expense of claims or demand of any person against the SRID arising from or pertaining to any use made of the property or rights of way subject to this permit. Permittee shall, at any time upon request of the SRID, provide to the SRID evidence, satisfactory to the SRID, of liability insurance coverage as may be required by the SRID, protecting the interests of the SRID and naming the SRID as an additional insured.
5. The SRID may, on thirty (30) calendar days written notice to Permittee, require removal and/or alteration of any installation or construction on SRID rights of way.
6. Any construction on SRID's rights of way or property, and clean up, shall be completed promptly by Permittee and in a workmanlike manner with minimum disturbance to existing SRID berm, channel slopes and grade, with proper restoration and planting of any disturbed areas to prevent erosion within ten (10) calendar days after completion and installation.
7. Permittee shall advise the SRID office prior to commencement and upon completion of all project activities. **Office Telephone: (772) 562-9176**
8. Permittee shall not discharge any pollutants, contaminants or deleterious materials into waters or structures owned or maintained by, or subject to the jurisdiction of the SRID nor permit anything to obstruct the flow of water, and shall save and hold the SRID harmless from any expense, loss or damage to the SRID or others by any such discharge or obstruction, remedying or removing the same immediately upon request of the SRID. Off-site discharges from the project into SRID water bodies shall meet or exceed current or future Federal and State Water Quality Standards.
9. Permittee, as a condition to the continuance of this Permit, shall reimburse the SRID, immediately upon demand, for any testing or other costs or expenses to the SRID associated with or arising from Permittee's use of the SRID's facilities/rights of way.
10. Applicant is cautioned that electrical, water and sewer, or other installations or utilities may be located within the project area, and applicant shall use diligent efforts to first detect and locate all such installations and shall coordinate all project activities with other lawful users of said rights of ways. Applicant shall be liable for all damages proximately resulting from its interferences with or interruption of services provided by other lawful rights of way users.
11. This permit shall be considered to be a license only, for the limited purpose of installation, placement and maintenance of the improvements and project activities specified on the face hereof and representative by accompanying signed and sealed and relevant project drawings, and does not convey any other right, title or interest of the SRID in the subject right of way property.
12. Applicants are strongly encouraged to implement to the optimal degree possible Best Management Practices (BMP's) and other recognized water quality improvement actions to reduce the off-site transport of vegetation and sediment material.
13. The permit applicant is required to submit within thirty (30) calendar days of project completion, written acknowledgment the permitted project was constructed in complete accordance with applicable and approved plans, and reflects sound engineering practices, and the constructed project poses no detrimental impacts to other users within the SRID system. This project completion acknowledgment can be in the form of a letter, signed by the permit applicant, attesting to the fact the project was completed in complete accordance with approved plan details and may also require the submission of detailed, signed and sealed "as-built" drawings.

14. Failure to comply with all conditions noted in this application process and any special conditions associated with this specific project SRID approval, may result in permit revocation; loss of the use of SRID Rights of Way and facilities; and fines up to one thousand (\$1000.00) dollars per day of violation as determined solely by the SRID.

Applicant/Landowner Signature: [Signature]

Applicant/Landowner Printed Name: Chief Daye Johnson- Director of Emergency Services

(For Sebastian River Improvement District Use Only)

Applicable Application notations/approval(s):

For Sebastian River Improvement District: B. Frank Sakuma, Jr.

As applicable :
SRID Engineer Representative: [Signature] 8/8/2023

SRID Legal Representative : _____

Board of Supervisors: _____

Date of Approval: Conditional ___ / ___ / ___ Final: 08 / 08 / 2023

* Expiration Date of this Approved application: 08 / 08 / 2024

***NOTICE: PROJECT COMMUNICATIONS**

Throughout the application and total project process, project communication remains the primary responsibility of the applicant/representative. Failure to maintain an active and open communication position during the total project process will result in a declaration by the Sebastian River Improvement District (SRID), that the application is "inactive" and therefore "will be closed". In this regard, should a six month period (180 calendar days) elapse without any formal written communications to the SRID Administrator as to the status of the application/project, a notice will be issued to the appropriate party(ies) indicating the application will be declared "inactive " and will be "closed" in thirty (30)calendar days. As applicable, any unobligated portion of the Retainer Fee will be refunded. Once the SRID declares a project "inactive", —ANY SUBSEQUENT ACTIVITIES INVOLVING THIS PROJECT, WILL REQUIRE THE INITIATION OF A NEW APPLICATION PACKAGE AND ALL ASSOCIATED APPLICATION FEES.

Permission, when granted, will be subject to the standard provisos set forth herein.

Note: Please be aware that suggestions or other directions provided by the District or its representatives are offered to assist the applicant in the application process. The applicant and/or their representative bear the burden of demonstrating that their application meets all applicable requirements including but not limited to the obtaining of all applicable documentation, permits and associated approvals. The FINAL decision regarding issuance or denial specific to this application is up to the Board of Supervisors of the District or their designee as determined by that Board of Supervisors.

**SPECIAL CONDITIONS
FOR
SEBASTIAN RIVER IMPROVEMENT DISTRICT
PERMIT NO. _____
PROJECT: Fire Station 7 Project
9700 26th Place, Fellsmere, FL
08-08-2023**

The project is for a Fire Station located just north of the SRID 30-foot-wide R-O-W which is adjacent to and north of the IRFWCD north Dike and Ditch. The driveway location across the SRID R-O-W is along the 98th Avenue alignment. The 4" Force Main and the 8" Water Main (both directional drills) are located approximately 180 LF east of 98th Avenue.

- (1) This permit is issued based on the project plans prepared by MBV, signed, and sealed by Aaron Stanton, P.E. on July 27, 2023.
- (2) The Engineer of Record will schedule a pre-construction meeting with the Contractor and an SRID representative prior to the start of construction.
- (3) Provide signed and sealed as-built plans prepared by a Florida registered surveyor within 30 days of the completion of the project.
- (4) The existing grade at the SRID 30 R-O-W is approximately elevation 24.0 NAVD. The top of both utility line pipes shall be below elevation 8.0 where they cross the R-O-W. Provide a certified directional boring log for all utilities crossing under the IRFWCD facilities.

INDIAN RIVER COUNTY ENGINEERING DIVISION

1801 27TH STREET
VERO BEACH, FL 32960-3365
772-226-1384

PERMIT

Confirm. #: 358

ROWCOM ROW COMMERCIAL

PERMIT #: **2023051918** PERMIT TYPE: ROWCOMISSUED DATE: 07/10/2023 BY: PWWS
JOB DESCRIPTION: 98TH AV B/W 22ND STREET AND 26TH PL, PAVE EXISTING STABILIZED PORTION OF 98TH AV TO
JOB ADDRESS 1801 27TH ST OVERALL ROW PERMITS
BLOCK 0000 LOT: 00000.0 SUBDIVISION #: -
ADDR NBR: 111633 FOLIO NBR: 00-00-00-00000-0000-00000.0 WWP (2X fee): N
OWNER NAME: INDIAN RIVER COUNTY JURISDICTION: VB
PROJECT
APPLICANT: EMERGENCY SERVICES DISTRICT IRC - CF TYPE: OWNER JOB PHONE: 772-226-3953
DBA: CERT NBR JOB FAX:
FLOOD ZONE FLOOD ELEV: FLOOD MAP
OPEN CUT: LANES: BOND AMOUNT:

ADDITIONAL INFO:
Permit expires on: 7/11/26

Indian River County requires 3 business days notice prior to the start of construction in the right-of-way. Please e-mail IRCPWROWUTL@IRCGOV.COM or call 772-226-1283.

Maintenance of traffic as per FDOT Standard Plans (2022-2023)

INSPECTION	CODE	DATE	INITIALS	APPR	DISAPPR	COMMENTS
(As Applicable)						
STAKE & GRADE	801	__/__/__	_____	_____	_____	_____
PRE-POUR DRIVE/SIDE	802	__/__/__	_____	_____	_____	_____
OTHER	803	__/__/__	_____	_____	_____	_____
ROW FINAL	899	__/__/__	_____	_____	_____	_____

DISPLAY ON JOB SITE

This permit is subject to attached conditions. For information regarding this permit, contact the Indian River County Engineering Division at (772) 226-1283.

Schedule Inspections Online at:

www.irccgov.com and select the **Building Division Online Services** link

This permit is based upon information supplied on the application. Insufficient or erroneous information does not relieve the applicant of any future requirements that may be imposed to comply with Indian River County Ordinances. Engineering reserves the right to modify the original permitted conditions as needed at any time prior to final acceptance in order to comply with Indian River County Ordinances.

RECEIVED

By Allen Chadwick at 10:52 am, 5/31/23

INDIAN RIVER COUNTY RIGHT-OF-WAY PERMIT APPLICATION

1801 27TH ST Bldg. A VERO BEACH, FL 32960 (772)226-1283

THIS PERMIT IS ISSUED SUBJECT TO ALL CONDITIONS ON PAGE 3 & 4 OF THIS APPLICATION.

PLEASE FILL IN THE REQUIRED FIELDS AND RETURN TO IRCPWROW@IRCGOV.COM

Applicant / Landowner / Franchise Owner:

Permit # 2023051918

Company Name: Emergency Services District of IRC Contact: Chief David Johnson

License #: Address: 1801 27th Street Apt. / Suite #:

City: Vero Beach State: FL Zip Code: 32960

Phone Number: (772) 226-3953 EMAIL: djohnson@ircgov.com

Contractor / Applicant Information:

Company Name: TBD Contact:

License #: Address: Apt. / Suite #:

City: State: Zip Code:

Phone Number: () EMAIL:

Project Information:

Site Address: 98th Ave B/W 22nd Street and 26th Place

LOT: BLOCK: SUBDIVISION UNIT:

Description of work to be done:

Pave existing stabilized portion of 98th Ave to City of Fellsmere City limits. Installation of new sewer force main and water main along 22nd Street Right of way and 97th road to new Fire Station parcel. 98th Ave was previously approved for a paved roadway system under the Indian River Park of Commerce project.

SCHEDULE OF FEES REQUIRED AT THE TIME OF SUBMITTAL

Make checks payable to: Indian River County Board of County Commissioners (IRC BOCC)

TYPE OF PERMIT	FEE
Utility Installation in IRC ROW Permit	\$ 800.00
LDP Right-of-Way Permit	\$ 800.00
Commercial R/W Permit (includes turn lanes, culverts & sidewalks, road cores 6 or more)	\$ 800.00
Commercial R/W Permit (no culvert, turn lanes or sidewalks, road cores under 5)	\$ 300.00
Maintenance of Traffic (MOT) Review Only	\$

ADDITIONAL FEES

3RD RE-INSPECTION FEE \$400.00 AND EVERYONE AFTER REVIEW AFTER 3RD RESUBMITTAL \$400.00

TYPE OF REVIEW / PERMIT: (CHECK ONE)

COMMERCIAL SITE PLAN LAND DEVELOPMENT UTILITY
BLOCK/PARADE MOT (Review Only) ANNUAL USE

CONSTRUCTION TYPE: (CHECK ALL THAT APPLY)

DRIVEWAY ROADWAY CONSTRUCTION SIDEWALKS / CURBS ROW WATER & SEWER CABLETV
ELECTRICITY COMMUNICATIONS TELEPHONE DRAINAGE OTHER Paving of existing stabilized portion of 98th Ave.

INDIAN RIVER COUNTY RIGHT OF WAY CONSTRUCTION PERMIT CONDITIONS

1. Construction prior to issuance of a valid Indian River County (IRC) Right of Way (ROW) permit and an approved Maintenance of Traffic (MOT) by the IRC Engineering Department of Public Works will cause the project to be shut down, Code Enforcement activities commenced and the application to be expired. All application fees forfeited.
2. All construction shall be in accordance with the latest FDOT Standards, Specifications and Procedures except when deviations are requested and approved or as included in these conditions or Public Works Standards.
3. Indian River County (IRC) Engineering Inspections shall be contacted 48 hours before commencement of work to establish a timeline when field review(s) of the work are required. Construction shall be done Monday through Friday. Weekend work shall be approved by IRC Inspections by Wednesday at 4 pm. The approved permit and stamped plans shall be at the work site. When work is complete and the engineer's certification of completion has been submitted and approved by IRC Engineering, the permittee shall schedule a final inspection.
4. The permittee understands and agrees that the rights and privileges herein set out are granted only to the extent of the County's right, title and interest in the land to be entered upon and used by the permittee. THE PERMITTEE WILL AT ALL TIMES ASSUME ALL RISK AND FURTHER WILL INDEMNIFY, DEFEND, AND SAVE HARMLESS INDIAN RIVER COUNTY FROM AND AGAINST ALL LOSS, DAMAGE, COST OR EXPENSE ARISING IN ANY MANNER (INCLUDING ALL LITIGATION COSTS AND ATTORNEY FEES), ON ACCOUNT OF THE EXERCISE OR ATTEMPTED EXERCISE BY SAID PERMITTEE OF THE AFORESAID RIGHTS AND PRIVILEGES REGARDLESS OF THE APPORTIONMENT OF NEGLIGENCE OF THE PARTIES INVOLVED. THE PERMIT HOLDER, THEREFORE, AGREES TO INDEMNIFY THE COUNTY FOR THE COUNTY'S OWN NEGLIGENCE. It is specifically understood that the limits of this indemnification are the COUNTY'S statutory liability limits under Section 768.28, Florida Statute, or any successor legislation in effect at the issuance of said permit. The existing statutory limits under 768.28, Florida Statute are hereby recognized as the Statute ("Construction Contracts") should that statute be deemed to apply.
5. This permit is considered a license only, for the limited purpose of installation, placement, and maintenance of improvements specified on the face hereof, and does not convey any other right, title, or interest of the County in the subject ROW. In the event of widening, repair, or reconstruction of the subject road(s), the Permittee, any successors, legal heirs or assigns, shall upon request and within 30 days after notice by the County Engineer's Office, remove or relocate the item(s) permitted within the ROW of the subject road(s) at no expense to Indian River County.
6. Permittee assumes full responsibility to maintain all areas under construction safe for the public and to properly route and direct traffic through the construction area. All Traffic control operations shall be done in accordance with the current Manual on Uniform Traffic Control Devices (MUTCD). Supplements to this manual are the FDOT Road and Bridges Standard Plans (Index 102-100 through 102-600) and Standard Specifications to Road and Bridge Construction (latest edition). No obstruction to the travel lanes between 7:00 a.m. to 9:00 a.m. and 3:00 p.m. to 7:00 p.m. Monday through Friday, unless approved by the IRC Traffic Division. Working hours are subject to change due to proximity to schools, traffic signals, special events or the type of MOT required.
7. Florida Statute 336.048 – Temporary closing traveling lane of road: Whenever any road on the county road or city street system is repaired, reconstructed, or otherwise altered in a manner that necessitates the closing of one or more traveling lanes of the road for a period of time exceeding 2 hours, the party performing such work shall give notice to the appropriate local law enforcement agency within whose jurisdiction such road is located prior to commencing work on the project. However, when the closing of one or more lanes is required because of emergency conditions, such notices shall be waived.
8. The permittee/developer shall provide and install pavement markings (thermoplastic, unless approved otherwise by the IRC Traffic Engineer), and reflective pavement markers in accordance with the latest edition of the Manual on Uniform Traffic Control Devices (MUTCD). Roadways or entrances with pavers shall use epoxy paint or waffle tape for pavement marking.
9. Any requested changes to the Maintenance of Traffic (MOT) shall be submitted and approved by IRC Traffic Division prior to implementation of construction.
10. Permittee hereby acknowledges the COUNTY'S right to inspect the ROW at any time prior to final acceptance by the COUNTY to assure compliance with all plans and specifications. All reviews, however, shall be performed at the COUNTY'S discretion and are strictly to assure compliance with project plans and specifications. PERMITTEE HEREBY ACKNOWLEDGES THAT THE COUNTY VIA SAID REVIEWS IS NOT THE EMPLOYER, SUPERVISOR, PRINCIPAL OR AGENT OF PERMITTEE. Permittee is at all times classified an independent contractor with full responsibility for all obligations and responsibilities imposed under this permit and imposed by law.
11. If any portion of a County maintained road is open cut or damaged, a full-lane width restoration (25 feet on each side of the cut), shall be provided. Flowable fill shall be used for trenches less than 10 feet wide.
12. All areas in the ROW shall be left in a condition equal to or better than that which existed prior to construction. Shoulders disturbed within 5 feet of the edge of pavement shall be stabilized a minimum 50 PSI Florida Bearing Value, 6 inches in depth. Existing drainage shall not be impeded. Sidewalk areas disturbed during construction shall be maintained until repaved. Prior to or concurrent with final review, the permittee shall submit to the IRC Engineering Inspections Division copies of density reports done by an independent testing laboratory. If the construction should fail within one year from the date of final review by IRC, the permittee is responsible for restoration.

13. If traffic signalization equipment is in the area of construction, notify IRC Traffic Operations at (772) 226-1318 48 hours prior to digging. Do not disturb any material within six feet of a traffic signal pole or a guy wire and anchor. If damage to the equipment occurs during construction, it shall be repaired by Traffic Operations at the permittee's expense.
14. If previously approved construction is underway in the same location as indicated on this permit, the permittee shall obtain permission to work from the contractor doing the underway construction. If not granted, the construction under this permit shall not be done until the underway construction is accepted by IRC.
15. All utilities shall refer to the FDOT Utilities Accommodations Manual ensuring the correct color for the utility is to be installed. No green or blue pipe or conduit shall be used except for sewer and potable water respectively.
16. All utility poles shall be a minimum of 6 feet from the Edge of Pavement (up to 14 feet may be required based on speed limit and road type). No guy wires shall be placed in or above the sidewalk area or in the clear zone. Utilities shall be a minimum of 18 feet above all roads, driveways, or alleys. All poles being replaced shall be removed as a part of this permit approval.
17. All utility structures installed below grade, in the IRC ROW are required to have traffic bearing tops. This includes all valve boxes, meter boxes, hand holes, splice boxes, storm grates, manhole tops, traffic boxes etc. Grassed areas shall be Tier 15, (15K design load/ 22.5K test load) traffic bearing in locations that are subject to occasional traffic. Pavement areas including shoulders shall have a minimum of AASHTO H 20 loading. No structures shall be placed in sidewalk areas.
18. All sidewalks shall be a minimum of 6-inch fiber mesh (3000psi compressive strength at 28 days) and meet the ADA and FDOT Design Standards. Replacement shall be at nearest joint or as required to meet applicable codes.
19. No trenches, holes or other ground openings shall be open without workers present.
20. Trenched areas shall be re-sodded within 3 days of the restoration of the trench. Utilities shall provide a minimum cover of 36 inches of cover under the roadways and a minimum of 30 inches in the swale areas. Maintain a minimum clearance of 12 inches over or under drainage facilities. Erosion control is the responsibility of the Permittee.
21. Issuance of this permit does not in any way create any rights on the part of the applicant to obtain a permit from a local, state, or federal agency and does not create any liability on the part of the County for issuance of the permit if the applicant fails to obtain requisite approvals or fulfill the obligations imposed by a state or federal agency or undertakes actions that result in a violation of state or federal law. The validity of this permit is contingent upon the Permittee obtaining necessary permits from any other agencies having jurisdiction. Issuance of this permit does not relieve Permittee of liability for trespass to private property.
22. The Permittee shall provide evidence of insurance to the Engineering Division prior to receiving a construction start date.

The Certificate Holder shall be: **Indian River County Engineering**
Department 1801 27th Street, Building A
Vero Beach, FL 32960

Under: DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES (Acord 101, additional Remarks Schedule): The following must be added as Additional Insured for General Liability insurance:
Indian River County Board of County Commissioners, Its Employees, Agents and Contractors.

23. All pavement construction, additions, or modifications in the travel and turn lanes shall require the following be provided to IRC Engineering Division for review and approval prior to final inspection:
 - a.) Professional Engineer's certification of completion of the project;
 - b.) Signed and Sealed Record-As- Built drawings and specifications; and as required based on the design;
 - c.) Asphalt Tickets, Density Reports, Soil Borings, and/or Pipe Videos (Drainage pipe existing and proposed), etc.
 - d.) Asphalt Gradation reports, or add reports upon request.
24. Permittee is cautioned that electrical, water, and sewer or other installations or utilities may be located within the construction area, and applicant shall use diligent efforts to first detect and locate all such installations, and shall coordinate construction with all lawful users of said ROW. Applicant shall be liable in every manner for all damages proximately resulting from its interference with or interruption of services provided by other lawful ROW users. Contact Sunshine One Call, 811 prior to digging.
25. These permit conditions are not inclusive of all IRC codes and standards. Permit may be subject to additional requirements based on the design and scope.



INDIAN RIVER COUNTY TRAFFIC ENGINEERING DIVISION SPECIAL CONDITIONS FOR RIGHT-OF-WAY CONSTRUCTION

SPECIAL CONDITIONS:

1. All work performed under this permit shall be in accordance with the Florida Department of Transportation Design Standards (<https://www.fdot.gov/design/standardplans/current/default.shtm>), Indices 102-600 and the Manual on Uniform Traffic Control Devices.
2. All special conditions listed are in addition to the attached Indian River County Traffic Engineering Regulations for Maintenance of Traffic.
3. It shall be the contractor's responsibility to contact Sunshine State One Call System (1-800-432-4770) at least 72 hours in advance of commencing construction work to coordinate traffic control and obtain locations of underground traffic signal conduit for the County's Computerized Traffic Signal Coordination System.
4. The contractor shall be responsible for using the applicable Traffic Control Plan for the type of work being performed. All job supervisors shall have a copy of the control plan on site at all times and shall be familiar with the correct set-up of the plan.
5. At least one lane of traffic shall be maintained at all times. One-lane traffic shall be controlled with at least two (2) flagmen. Flagmen shall use STOP/SLOW paddles at all times. Flags shall not be used for one-lane traffic control.
6. **After proper notification to Traffic Engineering**, consideration will be given to the contractor to close roadways to through traffic on a daily basis during daylight hours on narrow roadways where maintaining one-lane traffic would be difficult. The roadway shall be open to traffic at the end of each work day and on weekends. It shall be the contractor's responsibility to provide all necessary construction signs and traffic control devices to close the road and provide a detour route in accordance with Indian River County standards. Signing shall be installed that clearly indicates the time periods the road is closed to traffic.
7. There shall be no construction work after dark.
8. All open excavations shall be back filled before the close of each work day.
9. A compacted roadway shall be provided at the end of each work day. Disrupted roadways shall be clearly marked as a construction area.
10. Refer to the attached Traffic Engineering Regulations for construction work on Indian River County roadways for maintenance of traffic inspection policy and procedure
11. All construction equipment, materials, etc. shall be stored outside of the clear zone. Equipment and construction materials that are stored within the clear zone shall be clearly marked with Type II barricades with flashing yellow lights.
12. All projects and work within Indian River County right-of-way shall have an approved Traffic Control Plan (TCP). All work shall be executed under the established TCP and Indian River County approved procedures. The TCP shall provide the proposed detour route, traffic control devices, and other pertinent information for the proposed project and shall be submitted for review and approval by the Public Works Department.
The TCP shall be prepared by personnel with a minimum of an Intermediate Maintenance of Traffic current certification in the State of Florida. (Denote on the TCP, certification number and name of the certified personnel that prepared the MOT plan.)

For full road closures, a TCP is required to be submitted by the contractor a minimum of two (2) weeks prior to the proposed road closure.

All traffic control devices shall be in accordance with the Florida Department of Transportation (FDOT) Design Standards, Indices 102-600, FY 2019-2020, and the Manual on Uniform Traffic Control Devices, 2009 Edition.
13. For full road closures, Portable Changeable Message Signs are required to pre-advertise the roadway closure, a minimum of seven (7) days in advance of the road closure and during the duration of the road closure. The use of Portable Changeable Message Signs for lane closures on thoroughfare plan roadways will be required. Messages are to be approved by the Public Works Department and shown on the TCP.

TRAFFIC ENGINEERING REGULATIONS

Maintenance and Protection of Traffic:

It shall be the responsibility of the contractor to provide for the maintenance and protection of traffic in accordance with the applicable indices in the most current edition of the Florida Department of Transportation Roadway and Traffic Design Standards and the Federal Highway Administration Manual on Uniform Traffic Control Devices. The indices shall be considered the minimum standards and a

more extensive work zone set-up or modifications may be required by the County Public Work Director or his designee for the protection of personnel in the work area as well as the traveling public.

It shall be the responsibility of the contractor to ensure that all subcontractors are in full compliance with all traffic control regulations. It shall be the responsibility of the contractor working on County roadways or within Right-of-Ways to establish maintenance of traffic prior to any work being performed. The contractor shall frequently monitor the work zone set-up to ensure that all signing is properly placed and that warning signs remain at the proper advance posting distance from the work area. Any signs that do not apply to the work zone shall be removed or covered. The contractor shall remove the work zone set-up at the conclusion of the work.

Traffic Engineering shall be notified a minimum of seventy-two (72) hours in advance of any lane closings and ten (10) days in advance of any road closures.

Lane closures are restricted to outside the normal peak hours of traffic, lane closures shall occur during the hours of 9:00 AM to 4:00 PM unless otherwise approved by the Public Works Director or his designee.

Traffic Engineering staff shall inspect the Maintenance of Traffic prior to construction commencement to ensure compliance with the approved Traffic Control Plan.

It is the policy of the Traffic Engineering Division to randomly monitor the contractor's compliance with all regulations while working on County roadways and within right-of-ways. Matters of public safety shall be attended to immediately upon notification by the County Public Work Director or his designee.

If the contractor is found to be negligent in maintaining proper work zone set-up in accordance with the County's Right-of-Way ordinance (Chapter 312), the County Public Work Director or his designee shall impose penalties in the amount of \$250.00 for working without the proper traffic control.

Construction at or Near Signalized Intersections:

The contractor shall have full responsibility for any work performed at or near any traffic signals in Indian River County. The contractor shall request that the County locate buried interconnect conduit and cable, loop sensors, and pull boxes prior to commencing construction. Any damage to the interconnect conduit, loop sensors, and pull boxes or any other traffic signal equipment shall be repaired at the contractor's expense. It shall be the responsibility of the contractor to notify Traffic Engineering Division a minimum of 72 hours prior to any work being performed near a signalized intersection or flashing beacon.

Once the proper notification and locate procedures are satisfied, the contractor working in or near signalized intersections or around traffic signal poles, signal cabinets, or flashing beacons shall be advised of the following regulations:

1. No excavation shall be performed within a 15-foot radius of any traffic signal pole. If excavation is necessary within a 15-foot radius, it will be the contractors responsibility to provide the following:
 - a. In a manner approved by the County Public Works Director or his designee, the contractor shall provide constant support of the traffic signal pole to prevent movement during excavation and backfill operations.
 - b. Compaction around the excavation site to a 98% density, bringing the backfill up in 1 foot lifts.
 - c. Density reports from a licensed testing company provided to the County Public Works Director.
 - d. Restore the traffic signal and all support equipment to original condition or better.
2. There shall be no pavement cuts made within 500 feet of a signal or flashing beacon without contacting Indian River County Traffic Engineering Division at (772-226-1547), 72 hours prior to construction.
3. Any traffic signal, loop sensors, conduit, interconnect cable, or any support equipment damaged by a contractor shall be repaired/replaced at the contractor's expense.
4. Any contractor that works at or in the vicinity of a signalized intersection shall have full responsibility for any liability incurred by causing damage to signal equipment that results in the failure of the traffic signal functions. If such a failure occurs, the contractor shall notify the police and the Traffic Engineering Division immediately at (772-226-1547).

RECEIVED

By Allen Chadwick at 11:03 am, 5/31/23

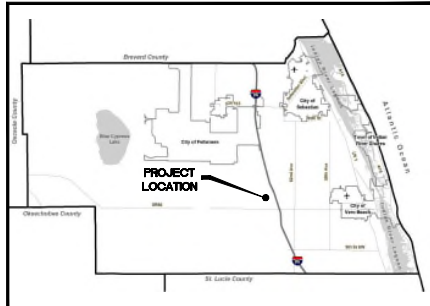
INDIAN RIVER COUNTY FIRE RESCUE FIRE STATION #7

SECTION 34, TOWNSHIP 32S, RANGE 38E
CITY OF FELLSMERE, FLORIDA

JUNE 2022 - CoF PRE-DEVELOPMENT APPLICATION

SEPTEMBER 2022 - CITY OF FELLSMERE FINAL DEVELOPMENT & SITE CONSTRUCTION PLAN

REVISED: MAY 2023



LOCATION MAP

SCALE: N.T.S.



VICINITY MAP

SCALE: N.T.S.



OWNER / APPLICANT EMERGENCY SERVICES DISTRICT OF INDIAN RIVER COUNTY

1801 27TH STREET
VERO BEACH, FL 32960
PH: (772) 226-3900

ENGINEER



MOYA BOWLES VILLAMIZAR & ASSOCIATES

CIVIL • STRUCTURAL • SURVEYING • ENVIRONMENTAL

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ARCHITECT

EDLUND, DRITENBAS, BINKLEY
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65 ROYAL PALM POINTE, "D"
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BUILDING DIVISION:

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EMAIL: K.BAUER@SAFEBUILT.COM

IRC PUBLIC WORKS (ROW):

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ST. JOHNS RIVER WATER MANAGEMENT DISTRICT:

PERRY JENNINGS
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EMAIL: PJENNING@SJRWMD.COM

INDIAN RIVER FARMS WATER CONTROL DISTRICT:

DAVID GUNTER
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EMAIL: DGUNTER@FLBB.COM

SEBASTIAN RIVER DRAINAGE DISTRICT:

GEORGE SIMONS
PHONE: (772) 562-4191
EMAIL: GEORGES@CARTERASSOC.COM

INDEX OF DRAWINGS

- C1 COVER SHEET
- C2 GENERAL NOTES
- C3 EXISTING CONDITIONS & DEMOLITION PLAN
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- C5 SITE PLAN PRELIMINARY / FINAL DEVELOPMENT PLAN
- C6 PAVING, GRADING AND DRAINAGE PLAN
- C7 CROSS SECTIONS
- C8 UTILITY PLAN
- C9 98TH AVE ROADWAY EXTENSION PLAN
- C10 22ND ST. FORCE MAIN EXTENSION PLAN
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- EX1 TRUCK TURN PLAN

PERMITS REQUIRED

CITY OF FELLSMERE PRELIMINARY DEVELOPMENT PLAN
CITY OF FELLSMERE PD FINAL DEVELOPMENT PLAN
CITY OF FELLSMERE SITE CONSTRUCTION PLAN
IRFWCD SITE PLAN REVIEW (98th AVE ONLY)
IRFWCD UTILITY CONSTRUCTION PERMIT
SEBASTIAN RIVER IMPROVEMENT DISTRICT
INDIAN RIVER COUNTY RIGHT-OF WAY PERMIT
INDIAN RIVER COUNTY UTILITY PERMIT
INDIAN RIVER COUNTY FIRE DEPT. APPROVAL
SJRWMD / ERP PERMIT
SJRWMD MODIFICATION - (93135-1)
FDEP DOMESTIC WASTEWATER COLLECTION PERMIT
FDEP POTABLE WATER PERMIT
FDEP NPDES NOI PERMIT
FLORIDA GAS TRANSMISSION ENCROACHMENT AGREEMENT

CONSTRUCTION SCHEDULE

START CONSTRUCTION: JULY 2023
END CONSTRUCTION: JULY 2024

This item has been digitally signed & sealed by Aaron Stanton, P.E. on the date adjacent to the seal.

Printed copies of this document are not considered signed & sealed and this signature must be verified on any electronic copies.



AARON G. STANTON
FL P.E. #72460

DATE: 5/16/23

PROJECT: 21-0492

SHEET

C1



PRE-CONSTRUCTION REQUIREMENTS:

- 1. THE CONTRACTOR IS REQUIRED TO PERFORM HIS WORK IN ACCORDANCE WITH THE REQUIREMENTS OF THE VARIOUS PERMITS WHICH WILL BE OBTAINED PRIOR TO BEGINNING CONSTRUCTION.
2. THE CONTRACTOR SHALL SUBMIT A CONSTRUCTION SCHEDULE (SEQUENCE OF OPERATIONS) PRIOR TO THE PRE-CONSTRUCTION MEETING.
3. THE CONTRACTOR WILL ATTEND A PRE-CONSTRUCTION MEETING WITH THE DESIGN ENGINEER, MUNICIPALITY AND OR OWNER PRIOR TO LAND DISTURBANCE.
4. SHOP DRAWINGS SHALL BE SUBMITTED BEFORE ORDERING MATERIALS FOR PLANNED PROJECT. CORRESPONDING SHALL BE BETWEEN THE DESIGN ENGINEER AND THE LOCAL GOVERNING AGENCY AND THE RESPONSIBILITY OF THE CONTRACTOR.

CONSTRUCTION NOTES:

- 1. THE CONTRACTOR IS REQUIRED TO THOROUGHLY REVIEW THE PLAN PACKAGE SO AS TO BE TOTALLY PREPARED TO PRESENT HIS BID PRICES IN THE CONTRACT DOCUMENTS. THE PLAN PACKAGE SUFFICIENTLY DELINEATES THE SCOPE AND INTENT OF THE WORK TO BE ACCOMPLISHED. IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO ADJUST HIS BID PRICES TO REFLECT ANY AND ALL ITEMS WHICH MAY NOT BE CLEARLY OUTLINED OR THOSE ITEMS WHICH MAY NOT BE INDICATED BUT WHICH ARE NECESSARY FOR THE SUCCESSFUL COMPLETION OF THIS PROJECT WITHOUT ADDITIONAL COSTS TO THE OWNER.
2. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH CITY OF FELLSMERE, INDIAN RIVER COUNTY AND FOOT STANDARDS AND SPECIFICATIONS.
3. THE INFORMATION SHOWING TYPE AND LOCATION OF UNDERGROUND AND OTHER UTILITIES IS BASED ON AVAILABLE RECORDS AND IS NOT GUARANTEED TO BE ACCURATE ON ALL INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING HIS OWN DETERMINATION AS TO THE TYPE AND LOCATION OF UNDERGROUND AND OTHER UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO AND IS RESPONSIBLE FOR THE COORDINATION OF UTILITY RELOCATION.
4. CONTRACTOR SHALL LOCATE ALL EXISTING UTILITIES IN THE FIELD WITH UTILITY COMPANIES REPRESENTATIVE PRIOR TO CONSTRUCTION.
5. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY ALL UTILITY COMPANIES A MINIMUM OF TWO WORKING DAYS PRIOR TO EXCAVATION, AS REQUIRED BY THE UNDERGROUND FACILITY DAMAGE PREVENTION AND SAFETY ACT, NOTIFY SUNSHINE AT 811.
6. CONTRACTOR SHALL TAKE EXTREME CAUTION WHEN EXCAVATING NEARBY EXISTING UTILITIES.
7. CONTRACTOR SHALL INFORM ENGINEER OF ANY CONFLICT BEFORE ANY FURTHER WORK IS COMPLETED.
8. UTILITIES ARE TO BE ADJUSTED BY UTILITY OWNER OR AS DIRECTED BY THE ENGINEER.
9. SURFACE INFORMATION SHOWN ON THESE DRAWINGS WAS OBTAINED FOR USE IN ESTABLISHING DESIGN CRITERIA FOR THE PROJECT. THE ACCURACY OF THIS INFORMATION IS NOT GUARANTEED AND IS NOT TO BE CONSTRUED AS PART OF THE PLANS GOVERNING CONSTRUCTION OF THE PROJECT. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO INQUIRE OF THE ENGINEER IF ADDITIONAL INFORMATION IS AVAILABLE, TO MAKE ARRANGEMENTS TO REVIEW SAME PRIOR TO BIDDING, AND IS TO MAKE HIS OWN DETERMINATION AS TO ALL SUBSURFACE CONDITIONS.
10. CONTRACTOR SHALL NOTIFY THE ENGINEER IF SOIL OR SUBSURFACE CONDITIONS UNUSUAL FOR CONSTRUCTION ARE ENCOUNTERED.
11. ALL EXCAVATED SOILS DEEMED SUITABLE AS FILL MATERIAL AS DETERMINED BY THE ENGINEER SHALL BE UTILIZED ON SITE BY THE CONTRACTOR AT HIS OWN EXPENSE. THE EXACT LOCATION OF DELIVERY ON SITE SHALL BE DETERMINED BY THE ENGINEER. ALL EXCAVATED SOILS DEEMED UNSUITABLE SHALL BE DISPOSED OF BY THE CONTRACTOR AT HIS OWN EXPENSE.
12. ITEM IN CONFLICT WITH DESIGN SUCH AS EXISTING CURBS AND GUTTERS, SIDEWALKS, DRAINAGE STRUCTURES, PAVEMENT AND EXCESS EXCAVATIONS ARE TO BE REMOVED BY THE CONTRACTOR AND DISPOSED OF IN A LEGAL AND PROPER MANNER AWAY FROM THE JOB SITE AT HIS OWN EXPENSE.
13. CONTRACTOR SHALL COMPLY WITH ALL OSHA REQUIREMENTS FOR CONSTRUCTION.
14. IT SHOULD BE NOTED THAT THE OCCUPATIONAL SAFETY AND HEALTH ACT PROHIBITS THE OPERATING OF EQUIPMENT OR MACHINES CLOSER THAN TEN (10) FEET TO ENERGIZED ELECTRIC LINES RATES AT FIFTY KILOVOLTS OR BELOW. ALSO, NO EXCAVATION IS PERMITTED WITHIN FIVE (5) FEET OF POWER POLE FACILITIES.
15. ALL IRONS AND MONUMENTS (P.M.S.) SHOWN ON PLANS, OR FOUND, SHALL BE PRESERVED. THOSE SHOWN IN PROPOSED PAVEMENT SHALL BE PROTECTED WITH A CAST IRON VALVE BOX.
16. ANY PUBLIC LAND CORNERS WITHIN THE LIMITS OF CONSTRUCTION ARE TO BE PROTECTED. IF A CORNER MONUMENT IS IN DANGER OR BEING DESTROYED OR DISTURBED, THE CONTRACTOR WILL NOTIFY THE ENGINEER.
17. ALL EXISTING TREES WITHIN THE RIGHT OF WAY ARE TO BE REMOVED AS CLEARING AND GRUBBING UNLESS OTHERWISE NOTED. WHEN REFERENCED TO, FOOT FEEDS TO FLORIDA DEPARTMENT OF TRANSPORTATION ROADWAY AND TRAFFIC DESIGN STANDARDS, CURRENT EDITION.
18. THE CONTRACTOR SHALL RESTORE ALL AREAS DISTURBED BY CONSTRUCTION TO A CONDITION EQUAL TO, OR BETTER THAN THAT WHICH IS NOW EXISTING.
19. BACKFILL, GRADE AND SOD AS REQUIRED AROUND ALL NEW CONSTRUCTION AND ALL DEVELOPED LOTS TO PREVENT EROSION, SEED AND MULCH WILL ONLY BE ALLOWED IN AREAS NOT AFFECTED BY CONSTRUCTION OR AS DIRECTED BY THE ENGINEER.
20. SODDING TO BE USED AT LOCATIONS AS DIRECTED BY THE ENGINEER. SOD IS TO BE INSTALLED AND TENDED AREAS UPON COMPLETION.
21. ALL EXCESS CONSTRUCTION MATERIAL AND WASTE TO BE HAULED OFF-SITE AND DISPOSED OF PROPERLY AT CONTRACTOR'S EXPENSE.
22. MAINTENANCE OF TRAFFIC SHALL BE IN ACCORDANCE WITH FOOT STANDARDS FOR TRAFFIC CONTROL THROUGH WORK ZONES AND MUTCD (PART VI). CONTRACTOR TO PROVIDE INDIAN RIVER COUNTY AND CITY OF FELLSMERE A COPY OF PROPOSED MOT PLANS FOR APPROVAL.
23. PROPERTY OWNERS AND BUSINESSES WITHIN THE AREA OF CONSTRUCTION SHALL BE GIVEN ACCESS TO THEIR PROPERTY AT ALL TIMES DURING THE PERIOD OF CONSTRUCTION.
24. ALL MAILBOXES SHALL BE RELOCATED BY THE CONTRACTOR AS DIRECTED BY THE U.S. POSTAL MAIL CARRIER.
25. THE CONTRACTOR SHALL REMOVE, COVER OR DELIBERATE EXISTING ROADWAY SIGN AND PAVEMENT MARKINGS THAT CONFLICT WITH THE CONSTRUCTION TRAFFIC CONTROL PLANS.
26. CONTRACTOR TO PROTECT ALL SPRINKLER HEADS NOT IN CONFLICT WITH DESIGN AND RELOCATE ALL THOSE WHICH ARE IN CONFLICT TO A LOCATION DETERMINED BY THE ENGINEER.
27. SOD TWO (2) FEET MINIMUM ALONG SIDE PROPOSED EDGE OF PAVEMENT.
28. THE CONTRACTOR SHALL PROVIDE ANY TEMPORARY DRAINAGE MEASURES AS REQUIRED TO ADEQUATELY DRAIN THE PROJECT AND ANY TEMPORARILY TRAVELED ROADWAYS. TEMPORARY DRAINAGE DESIGN, CONSTRUCTION AND MAINTENANCE IS THE CONTRACTOR'S RESPONSIBILITY. HOWEVER, ALL SUCH MEASURES MUST BE APPROVED BY THE ENGINEER.
29. THE EXISTING SIDEWALK SHALL NOT BE DISTURBED UNLESS OTHERWISE NOTED.
30. GRADES SHOWN ARE FINISHED GRADES.
31. SAWCUT CONCRETE OR ASPHALT DRIVEWAYS AS REQUIRED FOR REPLACEMENT.
32. ALL ANCHORED UTILITIES (INCLUDING PIPES, CABLES AND STRUCTURES) FOUND IN THE RIGHT OF WAY AND NOT SHOWN ON THE PLANS, ARE TO BE REMOVED AND PROPERLY DISPOSED OF AT THE EXPENSE OF THE CONTRACTOR. THIS INCLUDES ALL EXOTIC PIPES LIKE ASBESTOS-CEMENT PIPE, COST TO BE INCLUDED IN CLEARING AND GRUBBING ITEM.
34. DRIVEWAY LOCATIONS AND WIDTHS ARE APPROXIMATE AND ARE TO BE ADJUSTED AS NECESSARY OR AS DIRECTED BY THE ENGINEER.
35. BENCHMARK DATUM IN NAVD 88.
36. BACKFILL AND SOD AS REQUIRED BEYOND RIGHT OF WAY LINES ON INDIVIDUAL LOTS TO MAINTAIN POSITIVE DRAINAGE FLOW INTO CURB AND GUTTER.
37. GRADE AND SOD SWALES TEN (10) FEET FROM PROPOSED DITCH BOTTOM INLET AND MITERED END SECTIONS ON SIDE STREETS, AS REQUIRED.
38. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN (B) BASELINE(S) AND (C) CENTERLINE(S) CONSTRUCTION THROUGHOUT THE PROJECT.
39. THE CONTRACTOR SHALL REMOVE DRIVEWAY APRONS AND DRIVEWAY CULVERTS AND SHALL MAINTAIN ROUGH GRADE FOR UTILITY MODIFICATIONS.
40. ALL EXISTING SWALES SHALL BE PROTECTED BY THE CONTRACTOR. ANY DAMAGE TO THE SWALE LINE SHALL BE CORRECTED BY THE CONTRACTOR AT HIS OWN EXPENSE.
41. PAVEMENT FOR INCIDENTAL ITEMS NOT SPECIFICALLY COVERED IN THE INDIVIDUAL BID ITEMS SHALL BE INCLUDED IN THE CONTRACT PRICES FOR BID ITEMS.
42. MAINTAIN A MINIMUM OF ONE (1) FOOT CLEARANCE BETWEEN POWER POLE AND EDGE OF SIDEWALK.
43. WHEN ALL OTHER PERMANENT CONSTRUCTION IS COMPLETE, THE FINAL SURFACE COURSE SHALL BE PLACED.
44. CONSTRUCTION OPERATIONS FOR PLACEMENT OF THE FINAL SURFACE COURSE SHALL BE LIMITED TO A DISTANCE, AS DIRECTED BY THE ENGINEER, THE CONTRACTOR CAN COMPLETE IN ONE (1) DAY.
45. THE CONTRACTOR SHALL IMPLEMENT TEMPORARY PAVEMENT MARKINGS UNTIL THE FINAL SURFACE COURSE HAS CURED (MINIMUM THIRTY (30) DAYS AFTER FINAL SURFACE COURSE PLACEMENT). ANY TEMPORARY PAINTED MARKINGS PLACED ON THE FINAL.
46. PAVEMENT TRANSITION SHALL BE MADE IN ACCORDANCE WITH PAVEMENT TRANSITION DETAIL.
47. ALL APPROVED PERMIT CONDITIONS, INCLUDING BUT NOT LIMITED TO FOOT, FDEP, SURVAY, RFPVCO, CITY OF FELLSMERE AND INDIAN RIVER COUNTY SHALL BE MET BY CONTRACTOR PRIOR TO CERTIFICATION OF COMPLETION BY ENGINEER.
48. HOURS OF CONSTRUCTION ARE LIMITED TO MONDAY - FRIDAY 7AM TO 7PM. ANY WORK OUTSIDE OF THESE LIMITS WILL REQUIRE DIRECT WRITTEN PERMISSION FROM THE CITY MANAGER OR THEIR DELEGATE.

ROADWAY SPECIFICATIONS:

GENERAL:
IT IS INTENDED THAT THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION MOST CURRENT EDITION BE USED WHERE APPLICABLE FOR VARIOUS WORK, AND THAT WHERE SUCH WORKING THEREIN REFERS TO THE STATE OF FLORIDA AND ITS DEPARTMENT OF TRANSPORTATION AND PERSONNEL, SUCH WORKING IS INTENDED TO BE REPLACED WITH THAT WORKING WHICH WOULD PROVIDE PROPER TERMINOLOGY, THEREBY MAKING SUCH STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AS THE STANDARD SPECIFICATIONS FOR THIS PROJECT.
F WHEN THAT PARTICULAR SECTION ANOTHER SECTION, ARTICLE OR PARAGRAPH IS REFERRED TO, IT SHALL BE A PART OF THE STANDARD SPECIFICATIONS ALSO.
THE CONTRACTOR SHALL GIVE THE ENGINEER 48 HOURS NOTICE PRIOR TO REQUESTING INSPECTIONS AND SHALL SUPPLY ALL EQUIPMENT NECESSARY TO PROPERLY TEST AND INSPECT THE COMPLETED WORK.

THE CONTRACTOR SHALL GUARANTEE ALL WORK AND MATERIALS FOR A PERIOD OF TWO YEARS FROM THE DATE OF PROJECT ACCEPTANCE, DURING WHICH ALL FAULTY CONSTRUCTION AND/OR MATERIALS SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.

GRADING:

THE CONTRACTOR SHALL PERFORM ALL GRADING NECESSARY TO ACHIEVE THE PROPOSED FINAL GRADES INCLUDING TYPICAL SECTIONS.
ALL WORK SHALL BE IN ACCORDANCE WITH SECTION 120 OF THE STANDARD SPECIFICATIONS.

STAKING:

CONSTRUCTION STAKING WILL BE PERFORMED BY THE CONTRACTOR.

STABILIZING:

STABILIZED SUBGRADE SHALL BE CONSTRUCTED TO THE FLORIDA BEARING VALUE AS PER PLAN FOR THE DEPTH AND LIMITS SHOWN ON THE PLAN, AND IN ACCORDANCE WITH SECTION 180 OF THE STANDARD SPECIFICATIONS.
(TYPE C STABILIZATION). ALL STABILIZED AREAS SHALL BE COMPACTED TO AT LEAST 98% OF THE MAXIMUM DENSITY AS DETERMINED BY ASTM 1-160.

BASE COURSE:

THE BASE SHALL BE CONSTRUCTED OF EITHER LIME/ROCK MATERIAL IN ACCORDANCE WITH SECTION 91 OR CEMENTED COQUINA SHELL MATERIAL IN ACCORDANCE WITH SECTION 91.5 OF THE STANDARD SPECIFICATIONS.
LIME/ROCK BASE AND CEMENTED COQUINA SHELL BASE SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 200 OF THE STANDARD SPECIFICATIONS. THE CONTRACTOR SHALL PROVIDE ROCK PIT CERTIFICATION FOR CEMENTED COQUINA SHELL MATERIAL. BASE SHALL BE COMPACTED BY AT LEAST 98% OF THE MAXIMUM DENSITY AS DETERMINED BY ASTM T-160. BASE SHALL BE APPROVED PRIOR TO PRIME COAT.

PRIME AND TACK COAT:

PRIME AND TACK COAT FOR THE BASE SHALL BE IN ACCORDANCE WITH SECTION 300 OF THE STANDARD SPECIFICATIONS.
ASPHALTIC CONCRETE SURFACE COURSE (A.C.S.C.)
TYPE SP-9.5 AND SP-12.5 ACSC SHALL BE CONSTRUCTED FOR THE DEPTH AND LIMITS SHOWN ON THE PLAN, IN ACCORDANCE WITH FOOT SECTIONS 320, 330 AND 334 OF THE STANDARD SPECIFICATIONS.

TESTING:

THE CONTRACTOR SHALL RETAIN THE SERVICES OF AN APPROVED INDEPENDENT TESTING LABORATORY TO CONDUCT ALL REQUIRED TESTS ON SUBGRADE, BASE AND SURFACE COURSE MATERIALS. TEST RESULTS MUST BE SUBMITTED PRIOR TO ANY REQUEST FOR PAYMENT ON THE ABOVE ITEMS.
THE SCHEDULE FOR TESTING OF THE ROAD CONSTRUCTION SHALL BE AS FOLLOWS:
A. SUBGRADE
1. FLORIDA BEARING VALUE TESTS SHALL BE TAKEN AT INTERVALS OF NOT MORE THAN 200 FEET, OR CLOSER AS MIGHT BE NECESSARY IN THE EVENT OF VARIATIONS IN SUBSOIL CONDITIONS.
2. DENSITY TESTS SHALL BE TAKEN AT INTERVALS OF NOT MORE THAN 200 FEET OR CLOSER AS MIGHT BE NECESSARY.
B. BASE
1. DENSITY TESTS SHALL BE TAKEN AT INTERVALS OF NOT MORE THAN 500 FEET OR CLOSER AS MIGHT BE NECESSARY.

ALL TESTING SHALL BE TAKEN IN A STAGGERED SAMPLING PATTERN FROM A POINT 12 INCHES INSIDE THE LEFT EDGE, TO THE CENTER, TO A POINT 12 INCHES INSIDE THE RIGHT EDGE OF THE TEST TESTED.
IF ANY TEST INDICATES THAT THE WORK DOES NOT MEET THE SPECIFICATIONS, THE SUBSTANDARD AREA SHALL BE REWORKED OR CORRECTED AND RETESTED, AT THE CONTRACTOR'S EXPENSE, UNTIL THE PROVISIONS OF THESE SPECIFICATIONS ARE MET.

ALL PASSING TESTS SHALL BE PAID FOR BY THE OWNER. ALL FAILING TESTS SHALL BE PAID FOR BY THE CONTRACTOR.

CLEAN-UP:

THE CONTRACTOR MUST PROVIDE CLEAN-UP OF EXCESS CONSTRUCTION MATERIAL UPON COMPLETION OF THE PROJECT. THE SITE MUST BE LEFT IN A NEAT, CLEAN, GRADED CONDITION.

CONSTRUCTION IN STREETS AND ROAD RIGHT-OF-WAYS:

- 1. OPEN ROAD CUTS REQUIRES PRIOR APPROVAL OF THE CITY, COUNTY, STATE OR ANY OTHER AGENCY WHICH MAY HAVE JURISDICTION.
2. ALL CONSTRUCTION, MATERIALS AND WORKMANSHIP ARE TO BE IN ACCORDANCE WITH FLORIDA DEPARTMENT OF TRANSPORTATION SPECIFICATIONS AND STANDARDS.
3. ALL AREAS IN EXISTING RIGHT-OF-WAYS DISTURBED BY CONSTRUCTION SHALL RECEIVE SOLID SOD.
4. STREET RESTORATION TO BE DONE AS PER INDIAN RIVER COUNTY AND CITY OF FELLSMERE STANDARDS WHERE APPLICABLE.
5. THE CONTRACTOR SHALL COMPLY WITH ALL RULES AND REGULATIONS OF THE STATE, COUNTY AND CITY AUTHORITIES REGARDING CLOSING OR RESTRICTING THE USE OF PUBLIC STREETS OR HIGHWAYS.
6. TRAFFIC CONTROL ON ALL COUNTY AND STATE HIGHWAY RIGHT-OF-WAYS SHALL MEET THE REQUIREMENTS OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (U.S. DOT/FHWA) AND THE REQUIREMENTS OF THE STATE AND ANY LOCAL AGENCY HAVING JURISDICTION.

DRAINAGE SPECIFICATIONS:

STORM INLETS AND MANHOLES SHALL BE CONSTRUCTED IN GENERAL ACCORDANCE WITH SECTION 425 OF THE STANDARD SPECIFICATIONS OF THE FLORIDA DEPARTMENT OF TRANSPORTATION.
CONCRETE SHALL HAVE A MINIMUM 28-DAY STRENGTH OF 3000 PSI.
ALL REINFORCING STEEL TO BE ASTM A 615-72 GRADE 40, FYP = 45,000 PSI AND SHALL BE HANDLED AND PLACED IN ACCORDANCE WITH ACI 318-71.

PRECAST CONCRETE MANHOLES AND STORM INLETS MAY BE USED UPON THE ENGINEER'S APPROVAL OF THE MANUFACTURER'S SHOP DRAWINGS.
STORM SEWER CONSTRUCTION SHALL BE IN ACCORDANCE WITH SECTION 430 AND RELATED SECTIONS OF THE STANDARD SPECIFICATIONS OF THE FLORIDA DEPARTMENT OF TRANSPORTATION.

CONCRETE:

UNLESS OTHERWISE SPECIFIED OR INDICATED, ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS OF 3000 PSI. ALL WORK SHALL COMPLY WITH THE CURRENT EDITION OF THE AMERICAN CONCRETE INSTITUTE (ACI) BUILDING CODE AND THE APPLICABLE BUILDING CODES HAVING JURISDICTION IN THE AREA.

CULVERT PIPES:

REINFORCED CONCRETE PIPE (R.C.P.) SHALL BE IN ACCORDANCE WITH SECTION 449 OF THE STANDARD SPECIFICATIONS.
PRECAST CONCRETE DRAINAGE PRODUCTS:
ALL PRECAST CONCRETE DRAINAGE PRODUCTS (INCLUDING BUT NOT LIMITED TO ROUND CONC. PIPE, ELLIPTICAL CONC. PIPE, UNDERDRAINS, MANHOLES, INLETS, ENDSWALS, JUNCTION BOXES, THREE SIDED CONC. CULVERTS, AND CONC. BOX CULVERTS) SHALL BE IN ACCORDANCE WITH SECTION 449 OF THE STANDARD SPECIFICATIONS.

GROUNDWATER:

GROUNDWATER MAY BE ENCOUNTERED ON THIS SITE. THE CONTRACTOR IS TO PLAN ACCORDINGLY.

RECORD DRAWINGS:

CONTRACTOR SHALL KEEP AND MAINTAIN RECORD DRAWINGS ON THE PROJECT SITE AT ALL TIMES WHICH SHALL BE ANNOTATED BY THE CONTRACTOR DICTATING ANY CHANGES MADE IN THE FIELD WHICH DIFFER FROM THE CONTRACT DRAWINGS. RECORD DRAWINGS SHALL INCLUDE, BUT NOT LIMITED TO, INSERT AND TOP ELEVATIONS OF CULVERTS AND INLET STRUCTURES. CONTRACTOR SHALL SUBMIT COMPLETE AND FINAL RECORD DRAWINGS TO ENGINEER UPON COMPLETION OF PROJECT AND PRIOR TO FINAL INSPECTION AND FINAL PAYMENT.

INSPECTION:

- MINIMUM CONSTRUCTION INSPECTION CHECKPOINTS
THE ENGINEER SHALL BE NOTIFIED:
1. PRIOR TO ANY MAJOR VARIATION FROM THE APPROVED PLANS.
2. PRIOR TO BACKFILLING ANY PIPE TRENCHES.
3. UPON COMPLETION OF SUBGRADE GRADING AND COMPACTION.
4. UPON BEGINNING OF SPREADING OF ROCK BASE MATERIAL.
5. UPON COMPLETION OF GRADING AND COMPACTION OF THE BASE MATERIAL AND PRIOR TO PRIMING.
6. IMMEDIATELY PRIOR TO AND UPON APPLICATION OF A C.S.C.
7. UPON COMPLETION OF CONSTRUCTION.

GENERAL NOTES:

- 1. CONTRACTOR IS RESPONSIBLE FOR CHECKING ACTUAL SITE CONDITIONS BEFORE STARTING CONSTRUCTION.
2. ANY DISCREPANCIES ON THE DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE COMMENCING WORK.
3. ALL WORK SHALL BE IN WORKMANLIKE MANNER AND SHALL CONFORM WITH ALL APPLICABLE CITY, COUNTY, STATE AND FEDERAL REGULATIONS AND/OR CODES. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND LICENSES REQUIRED TO BEGIN WORK.
4. ALL MATERIALS AND LABOR UPON THIS PROJECT SHALL BE IN STRICT ACCORDANCE WITH REQUIREMENTS OF THE CITY OF FELLSMERE, WATER MANAGEMENT DISTRICT, FDEP AND THESE PLANS AND SPECIFICATIONS.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATION OF ALL EXISTING UTILITIES. THE CONTRACTOR SHALL CONTACT ALL UTILITIES CONCERNED UTILITIES AT LEAST 48 HOURS IN ADVANCE FOR CONSTRUCTION OPERATIONS.
6. NO FIELD CHANGES OR DEVIATIONS FROM DESIGN TO BE MADE WITHOUT PRIOR APPROVAL OF THE ENGINEER.
7. CONTRACTOR CONTROL SURVEY POINTS TO ENGINEER ON ALL SUB-GRADE AND BASE TESTS SHALL BE PREPARED PER ASHST T-140 METHOD.
8. SLOPE GRADATIONS FROM ELEVATIONS SHOWN TO EXISTING GRADE AT PROPERTY LINE, MAXIMUM SLOPE 4:1.
9. ENGINEER SHALL BE NOTIFIED AT LEAST 48 HOURS IN ADVANCE FOR ANY INSPECTIONS.
10. ALL TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH MUTCD. STANDARD, CITY OF FELLSMERE, INDIAN RIVER COUNTY AND F.D.O.T. AS APPLICABLE.
11. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION LATEST EDITION.
12. THE PRESENCE OF GROUNDWATER SHOULD BE ANTICIPATED ON THIS PROJECT. CONTRACTORS BID SHALL INCLUDE CONSIDERATION FOR ADDRESSING THIS ISSUE. WHEN GROUNDWATER IS ENCOUNTERED THE CONTRACTOR SHALL PLAN ACCORDINGLY.
13. EROSION CONTROL FENCING MUST BE IN PLACE PRIOR TO GRADING.
14. PIPE LENGTHS AND SLOPES SHOWN ARE APPROXIMATE.
15. IF ANY EXISTING STRUCTURES TO REMAIN ARE DAMAGED DURING CONSTRUCTION IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR AND/OR REPLACE THE EXISTING STRUCTURE AS NECESSARY TO MAINTAIN EXISTING CONDITIONS OR BETTER.
16. ALL STORM PIPE ENTERING STRUCTURES SHALL BE GROUDED TO ASSURE CONNECTION AT STRUCTURE IS WATER-TIGHT.
17. CONTRACTOR SHALL ADJUST INLET STRUCTURE OR CONNECTION LOCATION AS REQUIRED TO ENSURE PROPOSED STRUCTURES AND PIPES ARE IN PROPER ALIGNMENT AND MATCH SLOPE OF EXISTING PIPES OR CONNECTIONS.
18. THIS PLAN CONTEMPLATES ACCESS CONNECTIONS TO ADJACENT ROADS AS SHOWN.
19. FILL MATERIAL MAY NOT BE STOCKPILED HIGHER THAN TWENTY FIVE (25) VERTICAL FEET ONSTE PER CITY OF FELLSMERE CODE.
20. DIMENSIONS SHOWN ARE TO EDGE OF GUTTER OR PAVEMENT. RADII SHOWN ARE TO FACE OF CURB.
21. ALL SIGNS SHALL BE PER MUTCD STANDARDS.
22. ALL PAVEMENT MARKINGS, EXCEPT PARKING STALL STRIPING, SHALL BE THERMOPLASTIC PER INDIAN RIVER COUNTY AND CITY OF FELLSMERE REQUIREMENTS WHERE APPLICABLE.
23. THE USES PROPOSED AS PART OF THIS PLAN DO NOT REQUIRE A SUBMITTAL OF A RISK MANAGEMENT PLAN PURSUANT TO U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA) REGULATIONS AND SHALL NOT EXCEED THE EPA'S RMP THRESHOLD QUANTITIES OF LISTED SUBSTANCES.
24. WATER FOR FIRE FIGHTING PURPOSES SHALL BE INDICATED WITH A BLUE ROADWAY REFLECTOR. PLACE ONE FOOT OF THE CENTERLINE OF THE ROAD FACING THE FIRE HYDRANT. THIS INCLUDES NEW AND EXISTING SOURCES.
25. REGARDLESS OF PRIVATE OR PUBLIC EDCIFICATIONS, THERE SHALL BE NO UTILITY CONNECTIONS, METER BOXES OR VALVE BOXES IN EXISTING OR PROPOSED SIDEWALK OR DRIVEWAY AREAS.
26. CONTRACTOR SHALL ADJUST INLET STRUCTURE OR CONNECTION LOCATION AS REQUIRED TO ENSURE PROPOSED STRUCTURES AND PIPES ARE IN PROPER ALIGNMENT AND MATCH SLOPE OF EXISTING PIPES OR CONNECTIONS.
27. ANY STATE AND FEDERAL PERMITS THAT MAY BE REQUIRED AS A RESULT OF LAND CLEARING AND LANDSCAPING ACTIVITIES ARE THE RESPONSIBILITY OF THE CONTRACTOR.
28. CONTRACTOR IS RESPONSIBLE TO PROTECT AND/OR REPLACE ALL SURVEY MONUMENTATION BY A LICENSED SURVEYOR IN THE STATE OF FLORIDA.
29. ALL PARKING SPACES WITH EXCEPTION OF THE HANDICAPPED PARKING SPACES SHALL BE STRIPED IN WHITE. TRAFFIC PAINT AND BE IN ACCORDANCE WITH THE FLORIDA DEPARTMENT OF TRANSPORTATION (FOOT) STANDARD SPECIFICATIONS FOR FORD ROAD & BRIDGE CONSTRUCTION, SECTION 710, LATEST EDITION.
30. ALL HANDICAPPED PARKING SPACES SHALL BE PROPERLY SIGNED AND STRIPED IN ACCORDANCE WITH FOOT STANDARD SPEC. 710.001, LATEST EDITION.
31. BUILDINGS USING VERTICAL OR HORIZONTAL LIGHT FRAME CONSTRUCTION IN ANY PORTION OF THE STRUCTURE SHALL BE MARKED WITH A SIGN AS REQUIRED BY FLORIDA STATE STATUTE 833.027 AND THE SIGN SHALL BE CONFORM WITH THE FLORIDA ADMINISTRATIVE CODE 69A-312 AND/OR 69A-68.001. REQUIRED SIGN MUST BE 8 INCHES BY 8 INCHES.
32. THERMOPLASTIC PAVEMENT MARKINGS SHALL BE REQUIRED ON EXISTING / PROPOSED DRIVEWAYS THAT CONNECT TO THE COUNTY RIGHT-OF-WAY (ROW) AND PROPOSED PAVEMENT MARKINGS WITHIN 25' OF EDGE OF PAVEMENT.
33. ALL SUBDIVISION CONSTRUCTION SHALL BE COMPLETED IN ACCORDANCE WITH THE APPLICABLE CITY OF FELLSMERE ORDINANCES.
34. ALL NUISANCE EXOTIC VEGETATION EXISTING WITHIN DEVELOPMENT PROJECT SITE PROPERTY MUST BE REMOVED IN CONJUNCTION WITH SITE DEVELOPMENT.

PRIMARY BENCHMARK:
DESIGNATION: T 431
PID: A61837
STATE COUNTY: FL/INDIAN RIVER
USGS QUAD: SOUTH OF FELLSMERE (2018)
NAVD 88 ORTHO HEIGHT: 7.141 (METERS)
23.43 (FEET)
GEOD HEIGHT: -27.498 (METERS)
DYNAMIC HEIGHT: 7.131 (METERS) 23.40 (FEET)
DESCRIPTION: A VERTICAL CONTROL DISK SET IN TOP OF A CONCRETE MONUMENT STAMPED 'NGS T 431-1994'.
LOCATION: TO REACH THE MARK FROM THE INTERSECTION OF STATE HIGHWAY 60 (20TH AVENUE) AND INTERSTATE 95 (EXIT 147) SOUTHBOUND LANES ON THE WEST SIDE OF VERO BEACH, GO WEST ON STATE HIGHWAY 60 (20TH AVENUE) FOR 0.65 MILES TO THE INTERSECTION OF 98TH AVENUE AND THE MARK ON THE LEFT. LOCATED 158.5 FEET SOUTH OF THE CENTERLINE OF STATE HIGHWAY 60 EASTBOUND LANES, 32.7 FEET WEST OF THE CENTERLINE OF 98TH AVENUE, 10.5 FEET EAST OF A BARBRIE FENCE AND 10.0 FEET EAST OF A CARSONITE WITNESS POST.

Table with columns: NO., REVISIONS, DATE. Includes a grid for tracking revisions and dates.

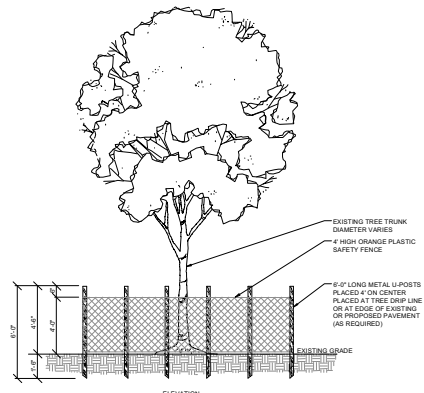
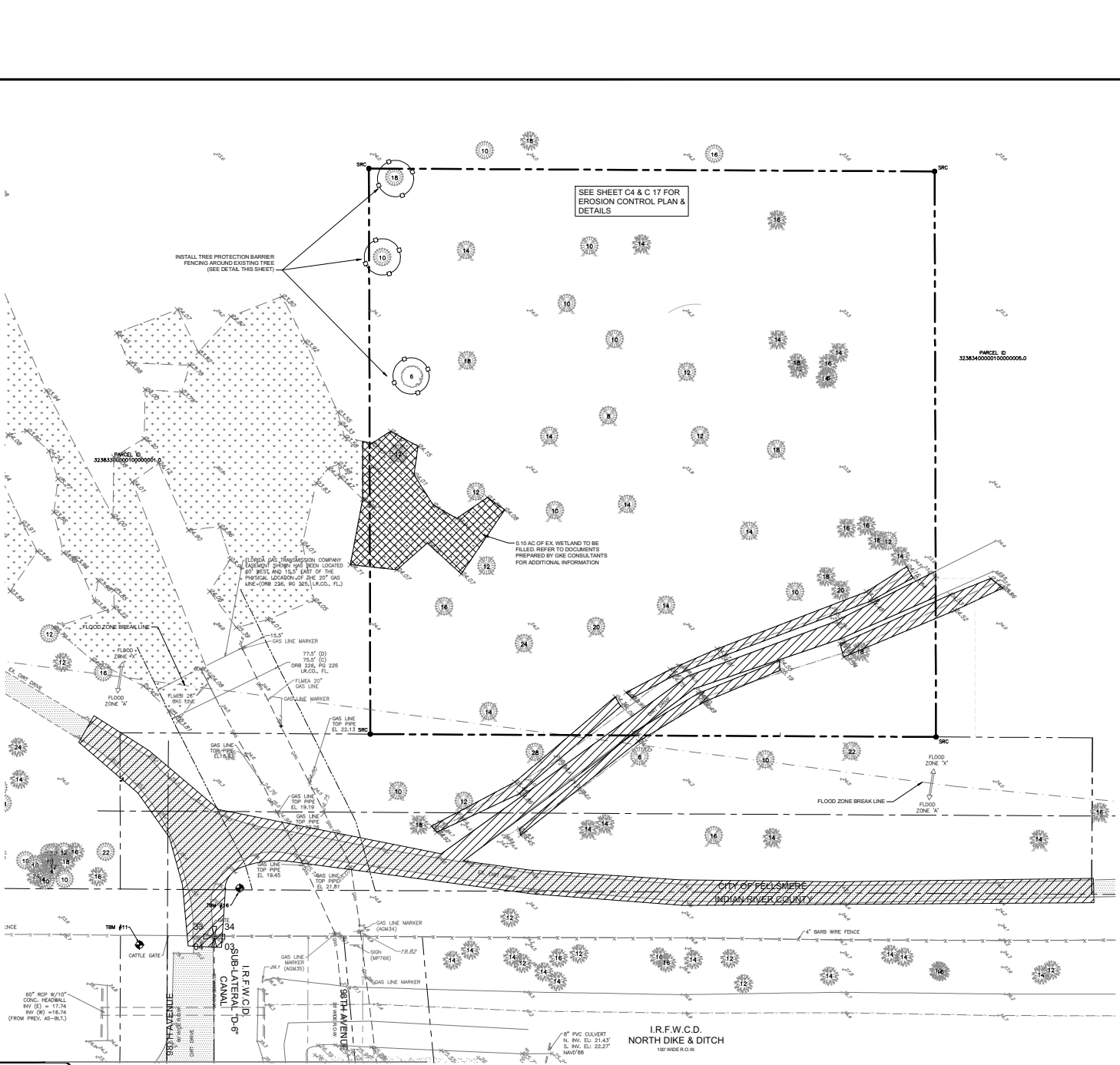
MBV ENGINEERING, INC. CONSULTING ENGINEERING CA #2728. Includes contact information and professional seal details.

GENERAL NOTES: IRC FIRE RESCUE FIRE STATION #7. CITY OF FELLSMERE, FLORIDA.

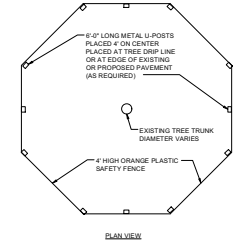
Professional seal for Aaron G. Stanton, License No. 72460, State of Florida, Professional Engineer. Includes sheet number C2 and date 21-0492.



Know what's below. Call before you dig.



- TREE PROTECTION NOTES:**
1. ALL TREES REMOVED ON A SITE SHALL BE PROTECTIVELY BARRICADED BEFORE AND DURING CONSTRUCTION ACTIVITIES.
 2. UNDERGROUND UTILITY LINES SHALL BE ROUTED AROUND EXISTING TREES TO THE OUTSIDE OF THE DRIFLINE WHERE AS FEASIBLE.
 3. INSTALLATION OF FENCES AND WALLS SHALL TAKE INTO CONSIDERATION THE ROOT SYSTEMS OF EXISTING TREES.
 4. FENCES/BARRICADE SHALL BE INSTALLED AT PERIMETER OF ALL TREES OR GROUPS OF TREES TO BE PRESERVED. FENCE SHALL BE MAINTAINED DURING CONSTRUCTION.



TREE PROTECTION BARRIER DETAIL
N15

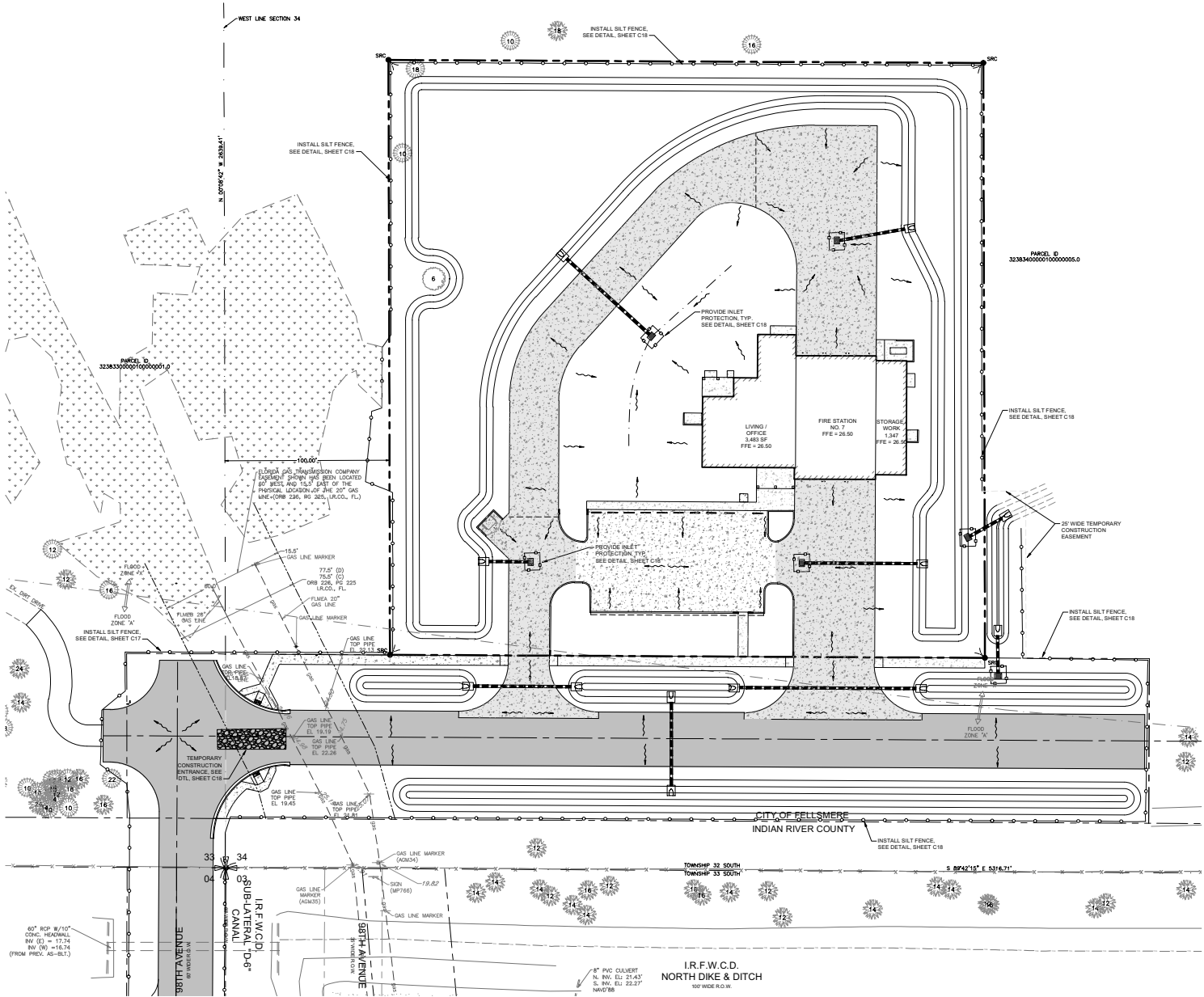
- LEGEND**
- EXISTING PALM TREE TO BE REMOVED
 - EXISTING PINE TO BE REMOVED
 - EXISTING DIRT DRIVES TO BE REMOVED AND DITCHES TO BE FILLED
 - EXISTING WETLANDS TO BE FILLED, SEE MITIGATION PLAN PREPARED BY GNE CONSULTANTS

72 HOURS BEFORE BEGING
CALL TOLL FREE
811
Know what's below.
Call before you dig.

EXISTING CONDITIONS & DEMOLITION PLAN
SCALE: 1" = 30'



JOB NO.	21-0492	DATE	05/12/2023
DESIGNED	TH	CHECKED	AS
DRAWN	SS	DATE	JUNE 2023
MBV ENGINEERING INC.			
MOYA BOMES, WILANAZAR & ASSOCIATES CONSULTING ENGINEERING CA #3728			
1100 WEST 15TH AVENUE SUITE 100 DENVER, CO 80202 TEL: 303.733.1100 FAX: 303.733.1101			
EXISTING CONDITIONS & DEMOLITION PLAN			
IRC FIRE RESCUE FIRE STATION #7			
CITY OF FELLEMERIE FLORIDA			
BRANDON STANTON P.E. #72460 SHEET C3			
21-0492			



LEGEND

- PROPOSED ASPHALT
- PROPOSED CONCRETE
- PROPOSED HEAVY DUTY CONCRETE
- PROPOSED SURFACE FLOW DIRECTION
- PROPOSED EROSION CONTROL FENCE

72 HOURS BEFORE BEGINS
CALL TOLL FREE
811
Know what's below.
Call before you dig.

EROSION CONTROL PLAN

SCALE: 1" = 30'



I.R.F.W.C.D.
NORTH DIKE & DITCH
100' WIDE R.O.W.

NO.	DATE	REVISIONS
1	05/12/2023	AS
2		AS
3		AS
4		AS
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26		AS
27		AS
28		AS
29		AS
30		AS

MBV ENGINEERING INC.
 ENGINEERING INC.
 MOYA BOMES, WILLAMAZAR & ASSOCIATES
 CONSULTING ENGINEERING
 1111 W. STATE ST. SUITE 200
 TAMPA, FL 33604
 TEL: 813.281.1111
 FAX: 813.281.1112

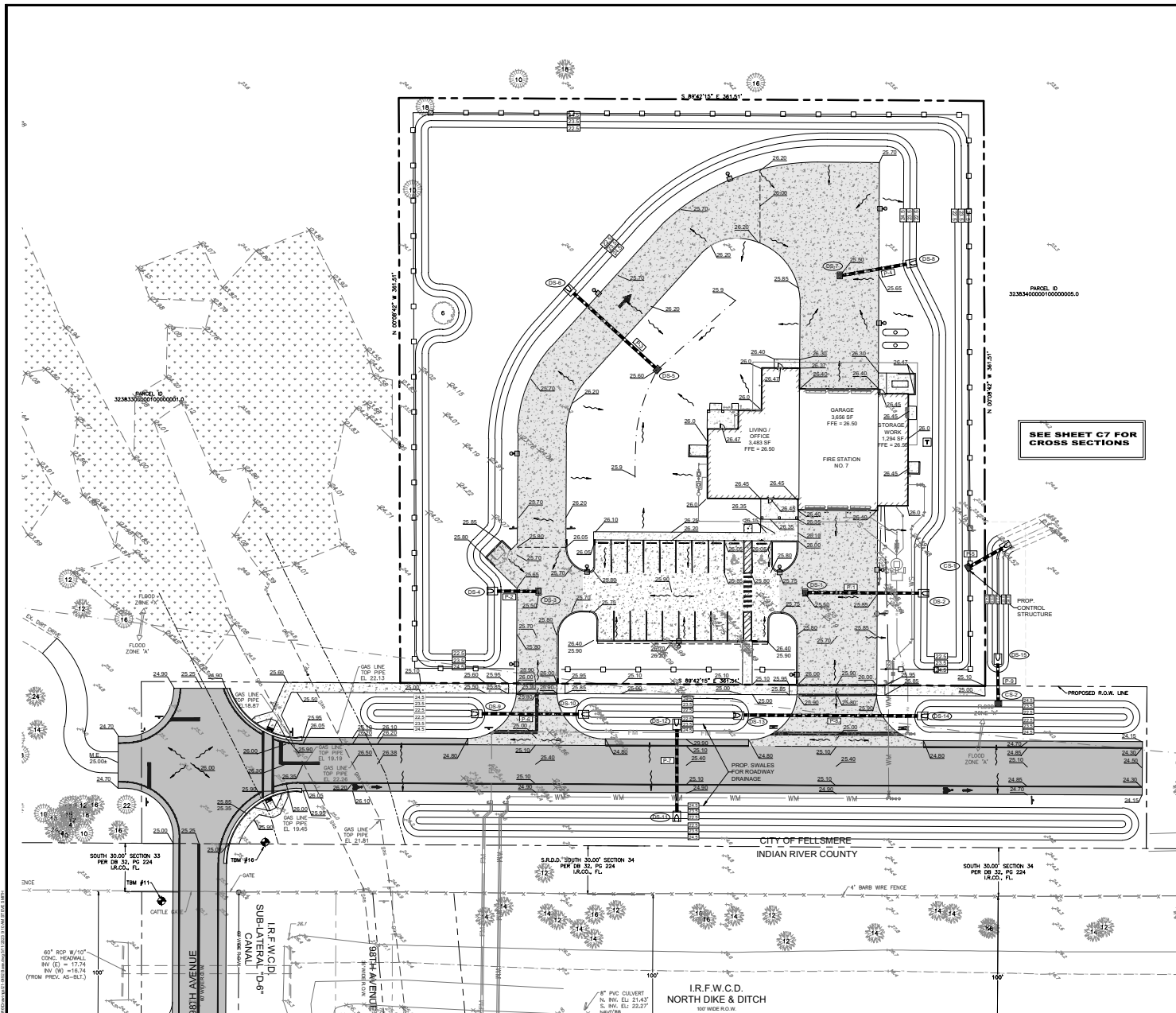
EROSION CONTROL PLAN

**IRC FIRE RESCUE
FIRE STATION #7**

FLORIDA
 CITY OF FELLSMERE

ARNDT G. STANTON
 LICENSE No. 72460
 STATE OF FLORIDA
 PROFESSIONAL ENGINEER
 ARNDT G. STANTON
 P.E. #72460
 SHEET

C4



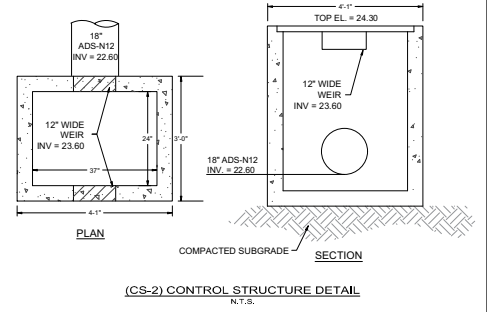
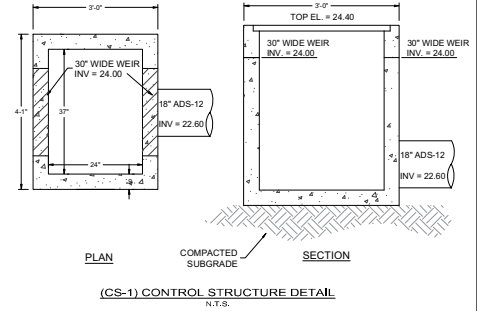
DRAINAGE STRUCTURE SCHEDULE							
STRUCTURE NUMBER	R/W	INVERT ELEVATION			BOTTOM ELEV.	DESCRIPTION	
		N	S	W			
DS-1				23.10		TYPE "1" INLET	
DS-2	MES				22.50	14" x 22" MES	
DS-3		22.50	SE	23.10		TYPE "1" INLET	
DS-4	MES			22.50		14" x 22" MES	
DS-5		22.50	NE	23.20		TYPE "1" INLET	
DS-6	MES				22.50	14" x 22" MES	
DS-7		22.50	SE	23.10		TYPE "1" INLET	
DS-8	MES			22.50		14" x 22" MES	
DS-9	MES			22.50		14" x 22" MES	
DS-10	MES			22.50		14" x 22" MES	
DS-11	MES	22.50				14" x 22" MES	
DS-12	MES			22.50		14" x 22" MES	
DS-13	MES			22.50		14" x 22" MES	
DS-14	MES			22.50		14" x 22" MES	
DS-15	MES			22.50		14" x 22" MES	
CS-1		24.40		22.60		MOD. TYPE "C" INLET	
CS-2		24.30		22.60		MOD. TYPE "C" INLET	

ALL STRUCTURES PER FOOT STANDARD SPECIFICATIONS AND DETAILS.

DRAINAGE PIPE SCHEDULE			
PIPE NUMBER	SIZE	LENGTH	DESCRIPTION
P-1	14" x 22"	75 LF	ERCP
P-2	14" x 22"	32 LF	LRCP
P-3	14" x 22"	75 LF	ERCP
P-4	14" x 22"	47 LF	ERCP
P-5	18"	29 LF	ADS N12
P-6	14" x 22"	73 LF	ERCP
P-7	14" x 22"	89 LF	ERCP
P-8	14" x 22"	120 LF	ERCP
P-9	18"	30 LF	ADS N12

LEGEND

- PROPOSED ASPHALT
- PROPOSED CONCRETE
- PROPOSED HEAVY DUTY CONCRETE
- PROPOSED DRAINAGE PIPE
- PROPOSED DRAINAGE STRUCTURE
- PROPOSED GRADE ELEVATION
- EXISTING GRADE ELEVATION
- PROPOSED SURFACE FLOW DIRECTION



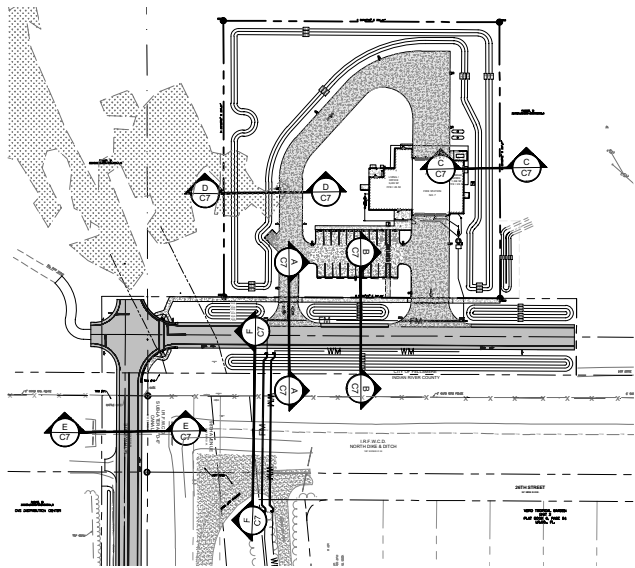
SEE SHEET C7 FOR CROSS SECTIONS

PAVING, GRADING AND DRAINAGE PLAN

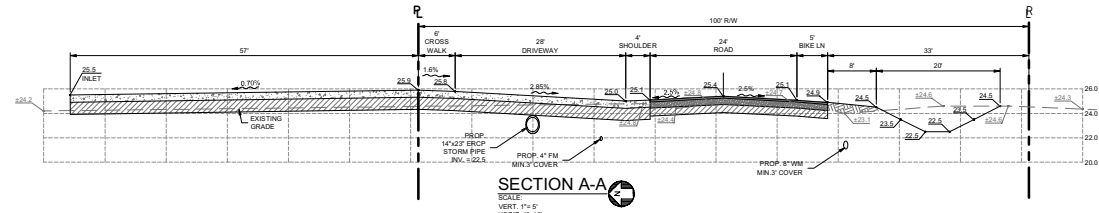
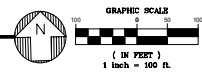


72 HOURS BEFORE BEGINNING CALL TOLL FREE 811 Know what's below. Call before you dig.

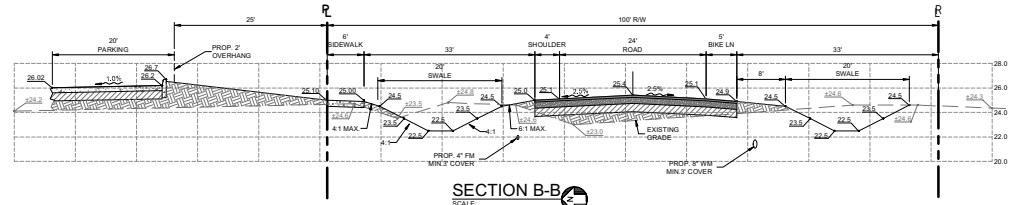
JOB NO.	21-0492	DATE	05/12/2023
DESIGNED	TH	CHECKED	AS
DRAWN	SS	DATE	JUNE 02, 2023
PROJECT	PAVING, GRADING AND DRAINAGE PLAN		
CLIENT	CITY OF FELLSMERE, FLORIDA		
ENGINEER	MBV ENGINEERING INC. CONSULTING ENGINEERING		
PROJECT ADDRESS	1800 S. STATE ROAD 100, SUITE 100, FELLSMERE, FL 32935		
PROJECT NO.	21-0492		
PROJECT NAME	IRC FIRE RESCUE FIRE STATION #7		
PROJECT LOCATION	CITY OF FELLSMERE, FLORIDA		
PROJECT DESCRIPTION	PAVING, GRADING AND DRAINAGE PLAN		
PROJECT STATUS	PROPOSED		
PROJECT OWNER	CITY OF FELLSMERE		
PROJECT CONTACT	AMONG STANTON P.E. #72460		
PROJECT CONTACT	STATE OF FLORIDA PROFESSIONAL ENGINEER		
PROJECT CONTACT	SHEET		
PROJECT CONTACT	C6		
PROJECT CONTACT	21-0492		



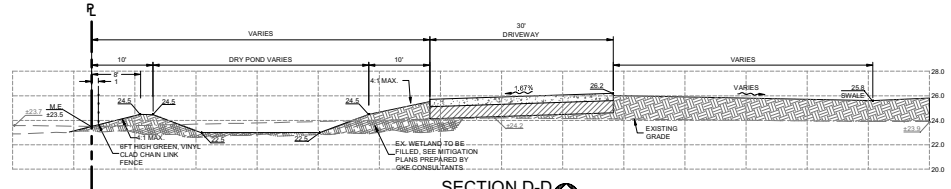
SECTION KEY MAP



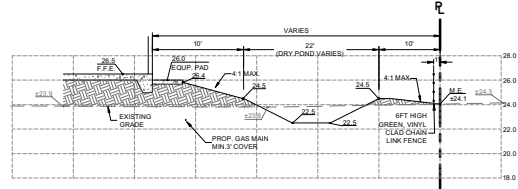
SECTION A-A
SCALE
VERT. 1" = 5'
HORIZ. 1" = 10'



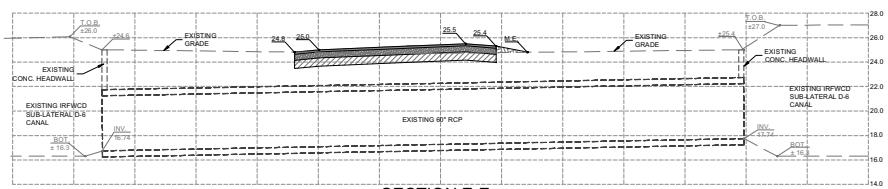
SECTION B-B
SCALE
VERT. 1" = 5'
HORIZ. 1" = 10'



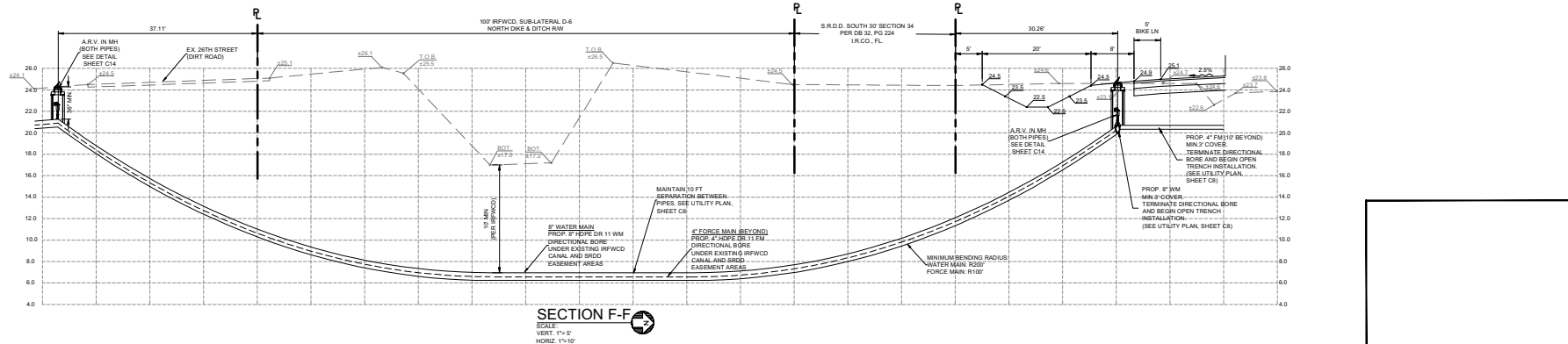
SECTION D-D
SCALE
VERT. 1" = 5'
HORIZ. 1" = 10'



SECTION C-C
SCALE
VERT. 1" = 5'
HORIZ. 1" = 10'



SECTION E-E
SCALE
VERT. 1" = 5'
HORIZ. 1" = 10'



SECTION F-F
SCALE
VERT. 1" = 5'
HORIZ. 1" = 10'

NO.	DATE	REVISIONS
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10		AS

JOB NO.	21-0492
DESIGNED	TH
DRAWN	SS
DATE	JUNE 2023
CHECKED	AS
DATE REVISION	05/12/2023

MBV ENGINEERING INC.
 ENGINEERING
 NICIA BOMES, WILMALARZ & ASSOCIATES
 CONSULTING ENGINEERING CA #3728
 11100 S. 111th AVE., SUITE 100
 MIAMI, FL 33156
 TEL: 305.767.7647

CROSS SECTIONS

IRC FIRE RESCUE
 FIRE STATION #7

FLORIDA
 CITY OF FELLOWERS

ARON G. STANTON
 LICENSE No. 72460
 STATE OF FLORIDA
 PROFESSIONAL ENGINEER

SHEET

C7

21-0492



NO.	DATE	REVISIONS
1	02/12/2023	DATE ISSUED
2	06/01/2023	CHECKED
3	06/01/2023	DATE DESIGNED
4	06/01/2023	DESIGNED
5	06/01/2023	DRAWN
6	06/01/2023	DATE
7	06/01/2023	AS
8	06/01/2023	SS
9	06/01/2023	TH
10	06/01/2023	DATE

MBV ENGINEERING, INC.
 CONSULTING ENGINEERS
 4400 S.W. 11TH AVENUE, SUITE 100
 MIAMI, FL 33135
 (305) 551-1111
 www.mbv-engineering.com

UTILITY PLAN
 I.R.C. FIRE RESCUE
 FIRE STATION #7
 CITY OF FELLSMERE
 FLORIDA

PROFESSIONAL ENGINEER
 LICENSE No. 72460
 STATE OF FLORIDA
 6/16/23
 SHEET
 C8

21-0492

- FDEP SEPARATION CRITERIA:**
- HORIZONTAL SEPARATION BETWEEN UNDERGROUND WATER MAINS AND SANITARY OR STORM SEWERS, WASTEWATER OR STORM WATER FORCE MAINS, RECLAIMED WATER PIPELINES, AND ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS.**
 - NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAD TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST THREE FEET BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED STORM SEWER, STORM WATER, FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER REGULATED UNDER PART II OF CHAPTER 62-610.F.A.C.
 - NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAD TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST THREE FEET, AND PREFERABLY TEN FEET, BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED VACUUM-TYPE SANITARY SEWER.
 - NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAD TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST SIX FEET, AND PREFERABLY TEN FEET, BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED GRAVITY OR PRESSURE-TYPE SANITARY SEWER, WASTEWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART II OF CHAPTER 62-610.F.A.C. THE MINIMUM HORIZONTAL SEPARATION DISTANCE BETWEEN WATER MAINS AND GRAVITY-TYPE SANITARY SEWERS SHALL BE REDUCED TO THREE FEET WHERE THE BOTTOM OF THE WATER MAIN IS LAD AT LEAST SIX INCHES ABOVE THE TOP OF THE SEWER.
 - NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAD TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST TEN FEET BETWEEN THE OUTSIDE OF THE WATER MAIN AND ALL PARTS OF ANY EXISTING OR PROPOSED ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEM AS DEFINED IN SECTION 391.006(2)(f), F.S., AND RULE 64E-6.002, F.A.C.
 - VERTICAL SEPARATION BETWEEN UNDERGROUND WATER MAINS AND SANITARY OR STORM SEWERS, WASTEWATER OR STORM WATER FORCE MAINS, AND RECLAIMED WATER PIPELINES.**
 - NEW OR RELOCATED, UNDERGROUND WATER MAINS CROSSING ANY EXISTING OR PROPOSED GRAVITY OR VACUUM-TYPE SANITARY SEWER OR STORM SEWER SHALL BE LAD TO THE OUTSIDE OF THE WATER MAIN IS AT LEAST SIX INCHES, AND PREFERABLY TEN INCHES, ABOVE OR AT LEAST 12 INCHES BELOW THE OUTSIDE OF THE OTHER PIPELINE. HOWEVER, IT IS PREFERABLE TO LAY THE WATER MAIN ABOVE THE OTHER PIPELINE.
 - NEW OR RELOCATED, UNDERGROUND WATER MAINS CROSSING ANY EXISTING OR PROPOSED PRESSURE-TYPE SANITARY SEWER, WASTEWATER OR STORM WATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER SHALL BE LAD SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST 12 INCHES ABOVE OR BELOW THE OUTSIDE OF THE OTHER PIPELINE. HOWEVER, IT IS PREFERABLE TO LAY THE WATER MAIN ABOVE THE OTHER PIPELINE.
 - AT THE UTILITY CROSSINGS DESCRIBED IN PARAGRAPHS (A) AND (B) ABOVE, ONE FULL LENGTH OF WATER MAIN PIPE SHALL BE CENTERED ABOVE OR BELOW THE OTHER PIPELINE, SO THE WATER MAIN JOINTS WILL BE AS FAR AS POSSIBLE FROM THE OTHER PIPELINE. ALTERNATIVELY, AT SUCH CROSSINGS, THE WATER MAINS SHALL BE ARRANGED SO THAT ALL THE WATER MAIN JOINTS ARE AT LEAST THREE FEET FROM ALL JOINTS IN VACUUM-TYPE SANITARY SEWERS, STORM SEWERS, STORM WATER FORCE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER REGULATED UNDER PART II OF CHAPTER 62-610.F.A.C., AND AT LEAST SIX FEET FROM ALL JOINTS IN GRAVITY OR PRESSURE-TYPE SANITARY SEWERS, WASTEWATER FORCE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART II OF CHAPTER 62-610.F.A.C.
 - SEPARATION BETWEEN WATER MAINS AND SANITARY OR STORM SEWER MANHOLES**
 - NO WATER MAIN SHALL PASS THROUGH, OR COME INTO CONTACT WITH, ANY PART OF A SANITARY SEWER MANHOLE (EFFECTIVE AUGUST 28, 2003, WATER MAINS SHALL NOT BE CONSTRUCTED OR ALTERED TO PASS THROUGH, OR COME INTO CONTACT WITH, ANY PART OF A STORM SEWER MANHOLE OR INLET STRUCTURE).
 - SEPARATION BETWEEN FIRE HYDRANT DRAINS AND SANITARY OR STORM SEWERS, WASTEWATER OR STORM WATER FORCE MAINS, RECLAIMED WATER PIPELINES, AND ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS.**
 - NEW OR RELOCATED FIRE HYDRANTS WITH UNDERGROUND DRAINS SHALL BE LOCATED SO THAT THE DRAINS ARE AT LEAST THREE FEET FROM ANY EXISTING OR PROPOSED STORM SEWER, STORM WATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER REGULATED UNDER PART II OF CHAPTER 62-610.F.A.C. AT LEAST THREE FEET, AND PREFERABLY TEN FEET, FROM ANY EXISTING OR PROPOSED VACUUM-TYPE SANITARY SEWER, AT LEAST SIX FEET, AND PREFERABLY TEN FEET, FROM ANY EXISTING OR PROPOSED GRAVITY OR PRESSURE-TYPE SANITARY SEWER, WASTEWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART II OF CHAPTER 62-610.F.A.C., AND AT LEAST TEN FEET FROM ANY EXISTING OR PROPOSED ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEM AS DEFINED IN SECTION 391.006(2)(f), F.S., AND RULE 64E-6.002, F.A.C.

SEE SHEETS C14 - C16 FOR UTILITY DETAILS

UTILITIES INFRASTRUCTURE NOTE
 ALL UTILITY INFRASTRUCTURE (WATER, SEWER, ELECTRIC, TELECOMMUNICATIONS) WILL BE CONSTRUCTED AS PART OF THE PROJECT AND ROUTED TO THE SITE FROM THE 98TH AVENUE CORRIDOR LOCATED TO THE SOUTH.

CONFLICT NUMBER	GROUND ELEV.	UPPER PIPE			SEPARATION (FT)
		UPPER PPE	LOWER PIPE	LOWER PPE	
1	24.83	14"x2" ERCP	22.30	4" HDPE FM	1.00
2	24.80	14"x2" ERCP	22.50	8" WM	1.00
3	25.32	14"x2" ERCP	22.27	8" WM	21.27
4	25.22	14"x2" ERCP	22.27	4" HDPE FM	21.27
5	25.45	8" WM	21.78	4" HDPE FM	20.78
6	25.50	14"x2" ERCP	22.95	FIRE LINE	21.95
7	25.35	14"x2" ERCP	22.80	2" HDPE FM	21.90
8	25.06	14"x2" ERCP	22.91	6" PVC WS	21.91
9	26.35	FL	22.48	4" SS	21.48
10	26.35	FL	22.33	4" SS	22.33

LEGEND

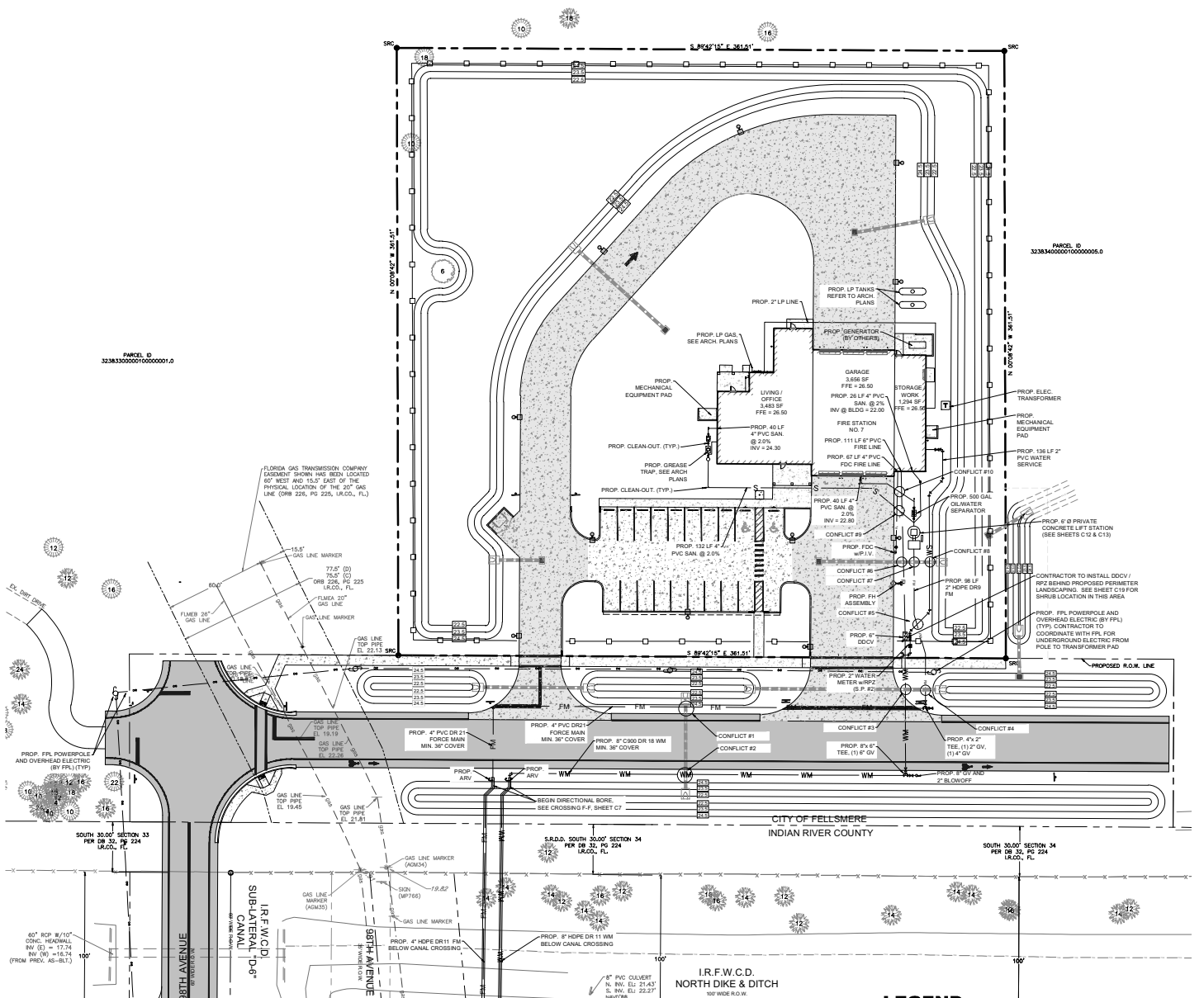
- PROPOSED ASPHALT
- PROPOSED HEAVY DUTY CONCRETE
- PROPOSED STANDARD DUTY CONCRETE
- PROPOSED POLE LIGHT
- FM - PROPOSED FORCE MAIN (DIRECTIONAL BORE)
- FM - PROPOSED FORCE MAIN (TRENCH)
- WM - PROPOSED WATER MAIN (DIRECTIONAL BORE)
- WM - PROPOSED WATER MAIN (TRENCH)
- GBS - EXISTING 20" & 26" GAS TRANSMISSION LINES



UTILITY PLAN

SCALE: 1"=30'

MATCHLINE SEE SHEET C11



72 HOURS BEFORE BEGING CALL TOLL FREE

 Know what's below. Call before you dig.

PARCEL ID 3328130000010000000.0

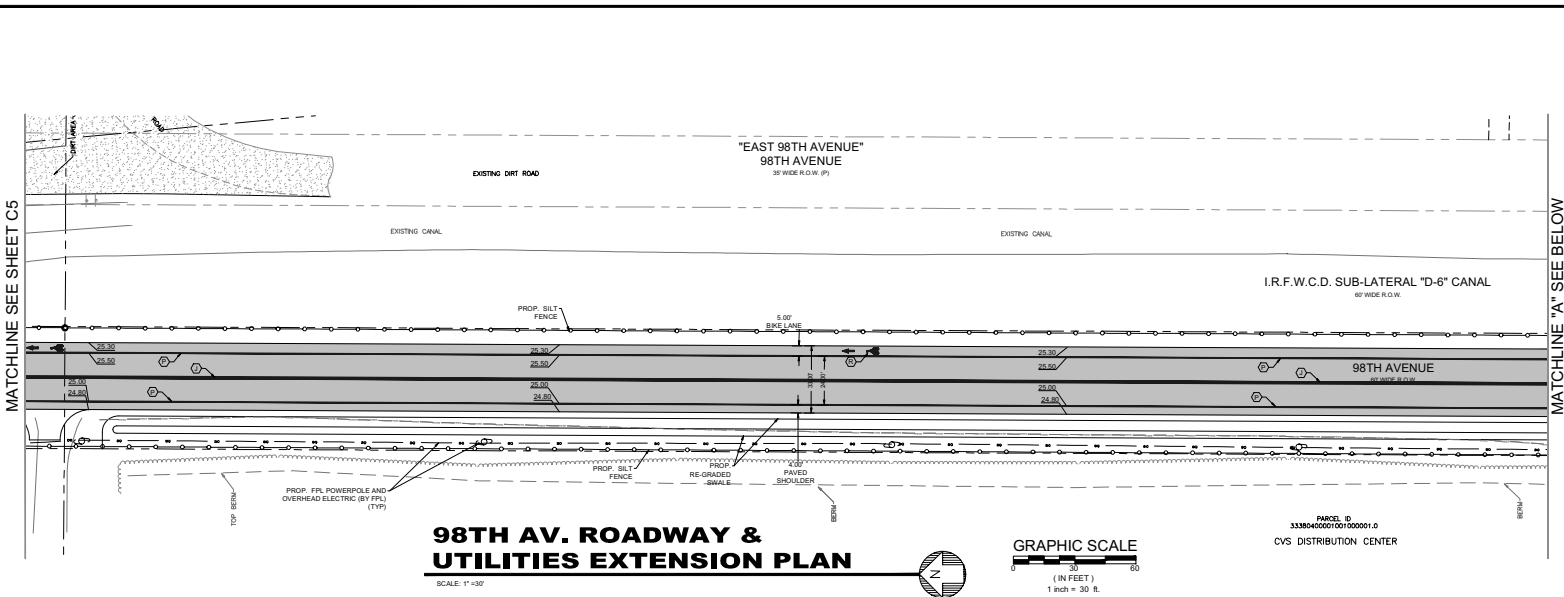
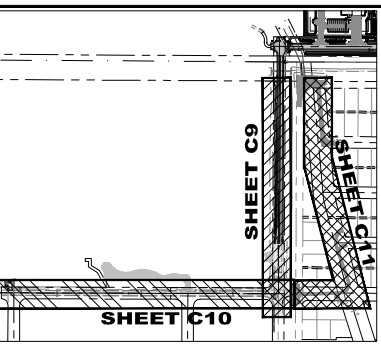
FLORIDA GAS TRANSMISSION COMPANY (GAS LINE) HAS BEEN LOCATED 60' WEST AND 15.5' EAST OF THE PHYSICAL LOCATION OF THE 20" GAS LINE (CR# 226, PG 225, URCO, FL)

72 HOURS BEFORE BEGING CALL TOLL FREE

 Know what's below. Call before you dig.

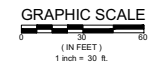
ROADWAY SHEET KEY MAP

SCALE: N.T.S.

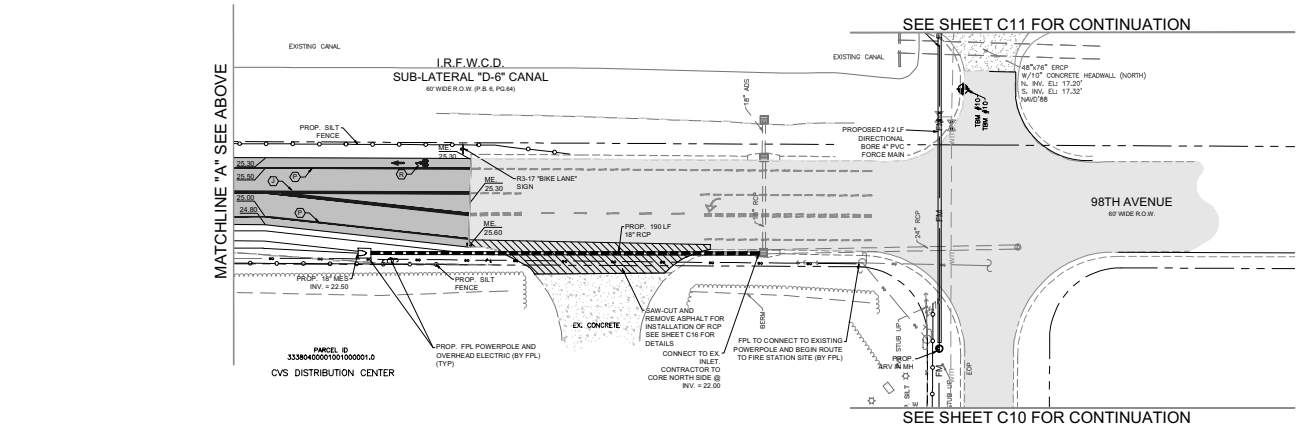


98TH AV. ROADWAY & UTILITIES EXTENSION PLAN

SCALE: 1"=30'

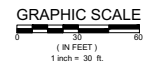


PARCEL ID: 333804000101000001.0
CVS DISTRIBUTION CENTER



98TH AV. ROADWAY & UTILITIES EXTENSION PLAN

SCALE: 1"=30'

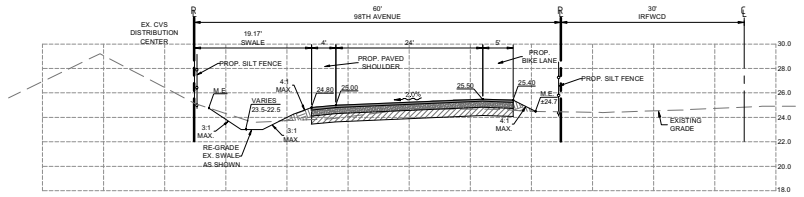


SITE, SIGNAGE & PAVEMENT MARKING SCHEDULE		
SIGN ID NUMBER	SIZE	DESIGNATION / NOTES
①	6"	DOUBLE YELLOW STRIPS - THERMOPLASTIC
②	6"	SOLID WHITE - THERMOPLASTIC
③		BK&L LANE MARKING PER FOOT #17347

SEE SHEETS C14 - C16 FOR UTILITY DETAILS

LEGEND

- EXISTING ASPHALT PAVEMENT
- PROPOSED ASPHALT PAVEMENT
- EXISTING CONCRETE PAVEMENT
- EXISTING CONCRETE PAVEMENT TO BE REMOVED
- PROPOSED FORCE MAIN (DIRECTIONAL BORE)
- PROPOSED FORCE MAIN (TRENCH)
- EXISTING WATER MAIN
- PROPOSED OVERHEAD ELECTRIC AND POWER POLES (BY FPL)
- PROPOSED SILT FENCE



TYPICAL ROAD SECTION

SCALE: VERT. 1"=5' HORIZ. 1"=10'

SEE SHEETS C17 FOR PAVEMENT SECTION

REVISIONS		DATE
1	DESIGNED	21-04-22
2	DRAWN	05
3	CHECKED	JUNE 2022
4	AS	AS
5	AS	05/12/2023

MBV ENGINEERING, INC.
REGISTERED PROFESSIONAL ENGINEERING CONSULTING ENGINEERING CA #2728
1400 JAVIER BLVD., SUITE 100
SAN JOSE, CA 95131
TEL: 408.277.1040

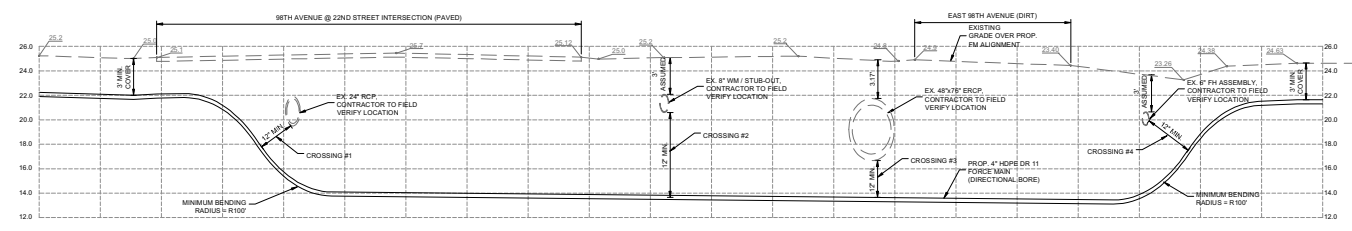
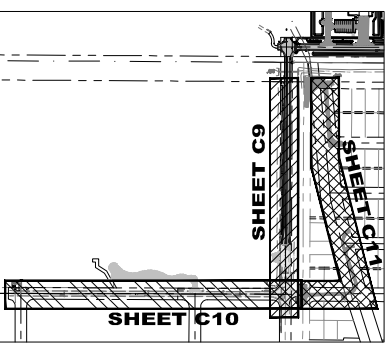
98TH AVE. ROADWAY EXTENSION PLAN

FLORIDA
CITY OF FELLSMERE
IRC FIRE RESCUE FIRE STATION #7

AMONG STATION P.L.P.E. #72460
SHEET
C9

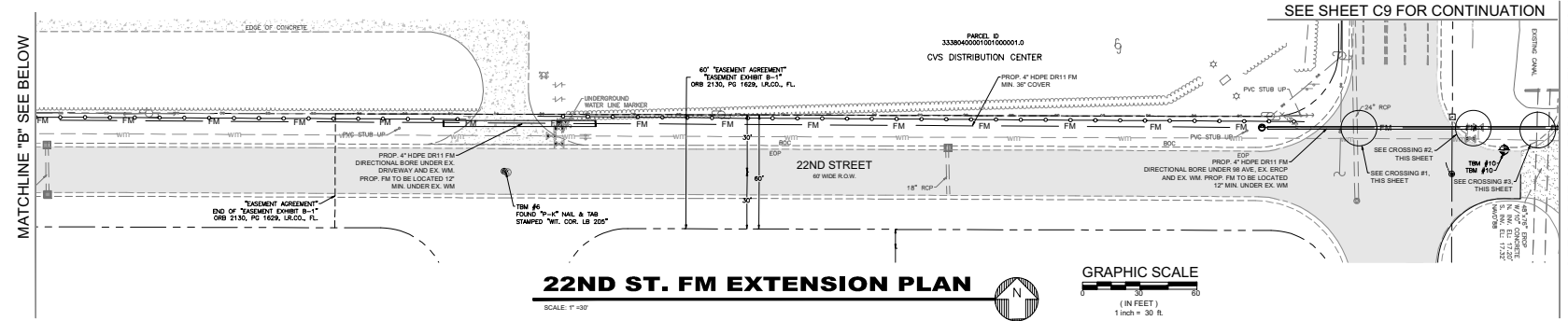
21-04-22





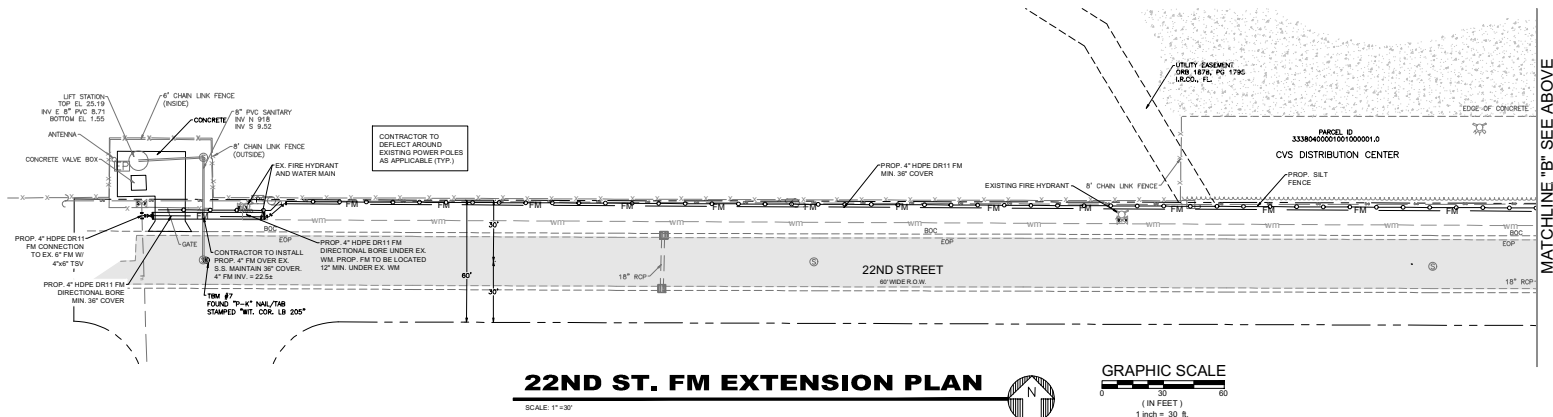
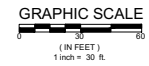
FM CROSSINGS #1, 2, 3 & 4

SCALE:
VERT. 1"=6'
HORIZ. 1"=10'



22ND ST. FM EXTENSION PLAN

SCALE: 1"=30'



22ND ST. FM EXTENSION PLAN

SCALE: 1"=30'



LEGEND

- EXISTING ASPHALT PAVEMENT
- EXISTING CONCRETE PAVEMENT
- PROPOSED FORCE MAIN (DIRECTIONAL BORE)
- PROPOSED FORCE MAIN (TRENCH)
- EXISTING WATER MAIN

SEE SHEETS C14 - C16 FOR UTILITY DETAILS

NO.	DATE	REVISIONS

JOB NO. 21-0492
DESIGNED BY TH
DRAWN BY SS
DATE JUNE 2022
CHECKED BY AS
DATE ISSUED 05/22/2023

MBV ENGINEERING, INC.
REGISTERED PROFESSIONAL ENGINEERS
CONSULTING ENGINEERING CA #3728
11100 WILLOW BLVD., SUITE 100
DUBLIN, CA 94568
TEL: 925.835.1100
WWW.MBV-ENGINEERING.COM

22ND STREET FORCE MAIN EXTENSION PLAN

IRC FIRE RESCUE FIRE STATION #7

CITY OF FELLEMERIE FLORIDA

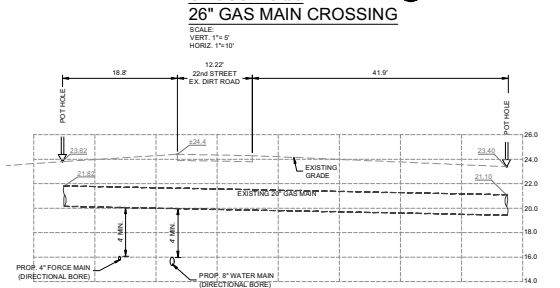
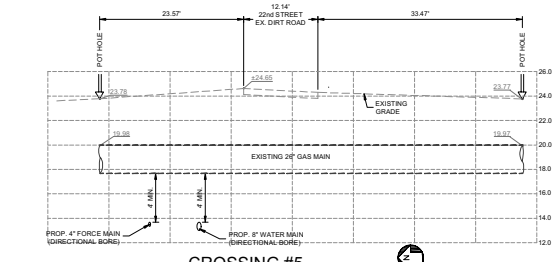
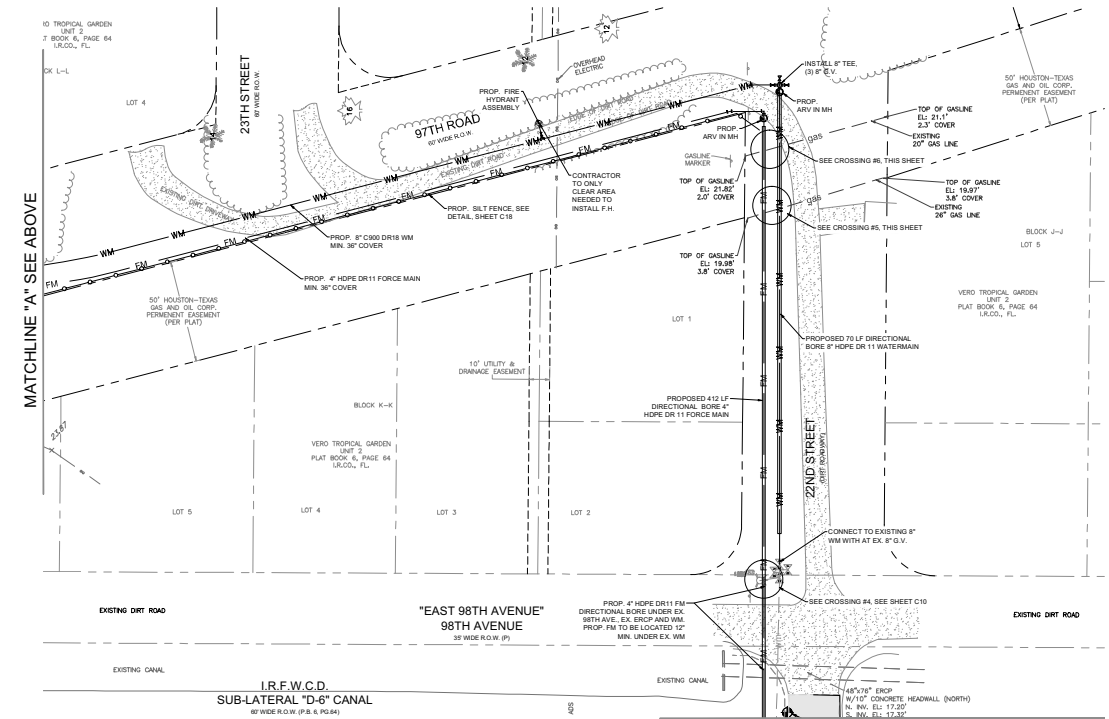
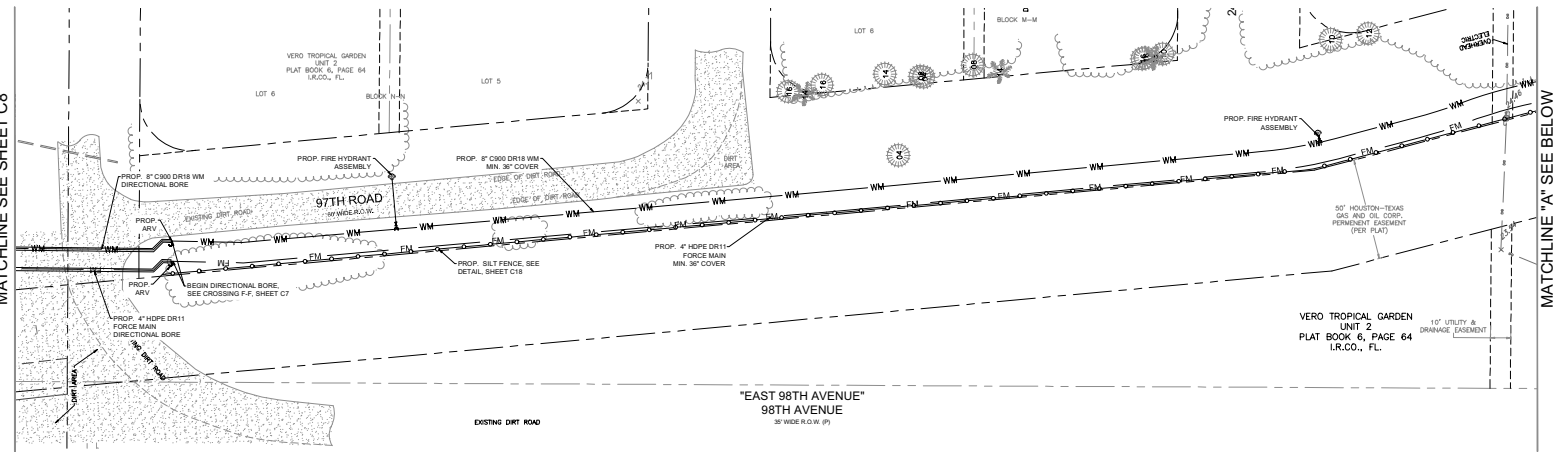
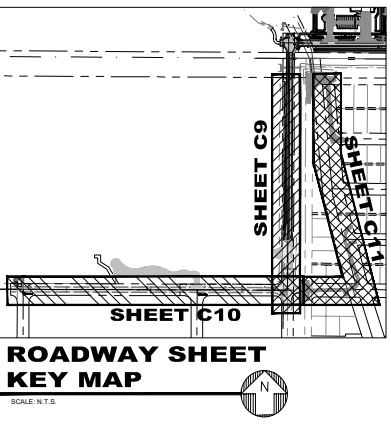
ARND G. STANTON
LICENSE No. 72460
STATE OF FLORIDA
PROFESSIONAL ENGINEER

ARND G. STANTON
P.E. #72460

SHEET
C10

21-0492





LEGEND

[Symbol]	EXISTING ASPHALT PAVEMENT
[Symbol]	EXISTING DIRT ROAD
[Symbol]	PROPOSED FORCE MAIN (DIRECTIONAL BORE)
[Symbol]	PROPOSED FORCE MAIN (TRENCH)
[Symbol]	EXISTING WATER MAIN
[Symbol]	PROPOSED WATER MAIN (DIRECTIONAL BORE)
[Symbol]	PROPOSED WATER MAIN (TRENCH)
[Symbol]	EXISTING 20" & 26" GAS TRANSMISSION LINES
[Symbol]	PROPOSED SALT FENCE

REVISIONS

NO.	DATE	DESCRIPTION
1	05/12/2023	AS
2	06/02/2023	AS

DATE ISSUED: 05/12/2023
DATE DRAWN: JUNE 02/23
DATE CHECKED: JUNE 02/23

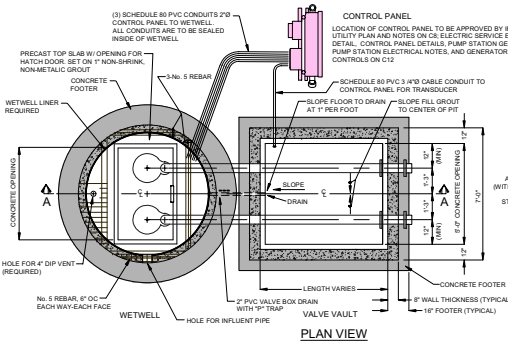
MBV ENGINEERING, INC.
REGISTERED PROFESSIONAL ENGINEERING CONSULTING ENGINEERING
11100 W. 11TH AVENUE, SUITE 100
DENVER, CO 80233
TEL: 303.751.1100
WWW.MBVENGINEERING.COM

97TH RD. UTILITIES EXTENSION PLAN
IRC FIRE RESCUE FIRE STATION #7

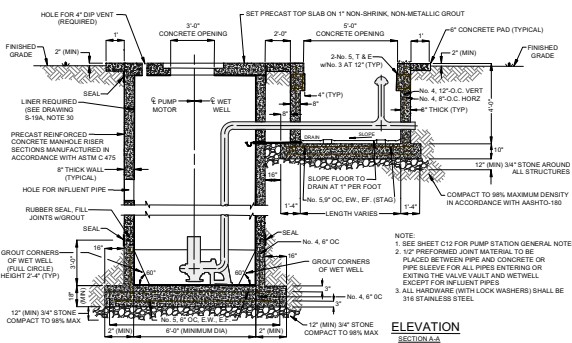
ARON G. STANTON
LICENSE No. 72460
STATE OF FLORIDA
PROFESSIONAL ENGINEER

SHEET C11

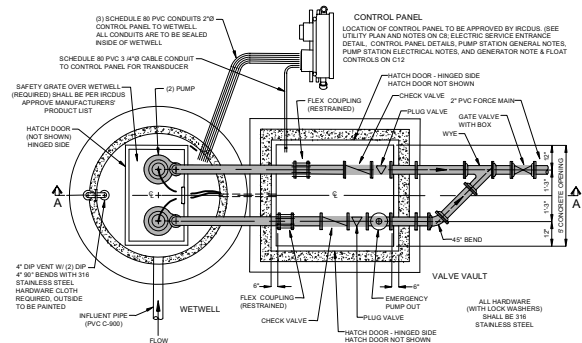
72 HOURS BEFORE BEGINS CALL TOLL FREE 811
Know what's below. Call before you dig.



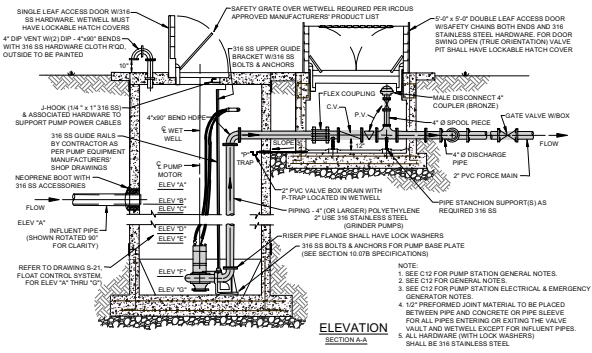
WET WELL/VALVE VAULT
CONCRETE STRUCTURE
DETAILS - PLAN VIEW
TYPICAL WASTEWATER PUMPING STATION



WET WELL/VALVE VAULT CONCRETE STRUCTURE
DETAILS - SECTION VIEW
TYPICAL WASTEWATER PUMPING STATION



WET WELL/VALVE VAULT
PUMP, PIPING & MECHANICAL
DETAILS - PLAN VIEW
TYPICAL WASTEWATER PUMPING STATION



WET WELL/VALVE VAULT CROSS SECTION
PUMP, PIPING & MECHANICAL
DETAILS - SECTION VIEW
TYPICAL WASTEWATER PUMPING STATION

NOTES:

1. REINFORCED CONCRETE SLAB 6" THICK (MINIMUM), SHALL HAVE A FINISHED PAD ELEVATION 4" ABOVE FINISHED GRADE ELEVATION.
2. EXPANSION AND CONTRACTION JOINTS SHALL BE REQUIRED AT WETWELL, VALVE VAULT AND MANHOLE AS APPLICABLE.
3. CONCRETE SLAB CONSTRUCTION TO CONFORM TO ACI 318 STANDARD.
4. NATURAL GAS TO BE USED TO POWER GENERATOR IF AVAILABLE.
5. CONTROL PANEL TO MEET NEC CODE 1.10.26A STANDARD. SEE C12 FOR ELECTRICAL NOTES.
6. THREE SCHEDULE 80 PVC CABLE CONDUITS (2") REQUIRED FROM WETWELL TO CONTROL PANEL FOR POWER/INSTRUMENTATION. ONE CONDUIT (3/4") REQUIRED FROM VALVE VAULT TO CONTROL PANEL FOR TRANSDUCER. ONE CONDUIT (1") FOR TELEMETRY EQUIPMENT. ONE SCHEDULE 80 PVC CABLE CONDUIT (2") REQUIRED FOR ELECTRICAL SERVICE. TOTAL OF FIVE (5) CONDUITS.

LIFT STATION - NOTES
TYPICAL WASTEWATER PUMPING STATION

PUMPING STATION DATA TABLE	
LIFT STATION NUMBER	
MIN. SOLID PASTE IMPELLER	INCHES -
PUMP MODEL NUMBER	NO. 99 PE450-C-0112
PUMP IMPELLER	IN. 6.3"
PUMP SPEED (DESIGN)	R.P.M. 3525
MOTOR NAMEPLATE H.P.	H.P. 6.7
MAX. MOTOR SPEED	R.P.M. 3525
INITIAL INFLUENT PEAK ²⁰⁰⁰ CFS	G.P.M. 78.3
MIN. PUMP CYCLE TIME	MINS. 20.06
TOP ELEV.	ELEV.'M' 20.99
ALARM SIGNAL ON ELEV. (HIGH)	ELEV.'M' 20.99
INFLUENT PIPE INV. ELEV.	ELEV.'M' 20.99
LAG PUMP ON ELEV.	ELEV.'M' 19.99
LEAD PUMP ON ELEV. (+)	ELEV.'M' 19.49
PUMPS OFF ELEVATION	ELEV.'M' 19.36
ALARM SIGNAL ON ELEV. (-)	ELEV.'M' -
BOTTOM OF WET WELL	ELEV.'M' 17.59
PUMP MANUFACTURER	SULZER
1) PUMPS WILL OPERATE BETWEEN PRIMARY AND SECONDARY POINTS.	

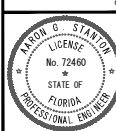
REVISIONS		DATE
01	DESIGNED	06/12/2023
02	DRAWN	06/12/2023
03	CHECKED	06/12/2023
04	ISSUED	06/12/2023

JOB NO. 214462
 DESIGNED: [Signature]
 DRAWN: [Signature]
 DATE: JUNE 02, 2023
 CHECKED: [Signature]
 DATE ISSUED: 06/12/2023

MBV ENGINEERING, INC.
 CONSULTING ENGINEERING
 1440 JOHN WATSON BLVD., SUITE 100
 COSTA MESA, CA 92626
 PHONE: 714.446.1111
 FAX: 714.446.1112

LIFT STATION PLAN

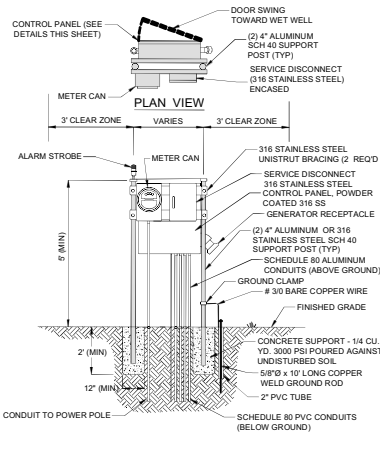
IRC FIRE RESCUE
FIRE STATION #7



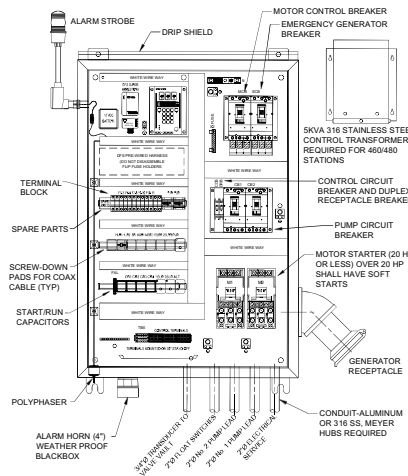
ARON G. STANTON
P.E. #72460 5/16/23

SHEET
C12

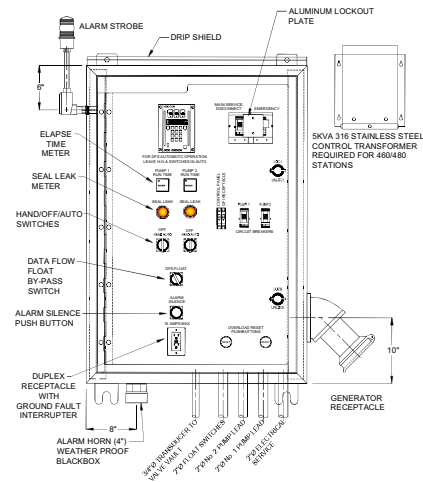




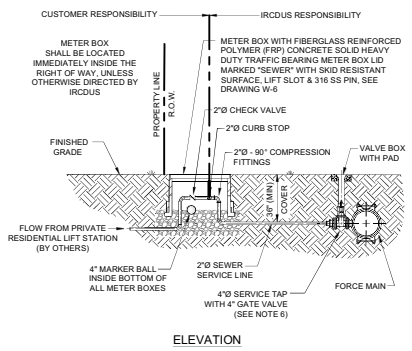
FRONT ELEVATION
SEE TYPICAL WASTEWATER PUMP STATION ELECTRICAL NOTES THIS SHEET
ELECTRIC SERVICE ENTRANCE
METER/PANEL BOX
TYPICAL WASTEWATER PUMPING STATION



DUPLEX PUMPING STATION
SEE TYPICAL WASTEWATER PUMP STATION ELECTRICAL NOTES THIS SHEET
CONTROL PANEL
BACK PANEL LAYOUT
TYPICAL WASTEWATER PUMPING STATION



DUPLEX PUMPING STATION
SEE TYPICAL WASTEWATER PUMP STATION ELECTRICAL NOTES THIS SHEET
CONTROL PANEL
INNER DOOR LAYOUT
TYPICAL WASTEWATER PUMPING STATION



ELEVATION
NOTES:
1. PRIVATE PUMPING STATIONS SHALL BE APPROVED BY IRCUDS.
2. PRIVATE PUMPING STATION, INCLUDING PUMP, ALL PIPING TO THE SEWER METER BOX, CONTROLS AND ELECTRICAL CONTROL PANEL SHALL BE CONSTRUCTED BY THE OWNER AT NO EXPENSE TO IRCUDS.
3. OWNER SHALL BE RESPONSIBLE FOR ALL COST ASSOCIATED WITH THE OPERATION AND MAINTENANCE OF A PRIVATE PUMPING STATION.
4. OWNER OF PROPOSED PRIVATE PUMPING STATION SHALL SIGN AN AGREEMENT ACKNOWLEDGING PUMPING STATION IS TO REMAIN PRIVATE.
5. ALL PRIVATE PUMPING STATION EQUIPMENT SHALL BE PER IRCUDS APPROVED MANUFACTURERS' PRODUCT LIST.
6. COMMERCIAL, PRIVATE PUMPING STATIONS SHALL HAVE A 4" SERVICE TAP CONNECTION TO THE FORCE MAIN WITH A 4" GATE VALVE. RESIDENTIAL PRIVATE PUMPING STATIONS SHALL HAVE A 2" SERVICE TAP CONNECTION WITH A 2" CRP STOP.

FORCE MAIN SERVICE
FOR TYPICAL PRIVATE
PUMPING STATION

PUMP STATION GENERAL NOTES

- CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS AGAINST FLOATION OF WET WELL UNTIL ALL BACKFILL IS IN PLACE.
- ALL CONCRETE SHALL BE CLASS A-A (4,000 PSI FOR PRECAST AND 3,000 PSI FOR CAST-IN-PLACE) UNLESS OTHERWISE SPECIFIED.
- REINFORCING STEEL SHALL BE GRADE 60 FABRICATED AND PLACED IN ACCORDANCE WITH AC CODE SPICES AND SHALL BE SIX (6) TIMES THE BAR DIAMETER NUMBER SIZE OR 1" MINIMUM UNLESS OTHERWISE NOTED (STAG. SPL., TYP.).
- ALL BACKFILL AROUND THE PUMP STATION SITE SHALL BE COMPACTED @ 98% OF MAXIMUM DENSITY, PER AASHTO-T-160.
- CHAMFER EXPOSED CONCRETE EDGES 1/4" (TYP.).
- WETWELL WALL SHALL CONTAIN A MINIMUM OF 0.22 SQ. IN. LINEAR FOOT REINFORCEMENT, EACH WAY TOP TO BOTTOM.
- ALL PIPING AT THE PUMP STATION SITE SHALL BE 3" UNLESS OTHERWISE SPECIFIED.
- ALL PUMPS AND PUMPING EQUIPMENT - SEE IRCUDS APPROVED MANUFACTURERS' PRODUCT LIST.
- STAINLESS STEEL (316) CABLE HOLDER SHALL BE LOCATED ON OPPOSITE SIDE OF WETWELL FROM THE INFLUENT PIPE.
- BUOYANCY CALCULATIONS SHALL BE REQUIRED FOR ALL PUMP STATIONS ALONG WITH THE REQUIRED PUMP STATION CALCULATIONS.
- NO UN-FLANGE PIPE CONNECTIONS ALLOWED.
- MAINTAIN MINIMUM OF 8" BETWEEN ANY PIPING, FITTINGS ETC. AND PRECAST CONCRETE. FIBERGLASS LINERS SHALL BE INSTALLED ON ALL PUMP STATION WETWELLS AND MANHOLES RECEIVING PUMPED SEWAGE, PLUS 5" MANHOLES IN EACH DIRECTION.
- ALL NEW MANHOLES SHALL BE COATED PER IRCUDS APPROVED MANUFACTURERS' PRODUCT LIST.
- PUMP STATION CONTROL PANEL SHALL BE PROVIDED WITH APPROPRIATE LIGHTNING ARRESTOR. VERIFY ALL DRIVEN GROUNDING GRIDS PER N.E.C. 250.56 AND SCADA (LATEST STANDARDS).
- AN ACCESS DRIVE SHALL BE PROVIDED TO ALL IRCUDS MAINTAINED LIFT STATIONS. ALL ACCESS DRIVES SHALL BE A MINIMUM OF 12' WIDE, 45' LONG. IF FENCE IS INSTALLED, SWING GATE SHALL HAVE A 12" OPENING.
- ALL PROPOSED PRIVATE STATION OWNERS ARE TO SIGN AN AGREEMENT ACKNOWLEDGING STATION IS TO REMAIN PRIVATE UNLESS SUBJECT STATION IS CONSTRUCTED TO IRCUDS STANDARDS.
- PUMPS SHALL BE DESIGNED TO PROVIDE A MINIMUM PUMP RUN TIME EQUAL TO HALF THE CYCLE TIME.
- PUMPS SHALL BE DESIGNED TO PROVIDE A MAXIMUM CLEARANCE OF TEN FEET OUTSIDE OF LIFT STATION WETWELL FOR FUTURE MAINTENANCE.
- ALL RE-PUMP STATIONS SHALL HAVE BUOY CYCLE CONTROL SYSTEMS AS REQUIRED BY MANUFACTURER, AND APPROVED BY IRCUDS.
- LIFT STATION IS TO BE LOCATED IN A DEDICATED UTILITY EASEMENT, 50' AWAY FROM HOMES, CUL-DE-SACS AND SURFACE BODY WATER.
- A SAFETY GRATE WITH STAINLESS STEEL (316) HARDWARE IS REQUIRED FOR ALL WETWELLS.
- CONTRACTOR TO INSTALL PERMANENT SIGNAGE WITH CONTACT INFORMATION AND PHONE NUMBER AT ALL IRCUDS AND PRIVATE LIFT STATIONS. CONTRACTOR TO PROVIDE SECURITY FOR PRIVATE LIFT STATIONS PER IRCUDS PLANS REVIEW SECURITY TO INCLUDE, BUT NOT LIMITED TO, LOCKABLE HATCH COVER LIDS FOR THE WETWELL AND VALVE PIT.
- CONTRACTOR TO CONTACT IRCUDS INSPECTOR PRIOR TO PUMP STATION CONSTRUCTION.
- SEE TYPICAL WASTEWATER PUMPING STATION DRAWINGS, S-14.8 S-14A PLAN VIEW AND DRAWINGS, S-15 & S-15A CROSS SECTION FOR GENERAL LAYOUT OF WETWELL AND VALVE VALVE. SEE DRAWING S-16, S-16A AND S-16B FOR TYPICAL PUMPING STATION SITE PLAN GENERAL LAYOUT. SEE DRAWINGS S-17, S-18, S-18A, S-19 AND S-19A FOR ELECTRICAL DETAILS.
- STRUCTURE DIMENSIONS MAY VARY UPON APPROVAL BY THE IRCUDS DUE TO BUOYANCY COMPENSATION OR OTHER REQUIREMENTS.
- GATE VALVE TO BE LOCATED AT FORCE MAIN JUNCTION.
- STAINLESS STEEL (316) LIFTING BARS SHALL BE USED FOR PUMPS IN LIFT STATIONS.
- GRINDER PUMPS SHALL BE A MAXIMUM OF 5.0 HP UNLESS OTHERWISE APPROVED BY IRCUDS.
- ELECTRICAL CONTROL PANEL (NEMA 4X, POWDER COATED 316 STAINLESS STEEL) SHALL CONFORM TO PUMP MANUFACTURERS' & SCADA SYSTEM REQUIREMENTS.
- ALL WET WELLS SHALL BE LINED. SEE SPECIFICATIONS SECTION 10.
- ALL WET WELLS 15" DEEP OR GREATER THAN 10" DIAMETER MUST BE APPROVED BY IRCUDS ENGINEERING.
- OUTSIDE WALLS AND UNDERSIDE OF WETWELL TOP SLAB AND VALVE BOX SHALL BE PAINTED WITH TWO COATS OF WATER BASE EPOXY.
- ALL HARDWARE TO BE 316 STAINLESS STEEL.
- PUMP STATION POWER SUPPLY FROM FLORIDA POWER & LIGHT ELECTRIC POWER POLE OR TRANSFORMER TO THE PUMP STATION ELECTRIC CONTROL PANEL SHALL BE INCLUDED ON THE RECORD DRAWING.
- PAINT OUTSIDE OF WALLS, UNDERSIDE OF WETWELL TOP SLAB AND VALVE VALVE WITH TWO COATS OF WATER BASE EPOXY.

PUMP STATION GENERAL NOTES

TYPICAL WASTEWATER PUMPING STATION

PUMP STATION ELECTRICAL NOTES

- A MINIMUM 3' CLEAR ZONE IS REQUIRED AROUND THE ELECTRICAL AREA. THE MINIMUM WORKSPACE REQUIREMENTS SHALL ADHERE TO THE NATIONAL ELECTRICAL CODE (NEC), SECTION 110.26(A).
- A 3/4" CONDUIT SHALL BE INSTALLED BETWEEN THE CONTROL PANEL AND THE VALVE VALVE FOR THE TRANSDUCER.
- THREE (3) SCHEDULE 80, 2" CONDUITS SHALL BE INSTALLED BETWEEN THE CONTROL PANEL AND THE WET WELL FOR NO. 1 PUMP LEAD, NO. 2 PUMP LEAD AND THE FLOAT SWITCHES.
- ALL BURIED CONDUIT SHALL BE SCHEDULE 80 PVC. ALL EXPOSED CONDUIT SHALL BE STAINLESS STEEL (316) OR ALUMINUM. CONDUIT TO BE SEALED.
- A MASTIC COATING IS REQUIRED WHERE PANEL POST AND ALUMINUM OR STAINLESS STEEL (316) CONDUIT IS IN DIRECT CONTACT WITH CONCRETE.
- THE CONTROL PANEL DOOR MUST OPEN TOWARD THE WET WELL.
- ELECTRIC SERVICE SHALL BE 3 PHASE.
- ALARM HORN SHALL BE SEALED TO PREVENT LEAKAGE.
- CONTROL PANEL SHALL BE APPROVED BY IRCUDS BEFORE INSTALLATION.
- REFER TO SECTION 10 FOR PUMPING STATION SPECIFICATIONS.
- BOTTOM OF CONTROL PANEL TO BE 36" TO 34" ABOVE GROUND.
- ALL HARDWARE AND FASTENERS TO BE STAINLESS STEEL (316).
- TOOLS AND SPARE PARTS ARE REQUIRED (SEE SECTION 10.05).
- CONTROL PANEL SHALL MEET THE REQUIREMENTS OF SERVICE ENTRANCE BY PROPERLY BONDING OR SHALL BE JL SERVICE ENTRANCE RATED.
- CONTROL PANEL SHALL HAVE A DATA FLOW, FLOAT BY-PASS SWITCH.
- THE MAXIMUM HORSEPOWER RATINGS FOR A 120/240 VOLT WASTEWATER PUMPING STATION PANEL IS 20 HP. ANY PUMP SIZE GREATER THAN 20 HP SHALL HAVE 480 VOLT SERVICE AND BE DESIGNED BY AN ELECTRICAL ENGINEER.
- THE CONTROL PANEL SHALL BE 4X NEMA, WHITE POWDER COATED STAINLESS STEEL.
- A WATER SERVICE LINE (1") WITH REDUCED PRESSURE BACKFLOW PREVENTER, WATER METER AND HOSE BIBB IS REQUIRED.
- ALL PENETRATIONS INTO ELECTRIC CONTROL PANEL REQUIRE MEYER HUBS. CORROSIVE MATERIALS WILL NOT BE ALLOWED.
- DISCONNECT BETWEEN METER AND PANEL TO BE 316 STAINLESS STEEL, NON-FUSIBLE. STATIONS WITH GENERATORS SHALL BE FUSED.
- PUMP STATION CONTROL PANEL SHALL BE PROVIDED WITH APPROPRIATE LIGHTNING ARRESTOR. VERIFY ALL DRIVEN GROUNDING GRIDS PER N.E.C. 250.56 AND SCADA (LATEST STANDARDS).

PUMPING STATION ELECTRICAL NOTES

TYPICAL WASTEWATER PUMPING STATION

NO.	DATE	REVISIONS
1	06/20/2023	DATE ISSUED
2	06/20/2023	CHECKED
3	06/20/2023	DATE
4	06/20/2023	DESIGNED
5	06/20/2023	TH
6	06/20/2023	24/06/23
7	06/20/2023	JOB NO.
8	06/20/2023	24/06/23
9	06/20/2023	DESIGNED
10	06/20/2023	TH
11	06/20/2023	24/06/23
12	06/20/2023	JOB NO.
13	06/20/2023	24/06/23
14	06/20/2023	DESIGNED
15	06/20/2023	TH
16	06/20/2023	24/06/23
17	06/20/2023	JOB NO.
18	06/20/2023	24/06/23
19	06/20/2023	DESIGNED
20	06/20/2023	TH
21	06/20/2023	24/06/23
22	06/20/2023	JOB NO.
23	06/20/2023	24/06/23
24	06/20/2023	DESIGNED
25	06/20/2023	TH
26	06/20/2023	24/06/23
27	06/20/2023	JOB NO.
28	06/20/2023	24/06/23
29	06/20/2023	DESIGNED
30	06/20/2023	TH
31	06/20/2023	24/06/23
32	06/20/2023	JOB NO.
33	06/20/2023	24/06/23
34	06/20/2023	DESIGNED
35	06/20/2023	TH
36	06/20/2023	24/06/23
37	06/20/2023	JOB NO.
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39	06/20/2023	DESIGNED
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89	06/20/2023	DESIGNED
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97	06/20/2023	JOB NO.
98	06/20/2023	24/06/23
99	06/20/2023	DESIGNED
100	06/20/2023	TH

MBV ENGINEERING, INC.
CONSULTING ENGINEERING
4400 W. STATE ROAD 10
SUITE 100
MARIETTA, GA 30067
PH: 770.428.1111
FAX: 770.428.1112
www.mbv-engineering.com

LIFT STATION DETAILS

IRC FIRE RESCUE FIRE STATION #7

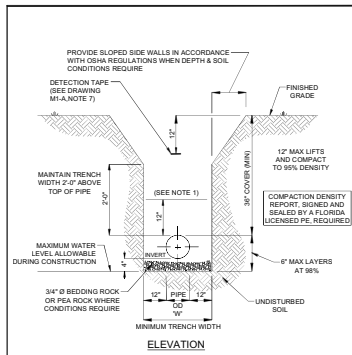
ARON G. STANTON
LICENSE No. 72460
STATE OF FLORIDA
PROFESSIONAL ENGINEER

SHEET

C13

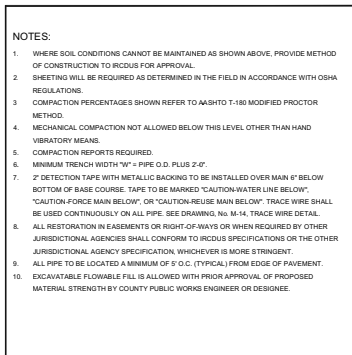
21-0492

71 HOURS BEFORE SCHED.
CALL TOLL FREE
811
Know what's below.
Call before you dig.



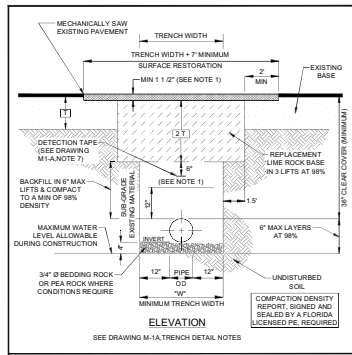
- NOTES:**
- MECHANICAL COMPACTION NOT ALLOWED BELOW THIS LEVEL OTHER THAN HAND VIBRATORY MEANS.
 - ALL RESTORATION IN EASEMENTS OR RIGHT-OF-WAYS OR WHEN REQUIRED BY OTHER JURISDICTIONAL AGENCIES SHALL CONFORM TO RCDCUS SPECIFICATIONS OR THE OTHER JURISDICTIONAL AGENCY SPECIFICATION, WHICHEVER IS MORE STRINGENT.

INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
TRENCH DETAIL (UNPAVED EASEMENT)
 DRAWING NO. M-1



- NOTES:**
- WHERE SOIL CONDITIONS CANNOT BE MAINTAINED AS SHOWN ABOVE, PROVIDE METHOD OF CONSTRUCTION TO RCDCUS FOR APPROVAL.
 - SHEETING WILL BE REQUIRED AS DETERMINED IN THE FIELD IN ACCORDANCE WITH OSHA REGULATIONS.
 - COMPACTION PERCENTAGES SHOWN REFER TO A MIGHT-1180 MODIFIED PROCTOR METHOD.
 - MECHANICAL COMPACTION NOT ALLOWED BELOW THIS LEVEL OTHER THAN HAND VIBRATORY MEANS.
 - COMPARISON REPORTS REQUIRED.
 - MINIMUM TRENCH WIDTH 18" PIPE O.D. PLUS 2" 4"
 - 2" DETECTION TAPE WITH METALLIC BACKING TO BE INSTALLED OVER MAN 6" BELOW BOTTOM OF BASE COURSE. TAPE TO BE MARKED "CAUTION-WATER LINE BELOW". "CAUTION-FORCE MAIN BELOW". OR "CAUTION-REUSE MAIN BELOW". TRACE WIRE SHALL BE USED CONTINUOUSLY ON ALL PIPE. SEE DRAWING, NO. M-14. TRACE WIRE DETAIL.
 - ALL RESTORATION IN EASEMENTS OR RIGHT-OF-WAYS OR WHEN REQUIRED BY OTHER JURISDICTIONAL AGENCIES SHALL CONFORM TO RCDCUS SPECIFICATIONS OR THE OTHER JURISDICTIONAL AGENCY SPECIFICATION, WHICHEVER IS MORE STRINGENT.
 - ALL PIPE TO BE LOCATED A MINIMUM OF 5' O.C. (TYPICAL) FROM EDGE OF PAVEMENT.
 - EXCAVATABLE FLOWABLE FILL IS ALLOWED WITH PRIOR APPROVAL OF PROPOSED MATERIAL STRENGTH BY COUNTY PUBLIC WORKS ENGINEER OR DESIGNER.

INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
TRENCH DETAIL NOTES
 DRAWING NO. M-1
 A



- NOTES:**
- MECHANICAL COMPACTION NOT ALLOWED BELOW THIS LEVEL OTHER THAN HAND VIBRATORY MEANS.
 - NEW SURFACE MATERIALS SHALL BE CONSISTENT IN DEPTH WITH EXISTING MATERIALS AND SHALL HAVE LAPPED JOINTS, 1.12" MINIMUM THICKNESS. PAVEMENT MATERIAL TO BE SPECIFIED.
 - MINIMUM TRENCH WIDTH "W" = PIPE O.D. PLUS 2" 4"
 - EXCAVATABLE FLOWABLE FILL IS ALLOWED WITH PRIOR APPROVAL OF PROPOSED MATERIAL STRENGTH BY COUNTY PUBLIC WORKS ENGINEER OR DESIGNER.

INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
TRENCH DETAIL (PAVED AREAS & SHOULDERS)
 DRAWING NO. M-2

RESTRAINED LENGTH IN FEET EACH SIDE OF BEND

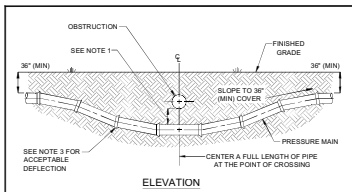
PIPE DIAMETER (INCHES)	3"	4"	6"	8"	10"	12"	16"	20"	24"	30"
D.I.P.	22	12	11	11	11	11	11	11	11	11
P.V.C.	22	12	11	11	11	11	11	11	11	11

RESTRAINED LENGTH IN FEET EACH SIDE FOR REDUCER

PIPE DIAMETER (INCHES)	3"	4"	6"	8"	10"	12"	16"	20"	24"	30"
3"	0	0	0	0	0	0	0	0	0	0
4"	40	0	0	0	0	0	0	0	0	0
6"	50	40	0	0	0	0	0	0	0	0
8"	75	70	40	0	0	0	0	0	0	0
10"	90	90	40	0	0	0	0	0	0	0
12"	120	115	100	70	40	0	0	0	0	0
16"	160	150	140	120	100	70	0	0	0	0
20"	200	180	160	140	120	100	70	0	0	0
24"	190	175	155	140	130	120	100	70	0	0
30"	190	180	180	180	170	160	150	140	130	120
36"	220	220	220	220	220	220	220	220	220	220
42"	240	240	230	230	220	220	220	220	220	220
48"	250	250	240	240	230	230	230	230	230	230

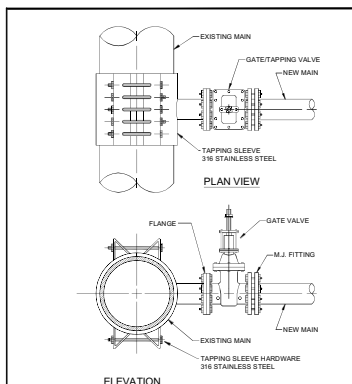
RESTRAINED LENGTHS FOR LARGER DIAMETER PIPES
 ALL MAIN LINE VALVES SHALL BE TREATED AS DEAD END WITH RESTRAINED PIPE JOINTS UP AND DOWN

INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
RESTRAINED PIPE LENGTHS AND SCHEDULE NOTES
 DRAWING NO. M-3



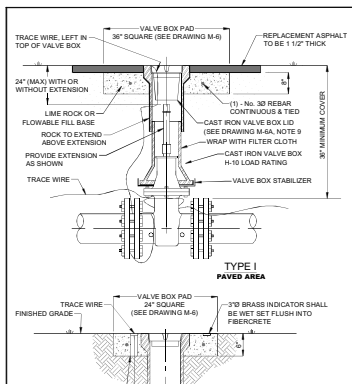
- NOTES:**
- NEW OR RELOCATED UNDERGROUND WATER MAINS CROSSING ANY EXISTING OR PROPOSED GRAVITY, VACUUM TYPE SANITARY SEWER, STORM SEWER, OR PRESSURE TYPE SANITARY SEWER, WASTEWATER, STORMWATER FORCE MAIN, OR PIPELINE CONTAINING RECLAIMED WATER SHALL BE LAID SO THE WATER MAIN IS AT LEAST 6" AND PREFERABLY 12" ABOVE OR A MINIMUM OF 12 INCHES BELOW THE OTHER PIPELINE. IT IS PREFERABLE TO LAY THE WATER MAIN ABOVE THE OTHER PIPELINE IF 30" MINIMUM COVER CAN BE MAINTAINED ABOVE THE WATER MAIN AND 6" OF SEPARATION BETWEEN THE WATER MAIN AND THE OTHER PIPELINE.
 - AT UTILITY CROSSINGS, ONE FULL LENGTH OF WATER MAIN PIPE SHALL BE CENTERED ABOVE OR BELOW THE OTHER PIPELINE SO THE WATER MAIN JOINTS WILL BE FAR AS FEET FROM ALL JOINTS IN PIPELINE. ALTERNATIVELY, AT SUCH CROSSINGS, THE PIPES SHALL BE ARRANGED SO THAT ALL WATER MAIN JOINTS ARE AT LEAST THREE FEET FROM ALL JOINTS IN VACUUM TYPE SANITARY SEWERS, STORM SEWERS, STORMWATER FORCE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER, AND AT LEAST SIX FEET FROM ALL JOINTS IN GRAVITY OR PRESSURE TYPE SANITARY SEWERS, WASTEWATER FORCE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER.
 - CONSTRUCT STANDARD CROSSING NOT TO EXCEED 5% OF THE MANUFACTURER'S MAXIMUM JOINT DEFLECTION.
 - OTHER METHODS OF RESTRAINT MAY BE USED AS APPROVED BY RCDCUS IN LIEU OF DEFLECTING THE PIPES AS SHOWN ABOVE.
 - TRACER WIRE SHALL BE INSTALLED ABOVE THE PIPE. (SEE DRAWING, NO. M-14)
 - ALL WATER AND SEWER PIPES SHALL BE LOCATED A MINIMUM HORIZONTAL SEPARATION EQUAL TO THE DEPTH OF THE PIPE PLUS THE DIAMETER OF THE PIPE FROM ALL ABOVE-GROUND STRUCTURES (E.G. WALLS, TREES, TRANSFORMER PADS, ETC.) AND A MINIMUM HORIZONTAL SEPARATION EQUAL TO FOUR (4) FEET FROM ALL FURNACE GAS UTILITIES (E.G. GAS MAINS, TELEPHONE LINES, CABLE LINES, IRRIGATION MAINS, ETC.)
 - REUSE MAINS SHALL REQUIRE AIR RELEASE VALVES ON EACH SIDE OF A UTILITY CROSSING.

INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
UTILITY CROSSINGS
 DRAWING NO. M-4



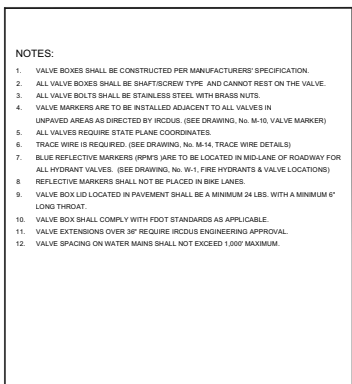
- NOTES:**
- NEW MAIN SHALL BE RESTRAINED PER RCDCUS ENGINEERING. THRUST BLOCK ON EXISTING MAIN AT TAPPING SLEEVE LOCATION MAY BE REQUIRED.
 - ALL MATERIALS SHALL BE PER RCDCUS APPROVED MANUFACTURERS' PRODUCT LIST.

INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
TAPPING SLEEVE AND VALVE ASSEMBLY
 DRAWING NO. M-5



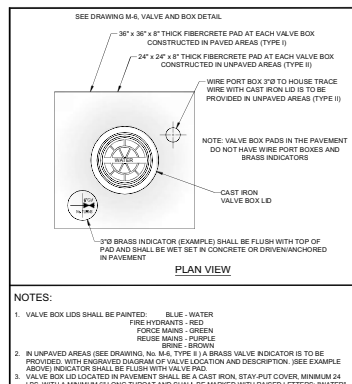
- NOTES:**
- VALVE BOXES SHALL BE CONSTRUCTED PER MANUFACTURER'S SPECIFICATION.
 - ALL VALVE BOXES SHALL BE SMOOTH-TOPPED TYPE AND CANNOT REST ON THE VALVE.
 - ALL VALVE BOLTS SHALL BE STAINLESS STEEL WITH BRASS NUTS.
 - VALVE MARKERS ARE TO BE INSTALLED ADJACENT TO ALL VALVES IN UNPAVED AREAS AS DIRECTED BY RCDCUS. (SEE DRAWING, NO. M-10, VALVE MARKER)
 - ALL VALVES REQUIRE STATE PLANE COORDINATES.
 - TRACE WIRE IS REQUIRED. (SEE DRAWING, NO. M-14, TRACE WIRE DETAILS)
 - BLUE REFLECTIVE MARKERS (RPM'S) ARE TO BE LOCATED IN MID-LANE OF ROADWAY FOR ALL HYDRANT VALVES. (SEE DRAWING, NO. W-1, FIRE HYDRANTS & VALVE LOCATIONS)
 - REFLECTIVE MARKERS SHALL NOT BE PLACED IN BIKE LANES.
 - VALVE BOX LID LOCATED IN PAVEMENT SHALL BE A MINIMUM 24 LBS. WITH A MINIMUM 6" LONG THROAT.
 - VALVE BOX SHALL COMPLY WITH FOOT STANDARDS AS APPLICABLE.
 - VALVE EXTENSIONS OVER 36" REQUIRE RCDCUS ENGINEERING APPROVAL.
 - VALVE SPACING ON WATER MAINS SHALL NOT EXCEED 1,000' MAXIMUM.

INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
VALVE AND BOX DETAIL
 DRAWING NO. M-6



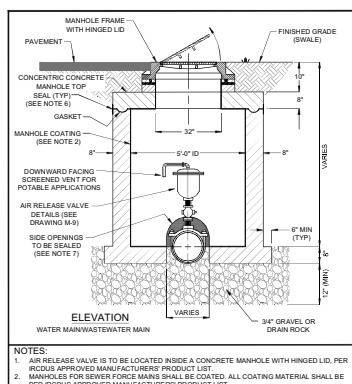
- NOTES:**
- VALVE BOX LIDS SHALL BE PAINTED: BLUE - WATER (FIRE/EMERGENCY); RED - FORCE MAINS - GREEN - REUSE MAINS; PURPLE - BRINE - BROWN
 - IN UNPAVED AREAS (SEE DRAWING, NO. M-4, TYPE I & II) BRASS VALVE INDICATOR IS TO BE PROVIDED, WITH ENGRAVED DIAGRAM OF VALVE LOCATION AND DESCRIPTION. (SEE EXAMPLE ABOVE) INDICATOR SHALL BE FLUSH WITH VALVE INDICATOR.
 - VALVE BOX LID LOCATED IN PAVEMENT SHALL BE CAST IRON, STAY-PUT COVER, MINIMUM 24 LBS. WITH A MINIMUM 6" LONG THROAT AND SHALL BE MARKED WITH BRASS INDICATORS: "WATER", "SEWER", "BRINE", OR "REUSE WATER" AS APPLICABLE.
 - VALVE BOX SHALL COMPLY WITH FOOT STANDARDS AS APPLICABLE.
 - NO VALVE RINGS ARE TO BE USED.
 - IN TYPE I (PAVED AREAS), THE VALVE BOX PAD TOP ELEVATION SHALL BE EVEN WITH THE ROAD GRADE TO ALLOW BOTH LAYERS OF ASPHALT TO COVER THE VALVE BOX PAD WITH THE FINAL ASPHALT LAYER FLUSH WITH THE TOP OF THE VALVE BOX. (SEE DRAWING, NO. M-6, VALVE AND BOX DETAIL)

INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
VALVE AND BOX DETAIL NOTES
 DRAWING NO. M-6
 A



- NOTES:**
- VALVE BOX LIDS SHALL BE PAINTED: BLUE - WATER (FIRE/EMERGENCY); RED - FORCE MAINS - GREEN - REUSE MAINS; PURPLE - BRINE - BROWN
 - IN UNPAVED AREAS (SEE DRAWING, NO. M-4, TYPE I & II) BRASS VALVE INDICATOR IS TO BE PROVIDED, WITH ENGRAVED DIAGRAM OF VALVE LOCATION AND DESCRIPTION. (SEE EXAMPLE ABOVE) INDICATOR SHALL BE FLUSH WITH VALVE INDICATOR.
 - VALVE BOX LID LOCATED IN PAVEMENT SHALL BE CAST IRON, STAY-PUT COVER, MINIMUM 24 LBS. WITH A MINIMUM 6" LONG THROAT AND SHALL BE MARKED WITH BRASS INDICATORS: "WATER", "SEWER", "BRINE", OR "REUSE WATER" AS APPLICABLE.
 - VALVE BOX SHALL COMPLY WITH FOOT STANDARDS AS APPLICABLE.
 - NO VALVE RINGS ARE TO BE USED.
 - IN TYPE I (PAVED AREAS), THE VALVE BOX PAD TOP ELEVATION SHALL BE EVEN WITH THE ROAD GRADE TO ALLOW BOTH LAYERS OF ASPHALT TO COVER THE VALVE BOX PAD WITH THE FINAL ASPHALT LAYER FLUSH WITH THE TOP OF THE VALVE BOX. (SEE DRAWING, NO. M-6, VALVE AND BOX DETAIL)

INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
VALVE BOX PAD
 DRAWING NO. M-7



- NOTES:**
- AIR RELEASE VALVE IS TO BE LOCATED INSIDE A CONCRETE MANHOLE WITH HINGED LID. PER RCDCUS APPROVED MANUFACTURER'S PRODUCT LIST.
 - MANHOLES FOR SEWER FORCE MAINS SHALL BE COATED. ALL COATING MATERIAL SHALL BE PER RCDCUS APPROVED MANUFACTURER'S PRODUCT LIST.
 - SEE DRAWING, NO. M-6, AIR RELEASE VALVE ABOVE GROUND (AUTOMATIC WATER/WASTEWATER).
 - SEE DRAWING, NO. M-14, TRACER WIRE DETAILS.
 - WATER/WASTE LIDS SHALL BE CENTERED.
 - SEAL SHALL BE USED AT ALL JOINTS. SEE DRAWING, NO. S-4, MANHOLE NOTES.
 - OPENING AT BOTH ENDS OF THE MANHOLE TO BE RESEALED WITH MATERIALS PER RCDCUS APPROVED MANUFACTURER'S PRODUCT LIST.

INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
AIR RELEASE VALVE MANHOLE BELOW GROUND (AUTOMATIC WATER/WASTEWATER)
 DRAWING NO. M-8

REVISIONS

NO.	DATE	BY	REVISION
1	2/14/22	TH	ISSUED FOR PERMITS
2	2/14/22	SS	DESIGNED
3	2/14/22	SS	DRAWN
4	2/14/22	SS	CHECKED
5	2/14/22	SS	DATE
6	2/14/22	SS	DATE
7	2/14/22	SS	DATE
8	2/14/22	SS	DATE
9	2/14/22	SS	DATE
10	2/14/22	SS	DATE

DATE ISSUED: 02/10/2022

MBV ENGINEERING, INC.
 CONSULTING ENGINEERS
 4400 STATE ROAD 1
 MIAMI, FL 33149
 PHONE: 305-555-1111
 FAX: 305-555-1112
 WWW.MBVENGINEERING.COM

UTILITY DETAILS

INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
IRC FIRE RESCUE FIRE STATION #7

FLORIDA

PROFESSIONAL ENGINEER

AYRON G. STANTON
 LICENSE No. 72460
 STATE OF FLORIDA

AYRON G. STANTON
 P.E. #12460 5/16/23

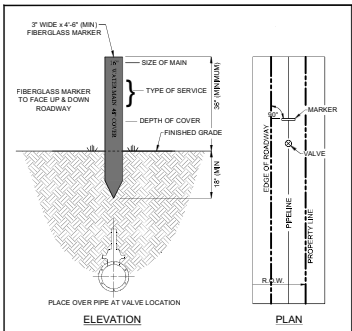
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71 HOURS BEFORE SCHED
 CALL TOLL FREE

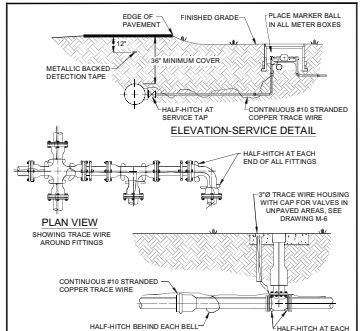
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Know what's below.
 Call before you dig.



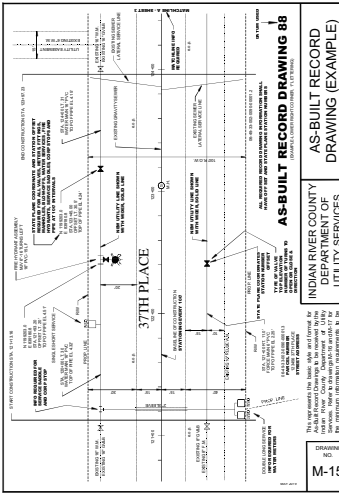
- NOTES:**
- MARKER TO BE PLACED PERPENDICULAR AT A 90° ANGLE, TO ROADWAY AND DIRECTLY OVER PIPE, ADJACENT TO VALVE, AS DIRECTED BY ICDCUS.
 - MARKER TO BE USED AT ALL CANAL CROSSINGS AND AS DIRECTED BY ICDCUS.
 - MARKER TO BE PLACED ADJACENT TO WATER MAIN VALVES, FORCE MAIN VALVES, REUSE MAIN VALVES AND BRINE VALVES AS DIRECTED BY ICDCUS.
 - ALL MATERIAL TO BE PER ICDCUS APPROVED MANUFACTURERS' PRODUCT LIST.
 - MARKERS SHALL BE PAINTED:
 - BLUE - WATER
 - RED - FIRE HYDRANTS
 - GREEN - FORCE MAINS
 - PURPLE - REUSE MAINS
 - BROWN - BRINE

INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
VALVE MARKER
 DRAWING NO. **M-10**



- NOTES:**
- TRACE WIRE IS REQUIRED ON ALL PIPES REGARDLESS OF MATERIAL.
 - INCLUDE ALL COST OF MATERIAL AND LABOR TO INSTALL TRACE WIRE IN PRICE OF PIPE.
 - CONTRACTOR IS RESPONSIBLE FOR CONTINUITY THROUGHOUT ENTIRE PROJECT OF ALL TRACE WIRE.
 - ALL CONNECTIONS SHALL BE MADE WITH DIRECT BURY CONNECTORS.
 - ALL MATERIALS ARE TO BE PER ICDCUS APPROVED MANUFACTURERS' PRODUCT LIST.
 - COLOR OF TRACE WIRE SHALL BE: BLUE FOR WATER, GREEN FOR SEWER, AND PURPLE FOR RECLAIMED WATER.

INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
TRACE WIRE DETAILS
 DRAWING NO. **M-14**



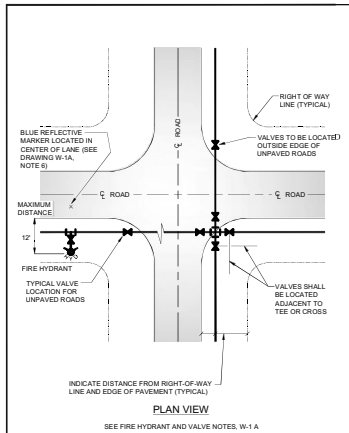
INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
AS-BUILT RECORD DRAWING 80
 DRAWING NO. **M-15**

- GENERAL NOTES**
- ALL AS-BUILT RECORD DRAWINGS SHALL MEET THE MINIMUM REQUIREMENTS OF THE CHAPTER A-17, FLORIDA ADMINISTRATION CODE PURSUANT TO SECTION 472 OF THE FLORIDA STATUTES.
 - ALL AS-BUILT RECORD DRAWINGS SHALL BE IN STATE PLANE COORDINATES. STATE PLANE COORDINATES SHALL BE BASED ON THE FLORIDA STATE PLANE HORIZONTAL DATA (EAST ZONE) OR FLORIDA HIGH PRECISION GEODETIC NETWORK (SUPERSTATION) AND HAD 80% FINAL ADJUSTMENT, OR THE MOST CURRENT DATUM ADOPTED BY INDIAN RIVER COUNTY.
 - FLORIDA STATE PLANE HORIZONTAL DATA AND STATION OFF-SET SHALL BE TIED TO VALVES, METERS, FITTINGS, MANHOLES, BLOW-OFFS, WATER SERVICES, FIRE HYDRANTS, SERVICE SADDLES, CORP STOPS AND PIPE (PIPE AT 200' INTERVALS).
 - ALL ELEVATIONS SHOWN SHALL BE BASED ON 1988 NAVD (NORTH AMERICAN VERTICAL DATUM).
 - ALL AS-BUILT RECORD DRAWINGS SHALL BE TIED TO A MINIMUM OF ONE (1) PERMANENT REFERENCE MONUMENT (P.R.M.) AT THE END OF EACH PROJECT. ONE P.R.M. SHALL BE TIED TO A MINIMUM OF ONE (1) SECTION CORNER OR ONE-QUARTER (1/4) SECTION CORNER WHICHEVER IS CLOSEST TO THE PROJECT. STATE PLANE COORDINATES SHALL BE PHYSICALLY SHOWN ON THE DRAWING NEXT TO THE P.R.M. USED.
 - HORIZONTAL CONTROL MONUMENTATION FOR UTILITY LINES SHALL BE A MINIMUM OF TWO (2) POINTS AT A MAXIMUM OF 1,400 FEET BETWEEN POINTS AND SHOWN ON ALL PLANS.
 - VERTICAL CONTROL (WHEN REQUIRED) FOR LINEAR UTILITY LINES, SUCH AS WATER AND SEWER, SHALL HAVE A MAXIMUM OF 1,100 FEET BETWEEN EXISTING CONSTRUCTION OR ESTABLISHED BENCHMARKS.
- NOTE: PRIOR TO SUBMITTING THE ELECTRONIC COPY, ONE (1) COPY OF EACH AS-BUILT SHALL BE SUBMITTED FOR REVIEW AND APPROVAL.
- AFTER ALL APPROVALS, ALL INCOMING RECORD DRAWINGS SHALL BE RECEIVED ON A CD AS AN ELECTRONIC COPY, AUTOCAD 2015 OR LATEST VERSION, WITH A TIE TO A MINIMUM OF (2) TWO STATE PLANE COORDINATES. (1) ONE (1) "D" SIGNED AND SEALED COPY OF EACH AS-BUILT SHALL BE SUBMITTED. ALL RECORD DRAWINGS SHALL STATE IN 1/2" LETTERING "RECORD DRAWING" AND THE DATUM USED (1/2" LETTERING) IN THE LOWER RIGHT HAND SIDE OF THE ORIGINAL DRAWING OR COPY ALONG WITH THE AS-BUILT DATE. ALL RECORD DRAWINGS SHALL BE IN A MINIMUM SCALE OF 1"=40'. MINIMUM TEXT SHALL BE 1/8".
1. ELECTRONIC COPY OF RECORD DRAWINGS SHALL BE FORMATTED WITH ALL NEWLY CONSTRUCTED PROFILES UTILITIES IN THE FOLLOWING LAYER STATES:

INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
AS-BUILT RECORD DRAWING GENERAL NOTES
 DRAWING NO. **M-16**

- GENERAL NOTES**
(continued)
- A MINIMUM TEXT SIZE OF 1/8" IS REQUIRED ON ALL CONSTRUCTION ROUTE SURVEY AND RECORD DRAWINGS.
 - ALL AS-BUILT RECORD DRAWINGS SHALL BE CERTIFIED BY THE PROJECT ENGINEER OR CONTRACTING SURVEYOR.
 - ALL AS-BUILT RECORD DRAWINGS SHALL CLEARLY DEPICT UTILITY LINES THAT WERE CONSTRUCTED ALONG THEIR RESPECTIVE EASEMENT IF REQUIRED. AS-BUILT RECORD DRAWINGS WILL NOT BE ACCEPTED UNLESS THE VERMAGE "PROPOSED" ANCHOR TO BE CONSTRUCTED IS CLEARLY DELETED ON THE DRAWING. AS-BUILT RECORD DRAWINGS WITH "PROPOSED" OR TO BE CONSTRUCTED" TERMINOLOGY WILL NOT BE ACCEPTED.
 - ALL NEW UTILITY CONSTRUCTION LOCATED WITHIN THE RIGHTS-OF-WAY, EASEMENTS AND ALICE SHALL BE TIED TO THE RESPECTIVE RIGHTS-OF-WAY, EASEMENTS, ETC. EVERY 100 FEET AND CHANGE OF DIRECTION.
 - ALL AS-BUILT RECORD DRAWINGS SHALL BE COMPLETE AND APPROVED BEFORE COMMENCEMENT OF FIELD TEST.
 - BASELINE OF CONSTRUCTION AND STATION OF ITEMS TO BE LOCATED ON THE CENTER OF THE ROADWAY UNLESS CONDITIONS WARRANT AND APPROVED BY ICDCUS. BASELINE STATIONING SHALL BE EVERY 100' CONTROL POINTS SET AT EVERY 500' AND ANGLE CHANGE OF DIRECTION.
 - ALL NEW UTILITY CONSTRUCTION LINES ON ALL AS-BUILT RECORD DRAWINGS SHALL BE SHOWN WITH A WIDER, SOLID LINE EXISTING UTILITY LINES SHALL BE SHOWN WITH A THINNER, DASHED LINE.
 - TOP OF PIPE ELEVATIONS & STATIONING TO BE TYPED, LISTED, SEALED & SUBMITTED BY THE ENGINEER FOR LOCATING THE AIR RELEASE VALVES AS CONSTRUCTION PROCEEDS.
 - SHOW TOP ELEVATION OF THE UTILITY LINES THAT WERE CONSTRUCTED AND SHOW EXISTING UTILITY LINES FOR ALL UTILITY CROSSINGS.
 - PUMP STATION POWER SUPPLY FROM FRAL OR COVA ELECTRIC POWER POLE OR TRANSFORMER TO THE PUMP STATION ELECTRICAL PANEL SHALL BE INCLUDED ON THE AS-BUILT RECORD DRAWING.
 - ALL FIRE HYDRANTS AND FIRE HYDRANT VALVES SHALL BE LOCATED BY STATE PLANE COORDINATES, STATION NUMBER AND OFFSET AND SHALL BE CLEARLY IDENTIFIED ON AS-BUILT RECORD DRAWINGS.
 - ALL NEWLY CONSTRUCTED VALVES SHALL BE CLEARLY IDENTIFIED BY SIZE, TYPE, TOP ELEVATION AND DIRECTION NUMBER OF TURNS TO OPEN OR CLOSE VALVE.

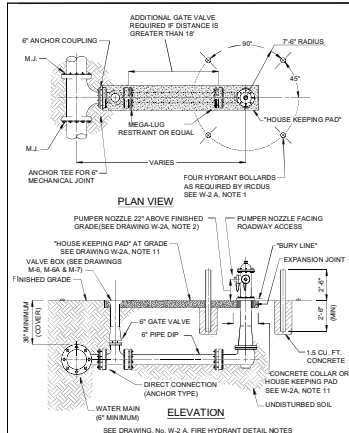
INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
AS-BUILT RECORD DRAWING GENERAL NOTES
 CONTINUED
 DRAWING NO. **M-16**
A



INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
FIRE HYDRANT AND VALVE LOCATIONS
 DRAWING NO. **W-1**

- NOTES:**
- VALVE SPACING ON WATER MAINS SHALL NOT EXCEED 1000'.
 - A MINIMUM COVER OF 30" IS REQUIRED ABOVE THE TOP OF ALL PIPE BODIES.
 - CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION OF BLUE REFLECTIVE MARKERS (FRP) INDICATING A FIRE HYDRANT. BLUE REFLECTIVE MARKER SHALL BE LOCATED IN THE CENTERLINE OF THE LANE CLOSEST TO THE HYDRANT.
 - DEAD END LINES, VALVES, AND HYDRANTS SHALL BE RESTRAINED.
 - ALL LINES SHALL BE A MINIMUM 10' OFFSET FROM BUILDINGS.
 - REFLECTIVE MARKER (FRP) FOR FIRE HYDRANTS SHALL BE BLUE.
 - REFLECTIVE MARKERS SHALL BE AFFIXED TO PAVEMENT WITH A FDOT APPROVED PRODUCT.
 - SEE DRAWINGS, NO. M-4 VALVE AND BOX & M-7 VALVE BOX PAD.
 - ALL FIRE HYDRANT VALVE COVERS SHALL BE PAINTED RED. ALL IN-LINE VALVE COVERS SHALL BE PAINTED BLUE.

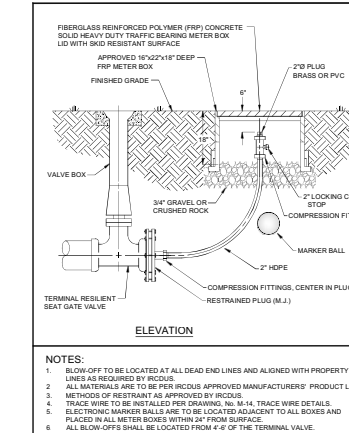
INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
FIRE HYDRANT AND VALVE NOTES
 DRAWING NO. **W-1**
A



INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
FIRE HYDRANT DETAIL
 DRAWING NO. **W-2**

- NOTES:**
- HYDRANT BOLLARD TO BE 4" DIAMETER GALVANIZED STEEL OR DUCTILE IRON PIPE FILLED WITH CONCRETE WHEN REQUIRED BY ICDCUS. GUARDS TO BE PAINTED RED. SAME AS HYDRANTS AND VALVE COVER.
 - THE HYDRANT SHOULD BE SET SUCH THAT THE "BURY LINE" ON THE HYDRANT BARREL IS SET AT FINISHED GRADE OR THAT THE OPERATING NUT OF THE PUMPER NOZZLE IS A MINIMUM OF 22" ABOVE FINISHED GRADE.
 - ALL HYDRANTS SHALL BE TRAFFIC BREAKAWAY TYPE.
 - COMPLETE ANCHORED FIRE HYDRANT ASSEMBLY MAY BE UTILIZED IN LIEU OF ABOVE.
 - FIRE HYDRANT SHOULD BE LOCATED A MINIMUM 2' AND MAXIMUM 12' FROM EDGE OF PAVEMENT WHERE POSSIBLE.
 - ALL MATERIALS ARE TO BE PER ICDCUS APPROVED MANUFACTURERS' PRODUCT LIST.
 - TRACE WIRE TO BE INSTALLED AS PER DRAWING, NO. M-14. TRACE WIRE DETAIL (FOR CLARITY THE TRACE WIRE IS NOT SHOWN IN DRAWING, NO. W-2. FIRE HYDRANT DETAILS).
 - MAINTAIN CLEAR ZONE RADIUS OF 7'-6" AROUND HYDRANT PERPENDICULAR TO ROADWAY OR CURB FACE (EXAMPLE SHALL BE CLEAR OF SIGNS, TREES, SHRUBS, TRANSFORMERS, UTILITY POLES, ETC.).
 - HYDRANTS AND PROTECTION DEVICES SHALL HAVE CLEARANCES OF 7'-6" IN FRONT AND THE SIDES OF THE FIRE HYDRANT, WITH A MINIMUM CLEARANCE TO THE REAR OF THE HYDRANT UNLESS THE AHJ (AUTHORITY HAVING JURISDICTION) REQUIRES A LARGER CLEAR ZONE.
 - SEE DRAWINGS, NO. M-4 VALVE AND BOX DETAIL, M-4 VALVE AND BOX DETAIL NOTES AND M-7 VALVE BOX PAD.
 - HOUSE KEEPING PAD IS REQUIRED. HOUSE KEEPING PAD SHALL BE 6" THICK X 2' WIDE (MINIMUM) AND LOCATED AT FINISHED GRADE. BREAKAWAY FLANGES SHALL BE 2" ABOVE HOUSEKEEPING PAD. (SEE DRAWING, NO. W-2. FIRE HYDRANT DETAIL).

INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
FIRE HYDRANT DETAIL NOTES
 DRAWING NO. **W-2**
A



INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
MANUAL 2" BLOW-OFF
 DRAWING NO. **W-3**



REVISIONS

NO.	DATE	DESCRIPTION
1	06/12/2023	DATE ISSUED
2		CHECKED
3		DATE
4		DESIGNED
5		DRAWN
6		TH
7		24/04/23

MBV ENGINEERING, INC.
 CONSULTING ENGINEERS
 4400 W. STATE ROAD 1
 SUITE 100
 PALM BEACH, FL 33410
 PHONE: 561-833-7278
 FAX: 561-833-7279
 E-MAIL: INFO@MBV-INC.COM

INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
AS-BUILT RECORD DRAWING
GENERAL NOTES
 CONTINUED
 DRAWING NO. **M-16**
A

UTILITY DETAILS

IRC FIRE RESCUE FIRE STATION #7

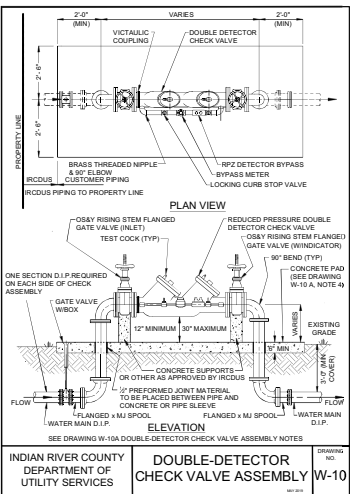
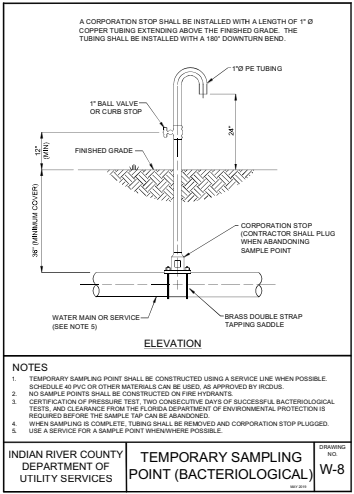
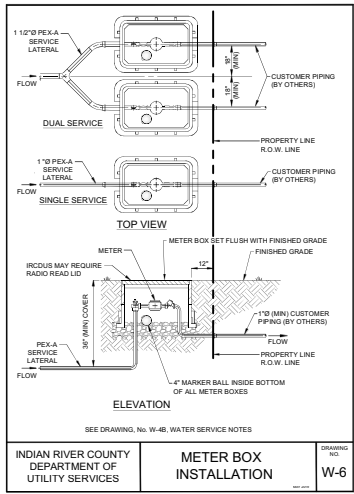
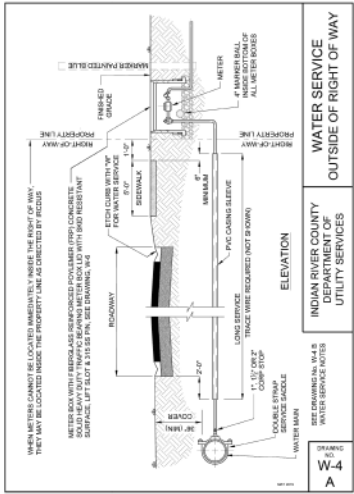
FLORIDA

PROFESSIONAL ENGINEER
 G. STANTON
 LICENSE No. 72460
 STATE OF FLORIDA

AARON G. STANTON
 P.E. #2460
 #16223

C15

21-0492



NOTES:

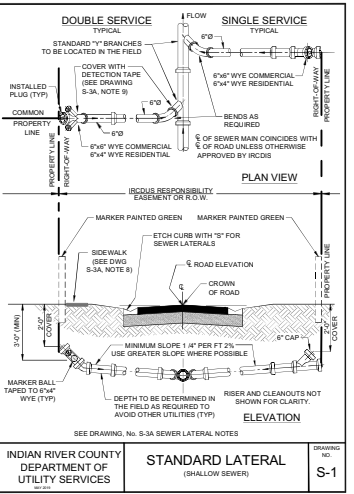
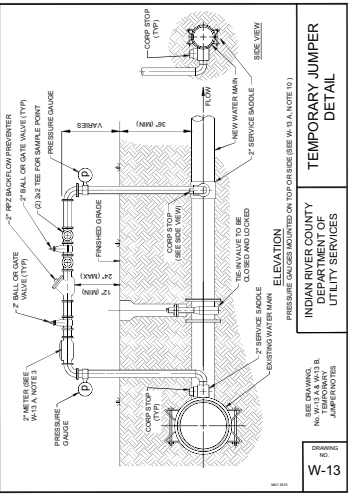
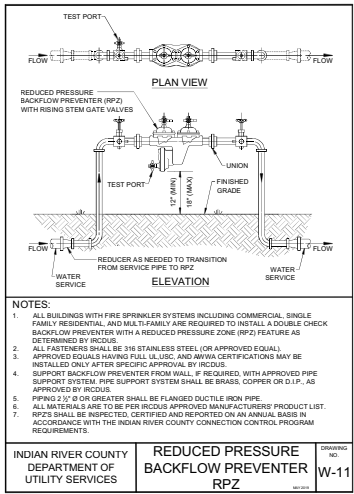
1. ALL BUILDINGS WITH FIRE PROTECTION SYSTEMS MUST HAVE AN ICCBUS APPROVED DETECTOR CHECK VALVE AND METER INSTALLED ON THEIR PROPERTY. DETECTOR CHECKS SHALL BE INSTALLED IN ACCORDANCE WITH STATE FIRE MARSHAL CODE AND ICCBUS STANDARDS. CHECK VALVE AND METER SHALL BE MOUNTED ABOVE GROUND. DOUBLE DETECTOR CHECK VALVE ASSEMBLIES SHALL BE INSPECTED, TESTED, CERTIFIED AND REPORTED ON AN ANNUAL BASIS IN ACCORDANCE WITH THE INDIAN RIVER COUNTY CROSS CONNECTION CONTROL PROGRAM REQUIREMENTS.
2. THE INDIAN RIVER COUNTY CROSS CONNECTION CONTROL PROGRAM REQUIREMENTS CAN BE FOUND AT: www.irccbus.com/ccocp.htm
3. CONCRETE PAD SHALL BE CONSTRUCTED WITH 3,000 P.S.I. COMMERCIAL GRADE FIBER REINFORCED CONCRETE AND SHALL BE A MINIMUM 4\"/>

INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
DOUBLE-DETECTOR CHECK VALVE ASSEMBLY NOTES
 DRAWING NO. W-10
 A

NO.	DATE	REVISIONS
1	06/12/2023	DATE ISSUED
2		CHECKED
3		DATE
4		DESIGNED
5		TH
6		SS
7		DR
8		DATE

JOB NO. 21-0462
 DRAWING NO. W-10
 DATE JUNE 02/23
 CHECKED
 DESIGNED
 TH
 SS
 DR
 DATE
 REVISIONS
 DATE ISSUED

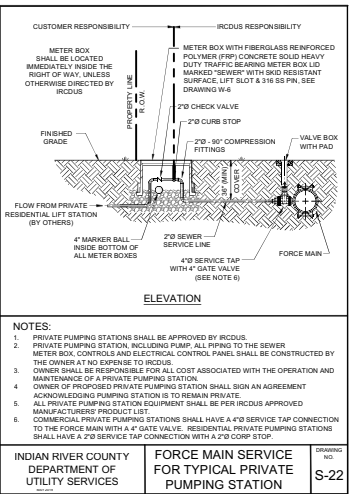
MBV ENGINEERING, INC.
 CONSULTING ENGINEERS
 4400 STATE ROAD 1
 WEST PALM BEACH, FL 33411
 PHONE: 561-833-1111
 FAX: 561-833-1112
 LICENSE NO. 12127
 STATE OF FLORIDA
 PROFESSIONAL ENGINEER



NOTES:

1. ALL SEWER LATERALS (SINGLE OR DOUBLE) SHALL HAVE A RISER PIPE WITH BENDS AS REQUIRED FOR SERVICE CONNECTIONS AND WITH A 4\"/>

INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
STANDARD LATERAL NOTES
 DRAWING NO. S-3
 A



NOTES:

1. PRIVATE PUMPING STATIONS SHALL BE APPROVED BY ICCBUS.
2. PRIVATE PUMPING STATION, INCLUDING PUMP, ALL PIPING TO THE SEWER METER BOX, CONTROLS AND ELECTRICAL CONTROL PANELS SHALL BE CONSTRUCTED BY THE OWNER AT NO EXPENSE TO ICCBUS.
3. OWNER SHALL BE RESPONSIBLE FOR ALL COST ASSOCIATED WITH THE OPERATION AND MAINTENANCE OF A PRIVATE PUMPING STATION.
4. OWNER OF PROPOSED PRIVATE PUMPING STATION SHALL SIGN AN AGREEMENT ACKNOWLEDGING PUMPING STATION TO REMAIN PRIVATE.
5. ALL PRIVATE PUMPING STATION EQUIPMENT SHALL BE PER ICCBUS APPROVED MANUFACTURERS' PRODUCT LIST.
6. COMMERCIAL PRIVATE PUMPING STATIONS SHALL HAVE A 4\"/>

INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES
FORCE MAIN SERVICE FOR TYPICAL PRIVATE PUMPING STATION
 DRAWING NO. S-22
 A

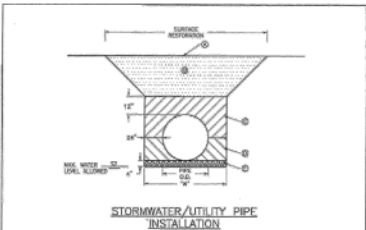
UTILITY DETAILS

IRC FIRE RESCUE FIRE STATION #7

FLORIDA
 CITY OF FELLEMEERE

ARON G. STANTON
 LICENSE No. 72460
 STATE OF FLORIDA
 PROFESSIONAL ENGINEER
 ARON G. STANTON
 P.E. #72460 91623
 SHEET





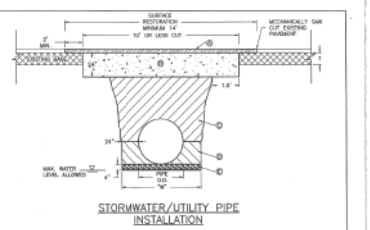
STORMWATER/UTILITY PIPE INSTALLATION

- NOTES:**
1. ALL CONSTRUCTION WITHIN THE RIGHT-OF-WAY SHALL COMPLY WITH COUNTY CODE CHAPTER 202.
 2. ALL INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, SECTION 121, WITH STRENGTHS OF 100-200 PSI.
 3. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, SECTION 121, WITH STRENGTHS OF 100-200 PSI.
 4. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, SECTION 121, WITH STRENGTHS OF 100-200 PSI.
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 10. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, SECTION 121, WITH STRENGTHS OF 100-200 PSI.

LAND DEVELOPMENT DESIGN STANDARDS AND SPECIFICATIONS

TRENCH (UNPAVED AREAS)

DATE: 11/1/2016
 DRAWN BY: James William Ennis, P.E.
 CHECKED BY: Public Works - County Engineer



STORMWATER/UTILITY PIPE INSTALLATION

- NOTES:**
1. ALL CONSTRUCTION WITHIN THE RIGHT-OF-WAY SHALL COMPLY WITH COUNTY CODE CHAPTER 202.
 2. ALL INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, SECTION 121, WITH STRENGTHS OF 100-200 PSI.
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LAND DEVELOPMENT DESIGN STANDARDS AND SPECIFICATIONS

TRENCH (PAVED AREAS)

DATE: 11/1/2016
 DRAWN BY: James William Ennis, P.E.
 CHECKED BY: Public Works - County Engineer

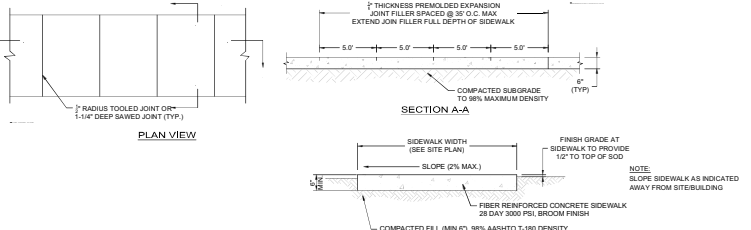
ROAD CLASSIFICATION	ASPHALT TYPE AND THICKNESS	BASE THICKNESS	SUBGRADE THICKNESS
1" ASPHALT LOCAL SUBGRADE	(1) 1.5" LAYER OF SP-8.5 (2) 1" LAYER OF SP-8.5 1" OF SP-8.5 OVER 1.5" OF SP-12.5	6"	6"
1" ASPHALT LOCAL	(1) 1.5" LAYER OF SP-8.5 1" OF SP-8.5 OVER 1.5" OF SP-12.5	6"	10"
1" ASPHALT LOCAL	(1) 1.5" LAYER OF SP-8.5 1" OF SP-8.5 OVER 1.5" OF SP-12.5	6"	10"
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1" ASPHALT LOCAL	(1) 1.5" LAYER OF SP-8.5 1" OF SP-8.5 OVER 1.5" OF SP-12.5	6"	10"

- NOTES:**
1. ALL CONSTRUCTION WITHIN THE RIGHT-OF-WAY SHALL COMPLY WITH COUNTY CODE CHAPTER 202.
 2. ALL INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, SECTION 121, WITH STRENGTHS OF 100-200 PSI.
 3. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, SECTION 121, WITH STRENGTHS OF 100-200 PSI.
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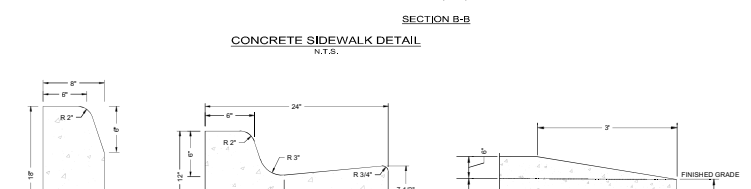
LAND DEVELOPMENT DESIGN STANDARDS AND SPECIFICATIONS

ROADWAY DESIGN CRITERIA

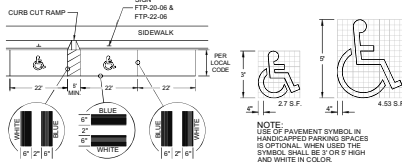
DATE: 11/1/2016
 DRAWN BY: James William Ennis, P.E.
 CHECKED BY: Public Works - County Engineer



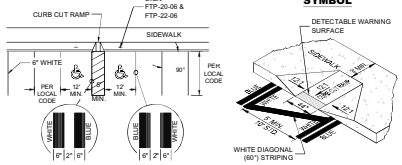
CONCRETE SIDEWALK DETAIL



CONCRETE SIDEWALK DETAIL



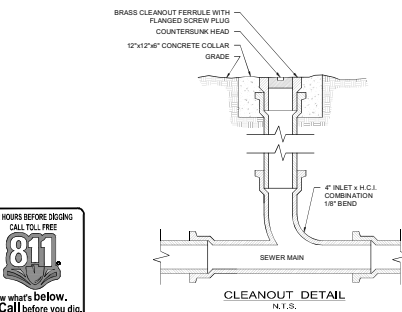
PARALLEL SPACE PAVEMENT MARKING



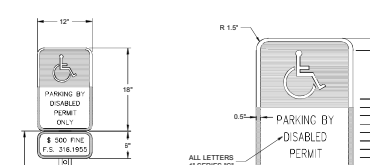
STANDARD SPACE PAVEMENT MARKING

- GENERAL NOTES:**
1. CRITERIA FOR PAVEMENT MARKING ONLY. NOT CURB CUT RAMP LOCATIONS. FOR RAMP CRITERIA REFER TO FOOT STANDARD DESIGN INDEX FROM LATEST EDITION.
 2. BLUE PAVEMENT MARKINGS SHALL BE TINTED TO MATCH SPEC 15180 OF FEDERAL STANDARD SPEC.
 3. CURB AND WHEELSTOP LOCATIONS SHALL BE AS PER DEPICTED ON THE PLANS.
 4. FOR ANGLED PARKING APPLICATIONS, REFER TO FOOT STANDARD DESIGN INDEX FROM LATEST EDITION.
 5. PARKING STALL WIDTHS SHALL BE DIMENSIONED FROM CENTERLINE TO CENTERLINE OF THE WHITE STRIPES.

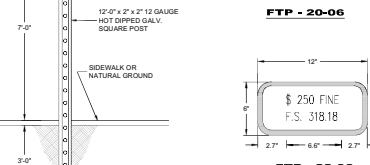
HANDICAPPED RAMP AND PAVEMENT MARKING DETAIL



CLEANOUT DETAIL



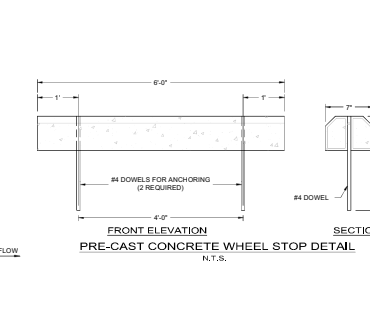
HANDICAPPED PAVEMENT SYMBOL



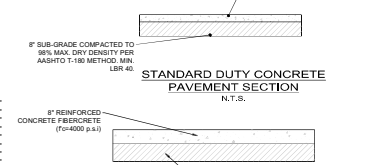
STANDARD SPACE PAVEMENT MARKING

- GENERAL NOTES:**
1. TOP PORTION OF FTP-20-06 SHALL HAVE A REFLECTIVE BLUE BACKGROUND WITH WHITE REFLECTIVE SYMBOL AND BORDER.
 2. BOTTOM PORTION OF FTP-20-06 SHALL HAVE A REFLECTIVE WHITE BACKGROUND WITH BLACK ORANGE LEGEND AND BORDER.
 3. THE SIGN SHALL BE PLACED A MINIMUM OF 3' FROM THE WHEEL STOP OR THE BACK OF CURB (WHERE APPLICABLE).

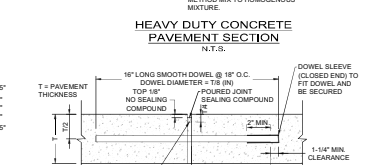
HANDICAPPED SIGN DETAIL



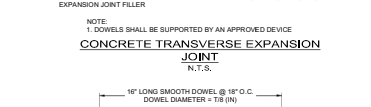
PRE-CAST CONCRETE WHEEL STOP DETAIL



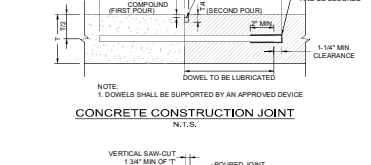
STANDARD DUTY CONCRETE PAVEMENT SECTION



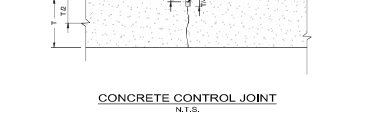
HEAVY DUTY CONCRETE PAVEMENT SECTION



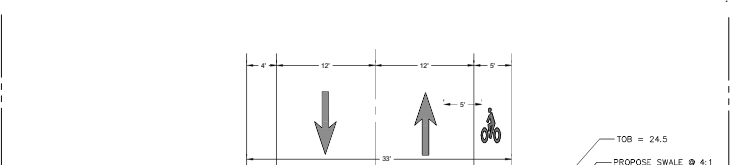
CONCRETE TRANSVERSE EXPANSION JOINT



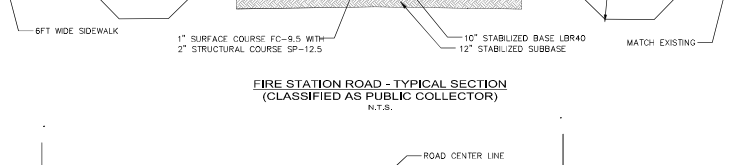
CONCRETE CONSTRUCTION JOINT



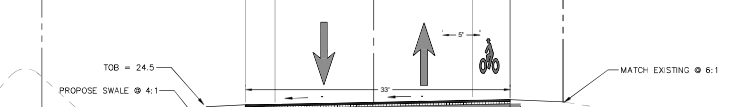
CONCRETE CONTROL JOINT



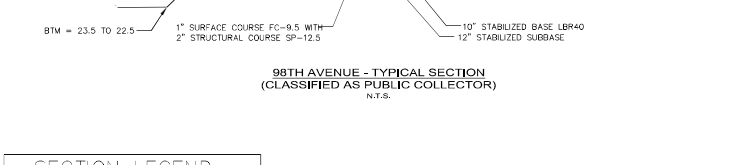
FIRE STATION ROAD - TYPICAL SECTION (CLASSIFIED AS PUBLIC COLLECTOR)



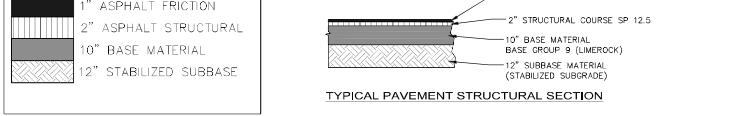
FIRE STATION ROAD - TYPICAL SECTION (CLASSIFIED AS PUBLIC COLLECTOR)



98TH AVENUE - TYPICAL SECTION (CLASSIFIED AS PUBLIC COLLECTOR)



98TH AVENUE - TYPICAL SECTION (CLASSIFIED AS PUBLIC COLLECTOR)



TYPICAL PAVEMENT STRUCTURAL SECTION

SECTION LEGEND

[Symbol]	1" ASPHALT FRICTION
[Symbol]	2" ASPHALT STRUCTURAL
[Symbol]	10" BASE MATERIAL
[Symbol]	12" STABILIZED SUBBASE

REVISIONS

NO.	DATE	DESCRIPTION
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

DESIGNED: [Blank]
DRAWN: [Blank]
CHECKED: [Blank]
DATE: JUNE 2022

MBV ENGINEERING INC.
 CONSULTING ENGINEERS & ARCHITECTS
 1001 W. 11TH AVENUE, SUITE 100
 DENVER, CO 80202

GENERAL DETAILS

IRC FIRE RESCUE FIRE STATION #7

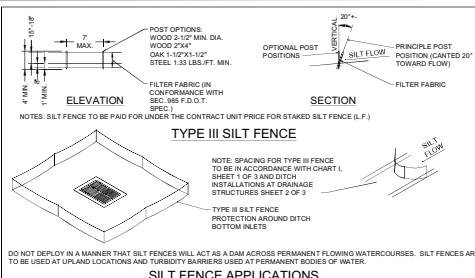
FLORIDA

AARON G. STANTON
 LICENSED PROFESSIONAL ENGINEER
 No. 72460
 STATE OF FLORIDA
 P.E. #72460-0001

SHEET

C17

21-0482



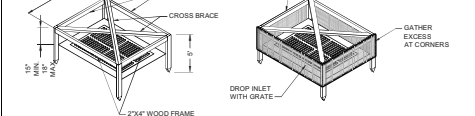
TYPE III SILT FENCE
N.T.S.



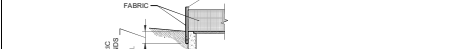
TYPE II SILT FENCE
N.T.S.



TYPE IV SILT FENCE
N.T.S.



VIEW OF FRAME WITHOUT SILT FENCE



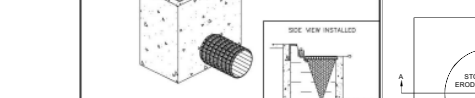
VIEW OF FRAME WITH SILT FENCE



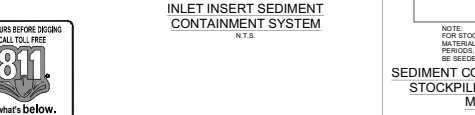
SILT FENCE INLET PROTECTION
N.T.S.



INLET INSERT SEDIMENT CONTAINMENT SYSTEM
N.T.S.



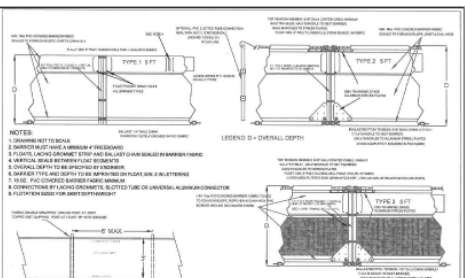
SECTION A-A



PLAN

SEDIMENT CONTROL DETAIL FOR STOCKPILING OF ERODIBLE MATERIAL
N.T.S.

71 HOURS BEFORE DRIVING CALL TOLL FREE 811 Know what's below. Call before you dig.



2012 FDOT Design Standards TURBIDITY BARRIERS



2012 FDOT Design Standards TURBIDITY BARRIERS



TURBIDITY BARRIER APPLICATIONS
N.T.S.



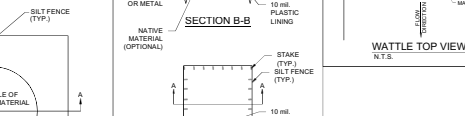
TURBIDITY BARRIER APPLICATIONS
N.T.S.



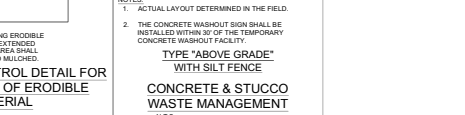
TURBIDITY BARRIER APPLICATIONS
N.T.S.



TURBIDITY BARRIER APPLICATIONS
N.T.S.



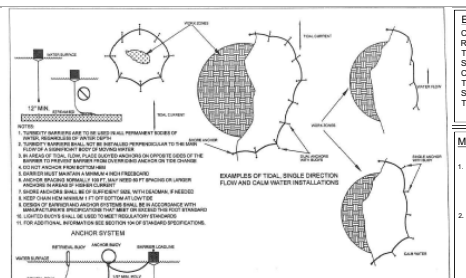
TURBIDITY BARRIER APPLICATIONS
N.T.S.



TURBIDITY BARRIER APPLICATIONS
N.T.S.

TURBIDITY BARRIER APPLICATIONS
N.T.S.

TURBIDITY BARRIER APPLICATIONS
N.T.S.



WATTLE CROSS SECTION
N.T.S.



WATTLE CROSS SECTION
N.T.S.



WATTLE CROSS SECTION
N.T.S.



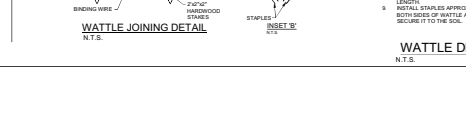
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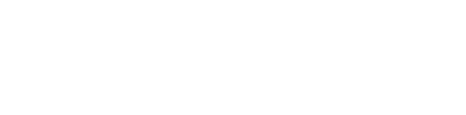
WATTLE CROSS SECTION
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WATTLE CROSS SECTION
N.T.S.



WATTLE CROSS SECTION
N.T.S.



WATTLE CROSS SECTION
N.T.S.

WATTLE CROSS SECTION
N.T.S.

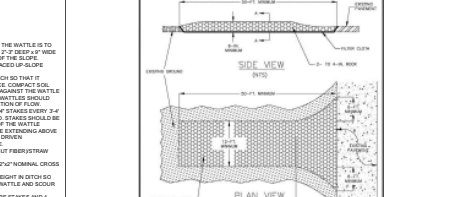
WATTLE CROSS SECTION
N.T.S.

EROSION AND SEDIMENTATION CONTROL NOTES
CONSTRUCTION ACTIVITIES CAN RESULT IN THE GENERATION OF SIGNIFICANT AMOUNTS OF POLLUTANTS WHICH MAY REACH SURFACE OR GROUND WATERS. ONE OF THE PRIMARY POLLUTANTS OF SURFACE WATERS IS SEDIMENT DUE TO EROSION. EXCESSIVE QUANTITIES OF SEDIMENT WHICH REACH WATER BODIES OF FLOOD PLAINS HAVE BEEN SHOWN TO ADVERSELY AFFECT THEIR PHYSICAL, BIOLOGICAL AND CHEMICAL PROPERTIES. TRANSPORTED SEDIMENT CAN OBSTRUCT STREAM CHANNELS, REDUCE HYDRAULIC CAPACITY OF WATER BODIES OR FLOOD PLAINS, REDUCE THE DESIGN CAPACITY OF CULVERTS AND OTHER WORKS, AND ELIMINATE BENTHIC INVERTEBRATES AND FISH SPAWNING SUBSTRATES BY SILTATION. EXCESSIVE SUSPENDED SEDIMENTS REDUCE LIGHT PENETRATION AND THEREFORE, REDUCE PRIMARY PRODUCTIVITY.

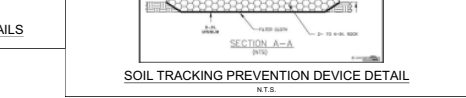
MINIMUM STANDARDS

- SEDIMENT BARS AND TRAPS, PERMETER DICES, SEDIMENT BARRIERS AND OTHER MEASURES INTENDED TO TRAP SEDIMENT SHALL BE CONSTRUCTED AS A FIRST STEP IN ANY LAND DISTURBING ACTIVITY AND SHALL BE MADE FUNCTIONAL BEFORE ANY LAND DISTURBANCE TAKES PLACE.
- ALL SEDIMENT CONTROL MEASURES ARE TO BE ADJUSTED TO MEET FIELD CONDITIONS AT THE TIME OF CONSTRUCTION AND BE CONSTRUCTED PRIOR TO ANY GRADING OR DISTURBANCE OF EXISTING SURFACE MATERIAL ON BALANCE OF SITE. PERMETER SEDIMENT BARRIERS SHALL BE CONSTRUCTED TO PREVENT SEDIMENT OR TRASH FROM FLOWING OR FLOATING ON TO ADJACENT PROPERTIES.
- PERMANENT OR TEMPORARY SOIL STABILIZATION SHALL BE APPLIED TO DISTURBED AREAS WITHIN SEVEN DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN DAYS TO DENuded AREAS THAT MAY NOT BE AT FINAL GRADE BUT WILL REMAIN UNDISTURBED FOR LONGER THAN 30 DAYS. PERMANENT STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT UNDISTURBED FOR MORE THAN ONE YEAR.
- DURING CONSTRUCTION OF THE PROJECT, SOIL STOCKPILES SHALL BE STABILIZED OR PROTECTED WITH SEDIMENT TRAPPING MEASURES. THE APPLICANT IS RESPONSIBLE FOR THE TEMPORARY PROTECTION AND PERMANENT STABILIZATION OF ALL SOIL STOCKPILES ON SITE AS WELL AS SOIL INTERNALLY TRANSPORTED FROM THE PROJECT SITE.
- A PERMANENT VEGETATIVE COVER SHALL BE ESTABLISHED ON DENuded AREAS NOT OTHERWISE PERMANENTLY STABILIZED. ESTABLISHED UNTIL A GROUND COVER IS ACHIEVED THAT, IN THE OPINION OF THE REVIEWER, IS UNIFORM AND THICK ENOUGH TO SURVIVE AND WILL INHIBIT EROSION.
- STABILIZATION MEASURES SHALL BE APPLIED TO EARTHEN STRUCTURES SUCH AS DAMS, DICES AND OVERDAMS IMMEDIATELY AFTER INSTALLATION.
- SURFACE RUNOFF FROM DISTURBED AREAS THAT IS COMPOSED OF FLOW FROM DRAINAGE AREAS GREATER THAN OR EQUAL TO THREE ACRES SHALL BE CONTROLLED BY A SEDIMENT BASIN. THE SEDIMENT BASIN SHALL BE DESIGNED AND CONSTRUCTED TO ACCOMMODATE THE ANTICIPATED SEDIMENT LOADING FROM THE LAND DISTURBING ACTIVITY. THE OUTFALL DEVICE OR SYSTEM DESIGN SHALL TAKE INTO ACCOUNT THE TOTAL DRAINAGE AREA FLOWING THROUGH THE DISTURBED AREA TO BE SERVED BY THE BASIN.
- AFTER ANY SIGNIFICANT RAINFALL, SEDIMENT CONTROL STRUCTURES WILL BE INSPECTED FOR INTEGRITY. ANY DAMAGED DEVICES SHALL BE CORRECTED IMMEDIATELY.
- CONCENTRATED RUNOFF SHALL NOT FLOW DOWN CUT OR FILL SLOPES UNLESS CONTAINED WITHIN AN ADEQUATE TEMPORARY OR PERMANENT CHANNEL, FLUME OR SLOPE DRAIN STRUCTURE.
- WHENEVER WATER SEEPS FROM A SLOPE FACE, ADEQUATE DRAINAGE OR OTHER PROTECTION SHALL BE PROVIDED.
- SEDIMENT WILL BE PREVENTED FROM ENTERING ANY STORM DRAIN SYSTEM, DITCH OR CHANNEL. ALL STORM SEWER INLETS THAT ARE MADE OPERABLE DURING CONSTRUCTION SHALL BE PROTECTED SO THAT SEDIMENT LADEN WATER CANNOT ENTER THE CONVEYANCE SYSTEM WITHOUT FIRST BEING FILTERED OR OTHERWISE TREATED TO REMOVE SEDIMENT.
- BEFORE TEMPORARY OR NEWLY CONSTRUCTED STORMWATER CONVEYANCE CHANNELS ARE MADE OPERATIONAL, ADEQUATE OUTLET PROTECTION AND ANY REQUIRED TEMPORARY OR PERMANENT CHANNEL LINING SHALL BE INSTALLED IN BOTH THE CONVEYANCE CHANNEL AND RECEIVING CHANNEL.

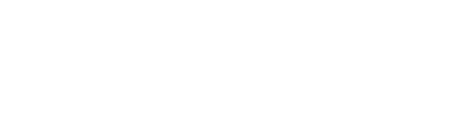
EROSION CONTROL DETAILS



SOIL TRACKING PREVENTION DEVICE DETAIL
N.T.S.



SECTION A-A



SECTION A-A

SOIL TRACKING PREVENTION DEVICE DETAIL
N.T.S.

SOIL TRACKING PREVENTION DEVICE DETAIL
N.T.S.

NO.	DATE	REVISIONS
1	06/12/2023	DATE ISSUED
2		CHECKED
3		DATE
4		DRAWN
5		DESIGNED
6		DATE
7		NO. OF SHEETS
8		TOTAL SHEETS

JONAS
 DESIGNED
 DRAWN
 DATE
 CHECKED
 DATE ISSUED
 06/12/2023

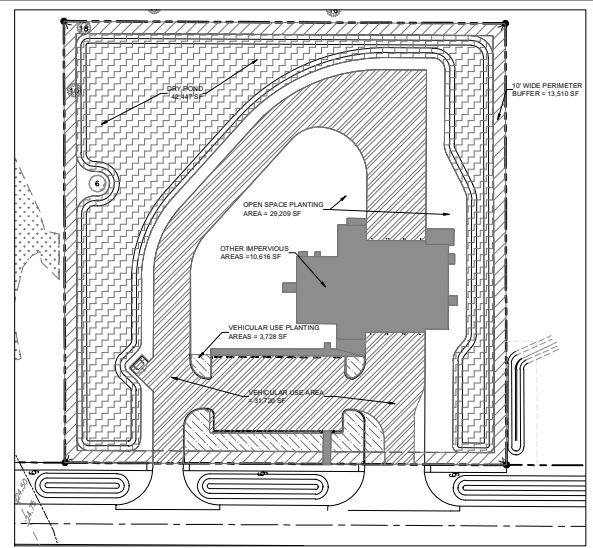
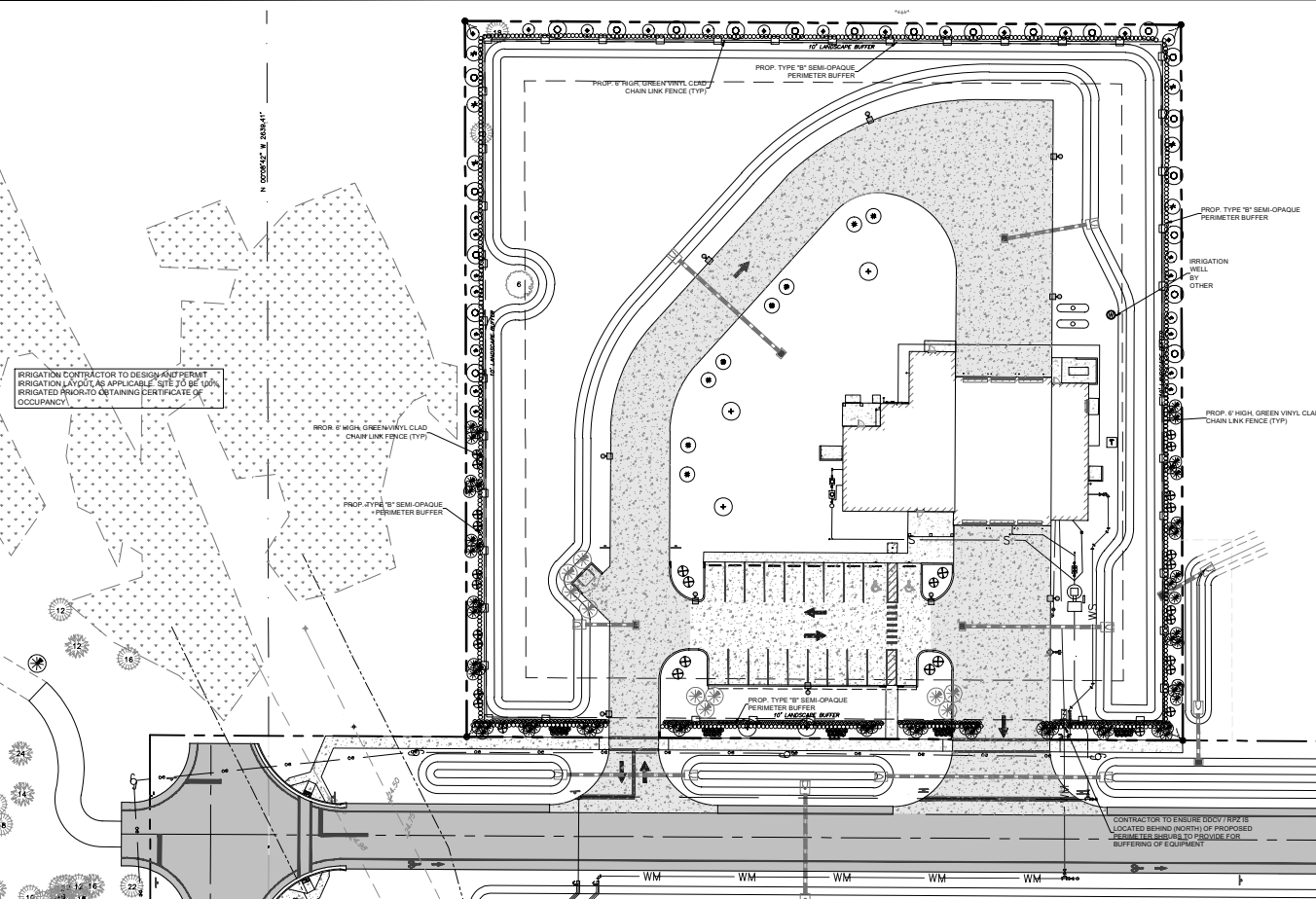
MBV ENGINEERING, INC.
 CONSULTING ENGINEERS
 4400 W. UNIVERSITY BLVD., SUITE 100
 AUSTIN, TEXAS 78746
 TEL: 512.476.1111
 FAX: 512.476.1112
 WWW.MBVENGINEERING.COM

IRC FIRE RESCUE FIRE STATION #7
 CITY OF FLEMING

KAYON G. STANTON
 LICENSE No. 72460
 STATE OF FLORIDA
 PROFESSIONAL ENGINEER

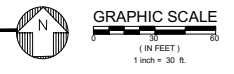
AARON G. STANTON
 LICENSE No. 71623
 STATE OF FLORIDA
 PROFESSIONAL ENGINEER

C18
 21-0492



LANDSCAPE KEY MAP
SCALE: 1" = 50'

LANDSCAPE PLAN
SCALE: 1" = 30'



LANDSCAPE CALCULATIONS			
1. Tree Requirements			
PERIMETER LANDSCAPE STRIP (10' WIDE BUFFER EXCLUDING DRIVEWAY & ROAD RESERVATION)	CODE REQ.	QUANTITY	REQUIRED
CANOPY TREE	1 PER 30 LF	1,301 LF.	47 TREES
UNDERSTORY TREES	1 PER 25 LF	1,301 LF.	56 TREES
		TOTAL TREES REQUIRED =	103 TREES
		TOTAL TREES PROVIDED =	103 TREES
		(INCLUDES 3 REMAINING TREES)	
		TOTAL SHRUBS PROVIDED =	874 SHRUBS
OPEN SPACE			
REQUIRED TREES	1 TREE PER 4000 SF	29,209 SF	7.30 TREES
		OPEN SPACE TREES REQUIRED =	8 TREES
		TOTAL TREES PROVIDED =	103 TREES
		(INCLUDES 3 REMAINING TREES)	
INTERIOR VEHICULAR USE AREAS			
		TOTAL PAVED AREA = 31,728	
REQUIRED TREE AREA = 10% OF TOTAL PAVED AREA	1 TREE PER 400 SF	3,173 SF	5.29 TREES
REQUIRED TREES		TOTAL TREES REQUIRED =	6 TREES
		TOTAL TREES PROVIDED =	6 TREES
		(INCLUDES 4 RELOCATED PALMS & 2 TREES)	
PROPOSED LANDSCAPE AREA AND TREES			
		TREES TO REMAIN =	3 TREES
		RELOCATED PALMS =	3 TREES
		TREE CREDIT =	6 TREES
		TOTAL REQUIRED TREES =	117 TREES
		TOTAL TREES NEEDED =	111 TREES
		PALM TREES (80% OF TOTAL TREES) =	58 TREES

LANDSCAPE AREA IS SEMI-OPAQUE, HEDGES AND FENCING ARE PRESUMED TO SURROUND PROPERTY PERIMETER.

LEGEND

- ⊕ SOUTHERN LIVE OAK
- ⊙ LAUREL OAK
- ☼ CABBAGE PALM
- ⊙ SANDSCRUB LIVE OAK
- ⊙ HOLLY DAHOON
- ⊙ EAST PALATKA HOLLY
- ⊙ JAPANESE PRIVET
- ⊙ GRAPE MYRTLE
- ⊙ EXISTING PINE TO REMAIN (2)
- ⊙ EXISTING OAK TO REMAIN (1)
- ⊙ EXISTING RELOCATED PALM (10)
- ⊙ DWARF SCHEFFLERA
- ⊙ WALTER'S VIBURNUM
- ⊙ PAMPAS GRASS

MASTER LANDSCAPE MATERIAL SCHEDULE

CANOPY TREES									
SYM	QTY	BOTANICAL NAME	COMMON NAME	SIZE	HGT	OTHER	NATIVE	DROUGHT TOLERANCE	MISCELLANEOUS
QV	5	Quercus virginiana	SOUTHERN LIVE OAK	2" CAL	12'-0"	ECT. SP	YES	HIGH	45 GAL
DL	22	Quercus laevis	LAUREL OAK	2" CAL	12'-0"	SP	YES	MODERATE	45 GAL
PALMS									
SS	63	Sabal palmetto	CABBAGE PALM	10'-18" CT	6'-0"	SLK.HC.SP	YES	HIGH	PLANT IN GROUPING OF 3 TO EQUAL 1 CANOPY
QG	13	Quercus geminata	SANDSCRUB LIVE OAK	2" CAL	6'-0"	3' CT.F.SP	YES	HIGH	45 GAL
IC	6	Ilex cassine	HOLLY DAHOON	2" CAL	6'-0"	STD. 4' CT. SP	YES	MODERATE	45 GAL
JA	8	Ilex x attenuata	"EAST PALATKA" HOLLY	2" CAL	6'-0"		YES	HIGH	
LJ	14	Ligustrum japonicum	JAPANESE PRIVET	2" CAL	6'-0"		NO	MODERATE	
CM	315	Lagerströmia	GRAPE MYRTLE	2" CAL	6'-0"		NO	HIGH	
HEDGES/SHRUBS									
SA	696	Schefflera arboricola	DWARF SCHEFFLERA		3'-0"		NO	HIGH	
AC	142	Adiantum	WALTER'S VIBURNUM		3'-0"		YES	HIGH	
CS	36	Cortaderia setacea	PAMPAS GRASS		2'-0"		YES	HIGH	
GROUND COVER									
MULCH	TBD	FLORIMULCH	AS REQUIRED IN BEDS			Shredded, Grade B			MIN. 3" COVER
SOD	TBD	Stenotaphrum secundatum	Florimulch Sod			100% Insect/Disease Free			



DESIGNED	TH	ISS	DATE	AS	DATE ISSUED
DRAWN	SS	CHECKED	JUNE 02/22	AS	06/17/2023
DATE					

MBV ENGINEERING, INC.
CONSULTING ENGINEERING
1400 JEFFERSON AVENUE
SUITE 1000
SAN JOSE, CA 95128
TEL: 408.261.1111
WWW.MBVENGINEERING.COM

LANDSCAPE PLAN

IRC FIRE RESCUE FIRE STATION #7

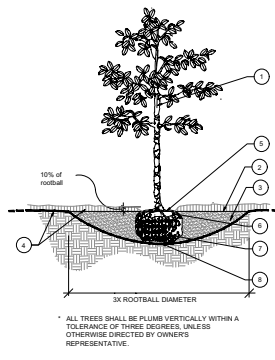
FLORIDA

AARON G. STANTON
P.E. #12460
STATE OF FLORIDA
PROFESSIONAL ENGINEER

SHEET

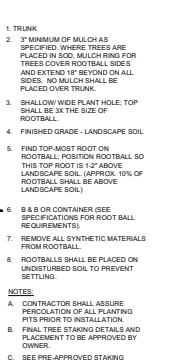
C19

21-0492



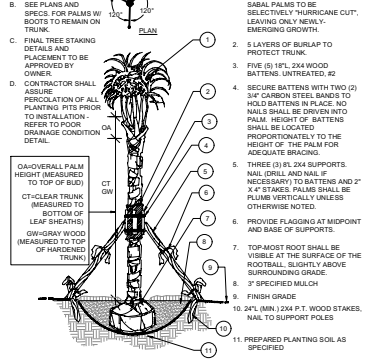
TREE PLANTING

SECTION NTS



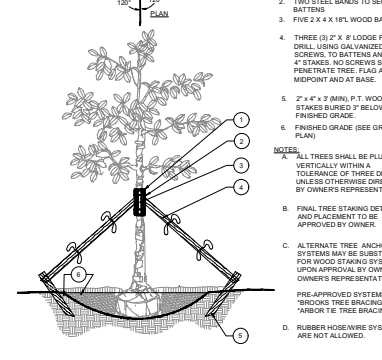
PALM PLANTING AND STAKING

SECTION NTS



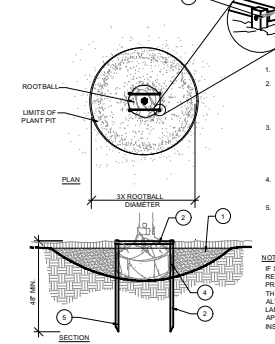
LARGE TREE STAKING - 100 GAL + OR B&B 4" +

SECTION NTS



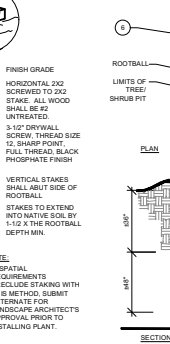
PLANTING ON A SLOPE

SECTION NTS



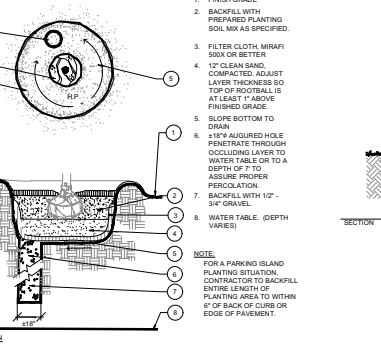
STAKING - UP TO 65 GAL. OR B&B TO 3-1/2" CAL.

PLANSECTION NTS



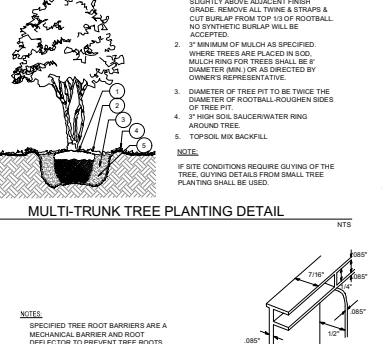
POOR DRAINAGE CONDITION

SECTION NTS



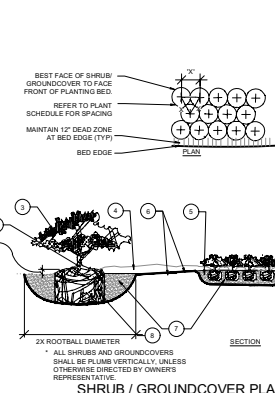
MULTI-TRUNK TREE PLANTING DETAIL

SECTION NTS



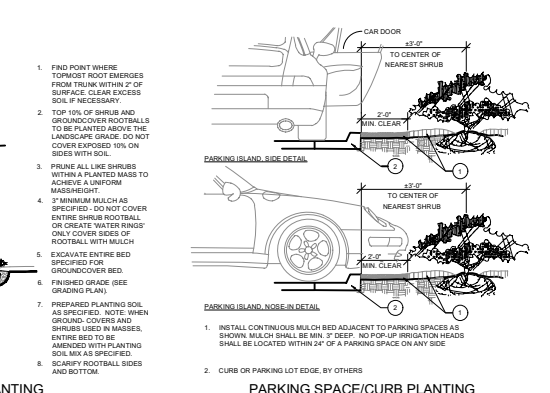
PLANTINGS ADJACENT TO BUILDINGS

SECTION NTS



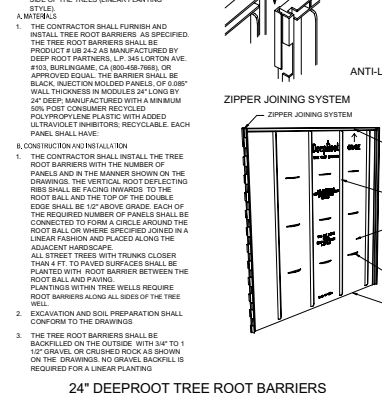
SHRUB / GROUNDCOVER PLANTING

PLANSECTION NTS



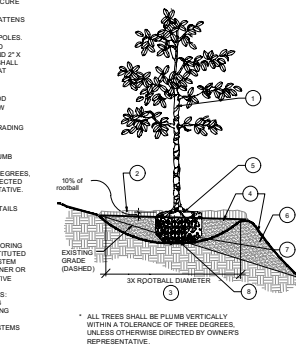
PARKING SPACE/CURB PLANTING

SECTION NTS



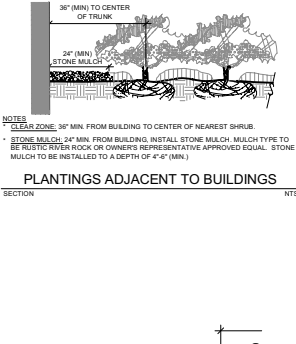
24" DEEPROOT TREE ROOT BARRIERS

SECTION NTS



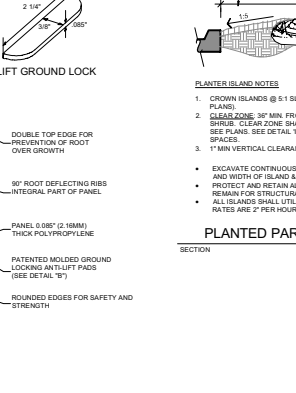
PLANTING ON A SLOPE

SECTION NTS



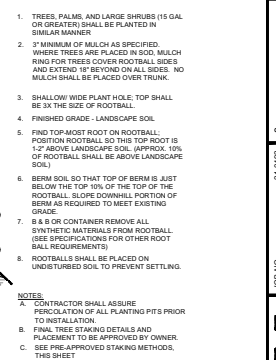
PLANTINGS ADJACENT TO BUILDINGS

SECTION NTS



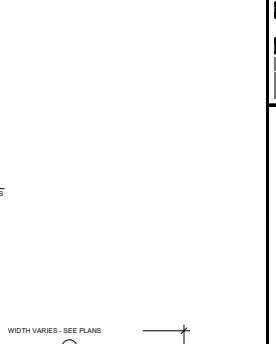
PLANTED PARKING LOT ISLANDS / MEDIANS

SECTION NTS



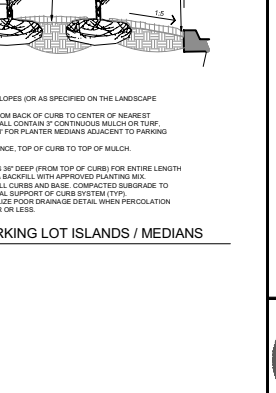
PLANTING ON A SLOPE

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PLANTINGS ADJACENT TO BUILDINGS

SECTION NTS



PLANTED PARKING LOT ISLANDS / MEDIANS

SECTION NTS



NO.	REVISIONS	DATE
1	ISSUED FOR PERMITS	06/01/2023
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MBV ENGINEERING, INC.
CONSULTING ENGINEERING CA #3728
1400 W. 10TH AVENUE, SUITE 100
DENVER, CO 80202
TEL: 303.755.1111
WWW.MBVENGINEERING.COM

LANDSCAPE DETAILS

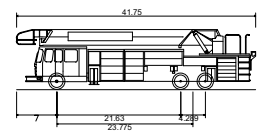
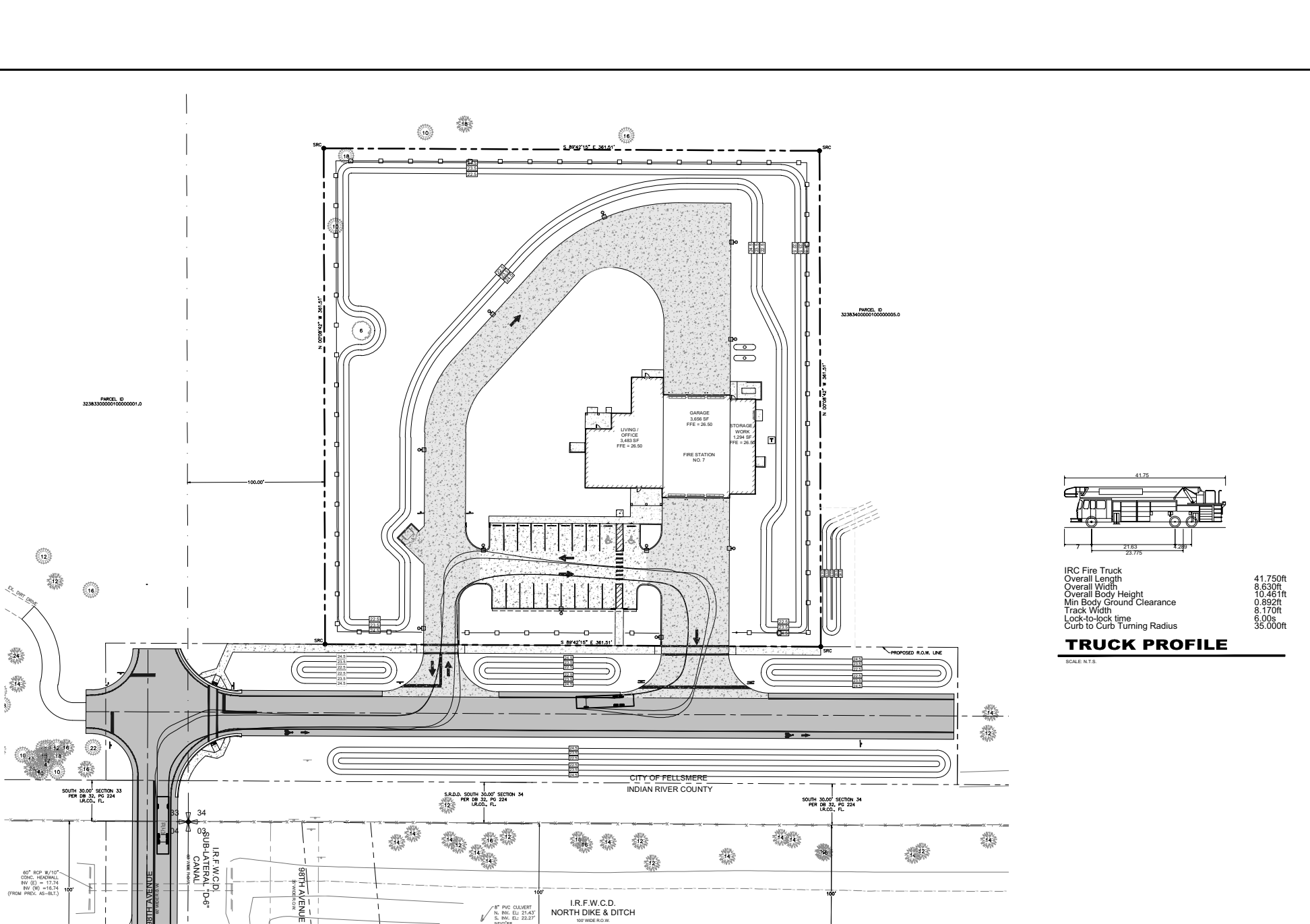
IRC FIRE RESCUE FIRE STATION #7

CITY OF FLEMING

ARON G. STANTON
LICENSE No. 72460
STATE OF FLORIDA
PROFESSIONAL ENGINEER

SHEET C20

21-0492



IRC Fire Truck
 Overall Length 41.750ft
 Overall Width 8.630ft
 Overall Body Height 10.461ft
 Min Body Ground Clearance 0.892ft
 Track Width 8.170ft
 Lock-to-lock time 6.00s
 Curb to Curb Turning Radius 35.000ft

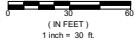
TRUCK PROFILE

SCALE: N.T.S.

TRUCK TURN PLAN

SCALE: 1" = 30'

GRAPHIC SCALE



LEGEND

- PROPOSED ASPHALT
- PROPOSED HEAVY DUTY CONCRETE
- PROPOSED STANDARD DUTY CONCRETE
- PROPOSED POLE LIGHT



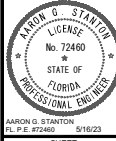
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JOB NO. 21-0492
 DESIGNED TH SS
 DRAWN JUNE 2022
 DATE JUNE 2022
 CHECKED AS
 DATE ISSUED 05/12/2023

MBV ENGINEERING INC.
 MOA BOMES, WILLAMAZAR & ASSOCIATES
 CONSULTING ENGINEERING CA #3728
 11700 E. 15TH AVENUE
 SUITE 200 DENVER CO 80231
 TEL: 303.754.1234

TRUCK TURN PLAN

IRC FIRE RESCUE
 FIRE STATION #7



ARON G. STANTON
 P.E. #72460
 SHEET
EX1



INDIAN RIVER COUNTY
DEPARTMENT OF UTILITY SERVICES
 1801 27TH STREET
 VERO BEACH, FLORIDA
 Tel. (772) 567-8000
 Fax (772) 770-5143

Date: September 12, 2023
UCP # 3677
Re: IRC Fire Station # 7

MBV Engineering, Inc.
 1835 20th Street
 Vero Beach, FL 32960
 Phone: 772-569-0035
 Attn: Todd Howder

WE ARE SENDING YOU:

- | | | | |
|---|--|---|--|
| <input type="checkbox"/> Shop drawings | <input checked="" type="checkbox"/> Attached | <input type="checkbox"/> Specifications | <input type="checkbox"/> Under separate cover the following items via: |
| <input type="checkbox"/> Copy of letter | <input type="checkbox"/> Prints | <input checked="" type="checkbox"/> Plans | <input checked="" type="checkbox"/> Utility Construction Permit |
| | <input type="checkbox"/> Change Order | <input type="checkbox"/> Samples | <input type="checkbox"/> Other: _____ |

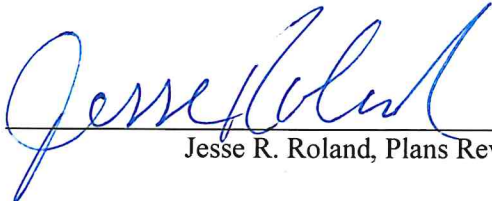
COPIES	DESCRIPTION
1	Approved Construction Plans
1	IRC Utility Construction Permit # 3677
1	Connection Fee Estimate

THESE ARE TRANSMITTED AS CHECKED BELOW:

- | | | |
|--|---|---|
| <input type="checkbox"/> For approval | <input type="checkbox"/> Approved as submitted | <input type="checkbox"/> Resubmit _____ Copies for approval |
| <input checked="" type="checkbox"/> For your use | <input type="checkbox"/> Approved as noted | <input type="checkbox"/> Submit _____ Copies for distribution |
| <input type="checkbox"/> As requested | <input type="checkbox"/> Returned for corrections | <input type="checkbox"/> Return _____ Corrected prints |
| <input type="checkbox"/> For review & comment | <input type="checkbox"/> For Bids Due _____ | Other: _____ |

REMARKS:

Please schedule a pre-construction meeting and all utility construction activities with Utilities Inspector:
 Solomon Berton, 772-532-7477, sberton@ircgov.com

Signed: 
 Jesse R. Roland, Plans Reviewer

Cc:
 Solomon Berton, Utilities Inspector (via email)
 Utility Project File UCP # 3677

(If enclosures are not as noted, kindly notify us at once)

INDIAN RIVER COUNTY- WATER AND SEWER CONNECTION FEES
 9600_27thPlaceConnectionCostSheet



Property Owner: Emergency Services District of IRC, Florida
 Project/Subdivision Name: IRC Fire Station # 7 - UCP# 3677
 Requestor: Todd Howder - MBV Engineering Phone #: 772-569-0035
 Location/Street Address: 9700 26th Place, Fellsmere, FL 32966 e-Mail: _____
 Parcel ID ('s) #: 32383400000100000005.1 Property Use Code 8600

CONNECTING TO:			TYPE:		
<input checked="" type="checkbox"/> WATER	<input checked="" type="checkbox"/> SEWER	<input checked="" type="checkbox"/> FIRE SPRINKLERS	<input type="checkbox"/> Single Family	<input type="checkbox"/> Multi-Family	<input checked="" type="checkbox"/> Commercial

WATER:					
Water Impact Fee:	3	ERU(s)	\$1,300.00 per ERU	= \$	3,900.00
	<input type="checkbox"/> Financed		1 ERU(s) are for fire sprinklers (1 ERU / ddcv)		1300
Water Service Connection Fee:			TAPS/INSTALLATION BY CONTRACTOR	= \$	-
<input type="checkbox"/> Water Connection					
Water Deposit:	4	ERU(s)	\$50.00 per ERU	= \$	200.00
Inspection Fee	1			= \$	80.79
Meter Installation	2" <input type="text"/>	# of meters 1		= \$	1,655.83
If Master Planned Line	N/A	LF	Cannot exceed 100 ft	= \$	-

SEWER:					
Sewer Impact Fee:	3	ERU(s)	\$2,796.00 per ERU	= \$	8,388.00
	<input type="checkbox"/> Financed				
Sewer Service Connection Fee:			TAPS/INSTALLATION BY CONTRACTOR	= \$	-
<input type="checkbox"/> Sewer Connection					
Sewer Deposit:	1	ERU(s)	Deposit @ \$50.00 per ERU	= \$	50.00
Inspection Fee	1			= \$	80.79
If Master Planned Line	N/A	LF	\$15.77 per LF	= \$	-

MISCELLANEOUS:					
New Account Charge	1			= \$	26.93
Recording Fee				=	
Doc Stamp				= \$	-

Remarks: Water/Fire/Sewer estimate for a proposed 8433' gsf fire station. 3 ERUs were calculated by the engineer-of-record.

Customer Signature: _____
 Date: _____

---- Official Use by IRCUD Staff Only ----		
<u>Prepared By</u> Jesse Roland	<u>Date Prepared</u> 9/12/2023	<u>Expiration Date</u> 3/10/2024
IRC Service App Provided?		
Total Balance Due *** = \$ 15,682.34		
I hereby acknowledge that I have been informed that a permit is required by the Building Department for the installation of the service line from the meter. IRCUDUS recommends pressure testing your existing plumbing before transitioning from your private well system to the County's water service. Pressure testing will allow you to avoid any potential leaks or breaks that may occur due to the pressure change with your new County water service. IRCUDUS is not responsible for leaks or breaks that may occur due to connection to the County water system.		
***Charges and fees are estimates only. Actual charges are subject to review and confirmation at time of payment. Service Availability Fees will accrue at the time connection fees have been paid.		

INDIAN RIVER COUNTY
DEPARTMENT OF UTILITY SERVICES
1801 27th Street, Vero Beach, Florida 32960



UTILITY CONSTRUCTION PERMIT

Permit Issuance Date: September 12, 2023
UCP #: 3677
IRC Project #: N/A (City of Fellsmere)
Project Name: IRC Fire Station # 7
Project Location: 9700 26th Place
Owner/Developer: Indian River County Emergency Services
Engineer-of-Record: MBV Engineering, Inc. - Aaron Stanton, P.E.
IRCUD Inspector: Solomon Berton, 772-532-7477, sberton@ircgov.com
Project Description: Water Dist. / Wastewater Coll. Systems

Services: County Water County Gravity Sewer County Force Main
 County Lift Station Private Lift Station Private Force Main

General:

This Utility construction permit authorizes the above-named Owner/Developer to construct a Water Distribution System and a Wastewater Collection System for the project as shown on the construction plans prepared by **MBV Engineering, Inc.** and signed & sealed on **August 8, 2023**. Permit Issuance is contingent upon construction being performed by personnel currently licensed in the State of Florida to perform such work. All work shall be performed in accordance with Indian River County Utilities Standards, latest edition and applicable regulatory agency. Utility work shall not commence until all necessary easements and/or permits are acquired, including an Indian River County R-o-W Permit if working within its limits. The limits of construction are delineated by these plans. This permit is valid for a period of twelve consecutive months from the date of issuance and is subject to the special provisions and completion of associated checklist items as provided in Attachment A; this permit does not constitute a permit for operation.

Special Conditions: Not Applicable.

If you have any questions, please do not hesitate to contact me at (772) 567-8000, ext. 1636.

Sincerely,



Jesse R. Roland, Plans Reviewer

Enclosure: Attachment A + 1 set of Construction Plans

cc: Sean Lieske, Director of Utility Services (via email)
 Howard Richards, P.E., Utilities Capital Projects Manager (via email)
 Rich Szyrka, P.E., Director of Public Works (via email)
 Community Development Planning Division (via email)
 Solomon Berton, Utilities Inspector (w/ Enclosure)
 Utility Project File UCP # 3677 (w/ Enclosure)

ATTACHMENT A

UTILITY CONSTRUCTION PERMIT – SPECIAL PROVISIONS

1. The Owner/Developer or his duly authorized representative, the Engineer-of-Record, property owner and construction contractor shall hold Indian River County harmless in any suits, claims, and/or liabilities arising from subject construction.
2. The Owner/Developer or his duly authorized representative, the Engineer-of-Record and the construction contractor shall have a pre-construction meeting with Indian River County Department of Utility Services (IRCDUS) a minimum of five working days before beginning construction.
3. The contractor shall notify Customer Service, IRCDUS, at (772) 567-8000 a minimum of 48 hours prior to beginning construction or performing any system tests.
4. All water and sewer utility locations are to be coordinated with other utilities such as, but not limited to electric, cable, telephone, irrigation, etc. Minimum setback requirements from water and sewer utilities, as outlined below, must be adhered to prior to acceptance of the water and sewer utilities.

Type of Object	Min. Horizontal Separation between Utility Water/Sanitary Lines and other Utilities & Objects
a) Aboveground permanent objects (i.e. walls, trees, transformer pads, etc.).	Pressure Pipes = Depth of the pipe plus diameter of the pipe Gravity Sewer – ten (10) feet
b) Underground utility lines (i.e., telephone, power, drainage, etc.)	Four (4) feet
c) Surface water body top of bank (i.e. lakes, ponds, canals, etc.).	Two times the depth of the pipe plus the diameter of the pipe

FINAL ACCEPTANCE OF WATER AND SEWER IS CONTINGENT UPON A FINAL INSPECTION BY THE UTILITIES DEPARTMENT AFTER ALL OTHER ON-SITE UTILITIES HAVE BEEN INSTALLED SO THAT MINIMUM SEPARATION REQUIREMENTS, AS OUTLINED ABOVE, CAN BE VERIFIED.

5. This Utility Construction Permit does not eliminate the necessity to obtain a right-of-way permit from Indian River County Public Works Department or other permits that are required by the Florida Department of Environmental Protection (FDEP) or any other county, state, or federal agencies.
6. No construction shall begin until all required easements have been acquired.
7. All applicable permits allowing utilities construction inside any right-of-way shall be submitted prior to commencement of construction. The Land Development Permit must be obtained, if applicable, prior to commencement of any utility construction.

ATTACHMENT A

UTILITY CONSTRUCTION PERMIT – SPECIAL PROVISIONS

8. Capacity Charges must be paid in full prior to commitment of capacity or issuance of building permit whichever comes first. THERE IS NO GUARANTEE THAT CAPACITY WILL BE AVAILABLE AT TIME OF REQUEST.
9. County Inspection Services: The County's hours of operation for this project is limited to between the hours of 8:00 a.m. and 4:00 p.m., Monday through Friday, excluding holidays. The DEVELOPER shall coordinate needed inspection services between these hours of operation. Should the DEVELOPER require County inspection services beyond the designated hours then the DEVELOPER shall pay the inspectors' hourly prevailing rate times an overtime direct multiplier of 1.5 times the hourly rate. The DEVELOPER shall not have the right to declare this Agreement in default because it disagrees with the fees and charges imposed for the extended use of the County Inspectors.
10. All equipment, materials, and workmanship shall meet or exceed current Indian River County Water and Wastewater Utility Standards and shall be subject to the unconditional inspection and approval of the Indian River County Department of Utility Services.
11. Only IRCDUS approved appurtenances shall be used in construction.
12. Shop drawings shall be provided and reviewed by IRCDUS prior to construction.
13. The Engineer-of-Record (EOR) shall have an on-site representative (inspector) whom shall witness and document all materials used, installation procedures, problems encountered and all tests specified by the Utility Construction Permit Checklist. Daily construction reports shall be submitted not less than monthly to IRCDUS. The daily reports shall be signed and sealed by the EOR. The daily construction reports shall be submitted to IRCDUS no later than seven days after completion of that portion of construction requiring clearance. Indian River County has unconditional rights to inspect the construction and materials at any time.
14. All connections to the IRCDUS system and operation of utility system valves and equipment shall be made under the direct observation of personnel from IRCDUS. Where loss of utility service will occur, a minimum of a 48-hour notice to IRCDUS and the public is required. A 48-hour notice is required for access to private property.
15. No testing of potable water or sanitary sewer system shall commence until Record Drawings have been submitted, approved, and accepted by the Department of Utility Services.
16. Upon completion of construction, utility system shall be flushed, disinfected, and tested in accordance with the current IRCDUS Specifications.

ATTACHMENT A

UTILITY CONSTRUCTION PERMIT – SPECIAL PROVISIONS

17. Project Closeout: At the time of final completion, an inspection shall be held by IRCDUS in the presence of the property owner, DEVELOPER, Contractor and Engineer-of-Record. At this time, the DEVELOPER shall provide all necessary documentation as required by the Utility Construction Permit and regulatory agencies, such as the FDEP. At the time of completion of all utility work, a final inspection shall be held. The DEVELOPER shall make arrangements with the Owner, Contractor, Engineer-of-Record and IRCDUS for a joint follow-up inspection and shall send a written notice to said parties to inform them of the date and time of the inspection. After the inspection, IRCDUS, through the Engineer-of-Record, shall inform the DEVELOPER of any corrections required.
18. The one-year maintenance period shall not commence until a final Certification-of-Construction – Completion and Request for Clearance to Place Permitted Components Into Operation (FDEP Form 62-555.900) has been prepared and approved by FDEP, and a Memo of Acceptance has been issued by IRCDUS.
19. Partial Utilization: IRCDUS shall have the right to utilize or place into service any utility equipment pursuant to FDEP Certificate-of-Construction Completion (FDEP Form 62-555.900) or other usable portion of the work prior to completion of the work. In such case, IRCDUS, identifying the specific portion or portions of the work to be so utilized or otherwise placed into service, will notify the DEVELOPER in writing. The DEVELOPER shall understand that until such written notification is issued, all responsibility for ownership, care and maintenance of the work shall be borne by the DEVELOPER. Upon issuance of said written notice of partial utilization, the DEVELOPER accept full responsibility for the protection and maintenance of all such items or portions of the work described in the written notice until final acceptance by IRCDUS. The DEVELOPER shall retain full responsibility for satisfactory completion of the work, regardless of whether a portion thereof has been partially utilized by IRCDUS and the DEVELOPER'S one-year correction period shall commence only after the date of Substantial Completion for the work. DEVELOPER shall be further responsible for submitting a final Certification-of-Construction Completion to FDEP for any outstanding portion of the work.
20. ALL IRCDUS REQUIRED DOCUMENTS / SUBMISSIONS MUST BE PROVIDED BY THE DEVELOPER PRIOR TO IRCDUS'S RELEASE OF THE PROJECT. Upon completion of construction and prior to placing the utility system into service, the requirements of IRCDUS's water and wastewater system Utility Construction Permit Checklist shall be satisfied. This shall include but is not limited to record drawings, easement dedications, bill-of-sales, etc.



**INDIAN RIVER COUNTY
DEPARTMENT OF UTILITY SERVICES
UTILITY CONSTRUCTION PERMIT CHECKLIST**

WATER CHECKLIST

Received	Description
	1. One (1) signed and dated, approved or red-lined set of as-built construction drawings by the project's County Inspector for approval by Utilities Engineering, prior to the submittal of the Final Record Drawings. Submittal of Final Record Drawings should consist of one (1) set of reproducible mylars, one (1) electronic disc and three (3) sets of blue/black line prints signed and sealed by the Engineer-of-Record or Licensed Surveyor. The Engineer-of-Record must be registered to practice in the State of Florida.
	2. Copy of a satisfactory hydrostatic pressure test signed by the Engineer-of-Record.
	3. One complete set of daily field inspection records prepared by the on-site inspector certified by the Engineer-of-Record to be submitted seven (7) days after completion of that portion requiring clearance.
	4. Copy of a satisfactory bacteriological main clearance certified by the Engineer-of-Record.
	5. Copy of a satisfactory trench backfill and compaction density test reports signed by the Engineer-of-Record.
	6. Certification by the Engineer-of-Record that the water line was sanitized in accordance with County specifications.
	7. Certification by the Engineer-of-Record that the construction of the water distribution system is complete and in accordance with County construction and material specifications. Any deviation from the approved construction drawings or County specifications must be specifically identified and justified by the Engineer.
	8. Copy of the Notice of Acceptance of Completion from the Florida Department of Environmental Protection (FDEP) authorizing the water distribution system to be placed into service.
	9. Backflow Preventer Certification(s), which includes domestic and fire lines and proof that the certification has been filed in accordance with the County Cross Connection Control Program's Backflow Management and Inspection Database. See http://www.ircutilities.com/CCCP.htm for further information.
	10. <u>Bill of Sale & Easement</u> - Dedication of the water distribution system and

Received	Description
	<p>accompanying easements. The dedication is to include an itemized list of all materials along with total materials, construction and engineering costs. <i>This will be coordinated through the IRC Attorney's Office once authorized by IRCDUS.</i></p>
	<p>11. <u>Bill of Sale</u> - Where the water distribution system is located in established easements or road rights-of-way, the attached bill of sale is to be executed along with an itemized list of all materials to include materials and construction costs. <i>This will be coordinated through the IRC Attorney's Office once authorized by IRCDUS.</i></p>
	<p>12. Complete on-site inspection by a County utility inspector with confirmation that the water distribution system appears acceptable.</p>
	<p>13. Arrangements for payment of all capacity charges and other costs of connections.</p>
	<p>14. Release of lien(s) from each Contractor, Subcontractor and Vendor.</p>
	<p>15. A one-year maintenance bond in an amount equaling 25% of the total cost for construction of the system if construction costs exceed \$10,000. If total construction costs are less than \$10,000, then a one-year warranty letter is required. The warranty letter can be issued by the developer or contractor.</p>



INDIAN RIVER COUNTY
DEPARTMENT OF UTILITY SERVICES
UTILITY CONSTRUCTION PERMIT CHECKLIST
WASTEWATER CHECKLIST

Received	Description
	1. One (1) signed and dated, approved or red-lined set of as-built construction drawings by the project's County Inspector for approval by Utilities Engineering, prior to the submittal of the Final Record Drawings. Final Record Drawings submittal should consist of one (1) set of reproducible mylars, one (1) electronic disc and three (3) sets of blue/black line prints signed and sealed by the Engineer-of-Record or Licensed Surveyor. The Engineer-of-Record must be registered to practice in the State of Florida.
	2. Copy of a satisfactory hydrostatic pressure test or infiltration/exfiltration test signed by the Engineer-of-Record.
	3. One complete set of daily field inspection records prepared by the on-site inspector certified by the Engineer-of-Record to be submitted seven (7) days after completion of construction of that portion requiring clearance.
	4. Copy of a satisfactory television test and a certified report by the Engineer-of-Record.
	5. Copy of a satisfactory trench backfill and compaction density test reports signed by the Engineer-of-Record.
	6. Certification by the Engineer-of-Record that the construction of the wastewater collection/transmission system is complete and in accordance with County construction and material specifications. Any deviation from the approved construction drawings or County specifications must be specifically identified and justified by the Engineer.
	7. Copy of the Notice of Acceptance of Completion from the Florida Department of Environmental Protection (FDEP) authorizing the wastewater collection/transmission system to be placed into service.
	8. <u>Bill of Sale & Easement</u> - Dedication of the wastewater collection/transmission system and accompanying easements. The dedication is to include an itemized list of all materials along with total materials, construction and engineering costs. <i>This will be coordinated through the IRC Attorney's Office once authorized by IRCDUS.</i>
	9. <u>Bill of Sale</u> - Where the wastewater collection/transmission system is located in established easements or road rights-of-way, the attached bill of sale is to be executed along with an itemized list of all materials to include materials and

Received	Description
	construction costs. <i>This will be coordinated through the IRC Attorney's Office once authorized by IRCDUS.</i>
	10. Complete on-site inspection by a County utility inspector with confirmation that the wastewater collection/transmission system appears acceptable.
	11. Arrangements for payment of all capacity charges and other costs of connections.
	12. Release of lien(s) from each Contractor, Subcontractor and Vendor.
	13. A one-year maintenance bond in an amount equaling 25% of the total cost for construction of the system if construction costs exceed \$10,000. If total construction costs are less than \$10,000, then a one-year warranty letter is required. The warranty letter can be issued by the developer or contractor.
	14. A set of lift station specifications (if applicable), two sets of operations and maintenance manuals, warranty, and all spare parts as required by IRCDUS standards.
	15. Transfer of lift station's electric account from Developer to County.
	16. If a PRIVATE Lift Station, an acknowledgment letter from Engineer/Owner, and copy of 24/7 lift station maintenance agreement with a qualified service and repair company having lift station maintenance experience.

Indian River County Department of Utility Services
1801 27th Street, Vero Beach, Florida 32960
Phone: 772-567-8000, Fax: 772-770-5143



Pre-Construction Meeting Requirements Engineer's Confirmation

(this form must be presented to the Utilities Inspector at the Pre-Con)

PROJECT NAME:

IRC UCP #:

ENGINEERING FIRM:

ENGINEER-OF-RECORD:

UNDERGROUND UTILITY CONTRACTOR:

DATE OF PRE-CONSTRUCTION MEETING:

By signing below, you confirm that:

1. All associated Water and/or Sewer connection fees have been paid.
2. All required permits for the proposed construction have been obtained.

E.O.R Signature: _____ **Date:** _____



FLORIDA DEPARTMENT OF Environmental Protection

Ron DeSantis
Governor

Jeanette Nuñez
Lt. Governor

Shawn Hamilton
Secretary

Southeast District Office
3301 Gun Club Road, MSC 7210-1
West Palm Beach, FL 33406
561-681-6600

August 30, 2023

In the Matter of an
Application for Permit by:

PERMITTEE:

David Johnson,
Chief
Emergency Services District of
Indian River County
1801 27th Street
Vero Beach, FL32960
djohnson@ircgov.com

PERMIT NUMBER: 0038890-044-DWC-CL

COUNTY: Indian River

PROJECT NAME: IRC Fire Station #7

WASTEWATER TREATMENT FACILITY: ICRUD/West
Regional WWTF

FACILITY ID: FL0041637

NOTICE OF PERMIT ISSUANCE

Enclosed is Permit Number 0038890-044-DWC-CL to construct domestic wastewater collection/transmission system, issued pursuant to 403.087(1), Florida Statutes.

NOTICE OF RIGHTS

This action is final and effective unless a petition for an administrative hearing is timely filed under Sections 120.569 and 120.57, F.S., before the deadline for filing a petition. On the filing of a timely and sufficient petition, this action will not be final and effective until further order of the Department. Because the administrative hearing process is designed to formulate final agency action, the hearing process may result in a modification of the agency action or even denial of the application.

Petition for Administrative Hearing

A person whose substantial interests are affected by the Department's action may petition for an administrative proceeding (hearing) under Sections 120.569 and 120.57, F.S. Pursuant to Rules 28-106.201 and 28-106.301, F.A.C., a petition for an administrative hearing must contain the following information:

- (a) The name and address of each agency affected and each agency's file or identification number, if known.
- (b) The name, address, any e-mail address, any facsimile number, and telephone number of the petitioner, if the petitioner is not represented by an attorney or a qualified representative; the name, address, and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests will be affected by the agency determination; A statement of when and how the petitioner received notice of the agency decision;
- (c) A statement of all disputed issues of material fact. If there are none, the petition must so indicate.
- (d) A concise statement of the ultimate facts alleged, including the specific facts that the petitioner contends warrant reversal or modification of the agency's proposed action.

- (e) A statement of the specific rules or statutes that the petitioner contends require reversal or modification of the agency's proposed action, including an explanation of how the alleged facts relate to the specific rules or statutes; and
- (f) A statement of the relief sought by the petitioner, stating precisely the action that the petitioner wishes the agency to take with respect to the agency's proposed action.

The petition must be filed (received by the Clerk) in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000, or via electronic correspondence at Agency_Clerk@dep.state.fl.us. Also, a copy of the petition shall be mailed to the applicant at the address indicated above at the time of filing.

Time Period for Filing a Petition

In accordance with Rule 62-110.106(3), F.A.C., petitions for an administrative hearing by the applicant and persons entitled to written notice under Section 120.60(3), F.S., must be filed within 14 days of receipt of this written notice. Petitions filed by any persons other than the applicant, and other than those entitled to written notice under Section 120.60(3), F.S., must be filed within 14 days of publication of the notice or within 14 days of receipt of the written notice, whichever occurs first. You cannot justifiably rely on the finality of this decision unless notice of this decision and the right of substantially affected persons to challenge this decision has been duly published or otherwise provided to all persons substantially affected by the decision. While you are not required to publish notice of this action, you may elect to do so pursuant Rule 62-110.106(10)(a).

The failure to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under [Sections 120.569](#) and 120.57, F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention (in a proceeding initiated by another party) will be only at the discretion of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205, F.A.C. If you do not publish notice of this action, this waiver will not apply to persons who have not received written notice of this action.

Extension of Time

Under Rule 62-110.106(4), F.A.C., a person whose substantial interests are affected by the Department's action may also request an extension of time to file a petition for an administrative hearing. The Department may, for good cause shown, grant the request for an extension of time. Requests for extension of time must be filed with the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000, or via electronic correspondence at Agency_Clerk@dep.state.fl.us, before the deadline for filing a petition for an administrative hearing. A timely request for extension of time shall tell the running of the time period for filing a petition until the request is acted upon.

Mediation: Mediation is not available in this proceeding.

Judicial Review

Once this decision becomes final, any party to this action has the right to seek judicial review pursuant to Section 120.68, F.S., by filing a Notice of Appeal pursuant to Florida Rules of Appellate Procedure 9.110 and 9.190 with the Clerk of the Department in the Office of General Counsel (Station #35, 3900 Commonwealth Boulevard, Tallahassee, Florida 32399-3000) and by filing a copy of the Notice of Appeal accompanied by the applicable filing fees with the appropriate district court of appeal. The notice must be filed within 30 days from the date this action is filed with the Clerk of the Department.

EXECUTION AND CLERKING

Executed in West Palm Beach, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION



Margie DeBerry
Environmental Manager
Permitting and Waste Cleanup Programs
Southeast District

Attachment(s):

Permit Number: 0038890-044-DWC-CL

CERTIFICATE OF SERVICE

The undersigned duly designated deputy clerk hereby certifies that this document and all attachments were sent on the filing date below to the following listed persons:

Norva Blandin, Florida DEP, Norva.Blandin@FloridaDEP.gov
Margie DeBerry, Florida DEP, Margie.DeBerry@FloridaDEP.gov
Ayyad Kit, Florida DEP, Ayyad.Kit@FloridaDEP.gov
Aaron Stanton, MBV Engineering, Inc., Aarons@mbveng.com
Amanda Gagnon, MBV Engineering, Inc., AmandaG@mbveng.com
Jesse Ronald, ICRUD/West Regional WWTF, jroland@ircgov.com
David Johnson, Emergency Services District of Indian River County, djohnson@ircgov.com

FILING AND ACKNOWLEDGMENT

FILED, on this date, pursuant to Section 120.52, F. S., with the designated Department Clerk, receipt of which is hereby acknowledged.

Vanessa Osborne

[Clerk]

August 30, 2023

[Date]



FLORIDA DEPARTMENT OF Environmental Protection

Southeast District Office
3301 Gun Club Road, MSC 7210-1
West Palm Beach, FL 33406
561-681-6600

Ron DeSantis
Governor

Jeanette Nuñez
Lt. Governor

Shawn Hamilton
Secretary

August 30, 2023

STATE OF FLORIDA DOMESTIC WASTEWATER COLLECTION/TRANSMISSION INDIVIDUAL PERMIT

PERMITTEE:

David Johnson,
Chief
Emergency Services District of
Indian River County
1801 27th Street
Vero Beach, FL32960
djohnson@ircgov.com

PERMIT NUMBER: 0038890-044-DWC-CL

ISSUANCE DATE: August 30, 2023

EXPIRATION DATE: August 29, 2028

COUNTY: Indian River

PROJECT NAME: IRC Fire Station #7

WASTEWATER TREATMENT FACILITY:

ICRUD/West Regional WWTF

FACILITY ID: FL0041637

This permit is issued under the provisions of [Chapter 403](#), Florida Statutes (F.S.), and [Chapters 62-4](#) and [62-604](#), Florida Administrative Code (F.A.C.).

The above-named permittee is hereby authorized to construct the facility shown on the application and other documents on file with the Department and made a part hereof and specifically described as follows:

DESCRIPTION OF PROJECT:

- 260 LF of 4-inch PVC Sanitary.
- 90 LF of 2-inch HDPE DR9 Force Main.
- 305 LF of 4-inch PVC DR21 Force Main.
- 2283 LF of 4-inch HDPE DR11 Force Main.
- 806 LF of 4-inch HDPE DR11 Force Main directionally-bored.
- Private Lift station 78.3 GPM @ 81 FT(TDH)

TO SERVE: Three commercial Facilities generating wastewater flow average of 750 GPD

LOCATION OF PROJECT:

IRC Fire Station #7 will be constructed at 2700 98th Avenue, FL 34966. Coordinates for the project are as follows: Latitude: 27° 38' 49.09" N, Longitude: 80° 31' 40".77 W.

IN ACCORDANCE WITH: The limitations, requirements and other conditions set forth in pages 1 through 3 of this permit.

PERMIT CONDITIONS:

1. This permit is subject to the general conditions of [Rule 62-4.160, F.A.C.](#), as applicable. [[62-4.160](#)]
2. Upon completion of construction of the collection/transmission system project, and before placing the facilities into operation for any purpose other than testing for leaks or testing equipment operation, the permittee shall submit [Form 62-604.300\(3\)\(b\), Notification of Completion of Construction for a Domestic Wastewater Collection/Transmission System](#). The form shall be submitted electronically by using the Department's Business Portal at <https://www.fldepportal.com/go/> (via "Submit" then "Registration/Notification" and "Submit Notifications to DEP." The submission is "Division of Water Resource Management Domestic/Industrial Wastewater" and the submittal type is "Notification of Completion of Construction for a Domestic Wastewater Collection/Transmission System."). This form is available at the Department's Internet site at: <https://floridadep.gov/water/domestic-wastewater/content/domestic-wastewater-forms>. [[62-604.700\(2\)](#)]
3. Permit revisions shall only be made in accordance with [Rule 62-4.050\(4\)\(s\), F.A.C.](#) Request for revisions shall be made to the Department in writing and shall include the appropriate fee. Revisions not covered under Rule 62-4.050(4)(s), F.A.C., shall require a new permit. [[62-604.600\(8\)](#)]
4. Abnormal events shall be reported to the Department's Southeast District Office in accordance with [Rule 62-604.550, F.A.C.](#) For unauthorized spills of wastewater in excess of 1000 gallons per incident, or where information indicates that public health or the environment may be endangered, oral reports shall be provided to the STATE WATCH OFFICE TOLL FREE NUMBER, (800) 320-0519, as soon as practical, but no later than 24 hours from the time the permittee or other designee becomes aware of the circumstances. Unauthorized releases or spills less than 1000 gallons per incident are to be reported orally to the Department's Southeast District Office within 24 hours from the time the permittee, or other designee becomes aware of the circumstances.

The oral notification shall be followed by a written submission, which shall be provided within five days of the time that the owner/operator becomes aware of the circumstances. The written submission shall contain: a description of the spill, release or abnormal event and its cause; the period and duration of noncompliance including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; clean-up actions taken and status; steps taken or planned to reduce, eliminate, and prevent recurrence; the type of sanitary sewer overflow structure (e.g., manhole); the discharge location address and latitude/longitude; type of water discharged; discharge volumes and volumes recovered; volume discharged to surface waters and receiving waterbody name; types of human health and environmental impacts of the sanitary sewer overflow (e.g., beach closure); whether the noncompliance was caused by a third party (e.g., contractor); and, whether the sanitary sewer overflow was related to wet weather. The written submission shall be provided electronically. Electronic submission is available using the [Department's Business Portal](#) at <https://www.fldepportal.com/go/> (via "Submit" followed by "Report" or "Registration/Notification").

In accordance with Section 403.077, F.S., unauthorized releases or spills reportable to the State Watch Office shall also require a public notice of pollution report. Reporting may be made or by reporting electronically using the [Department's Business Portal](#) at <https://www.fldepportal.com/go/> (via "Submit" followed by "Report" or "Registration/Notification") and selecting the option to also submit the public notice of pollution report, or reporting may be made to the [Department's Public Notice of Pollution](#) web page at <https://floridadep.gov/pollutionnotice>. [[62-604.550](#)]

5. Emergency Services District of Indian River County shall be responsible for operation and maintenance of the on-lot facilities associated with the alternative collection/transmission system authorized by this permit. [\[62-604.400\(3\)\]](#)
6. The owner shall be responsible for contracting with a licensed and insured environmental services company to provide routine inspection, maintenance and operation of the lift station and force main, located within owner's properties. The cost of the environmental services company described in this paragraph shall be an individual owner expense.

ADDITIONAL INFORMATION:

Once a collection/transmission system is cleared for operation, the provisions below shall be met by the owner/operator of the system in accordance with [Rule 62-604.500, F.A.C.](#)

1. All collection/transmission systems shall be operated and maintained to provide uninterrupted service. All pump stations shall be operated and maintained to provide the emergency pumping capability requirements in paragraph 62-604.400(2)(a), F.A.C., the lightning and transient voltage surge protections in paragraph 62-604.400(2)(b), F.A.C., and the design and signage requirements in paragraph 62-604.400(2)(d), F.A.C. Also, all equipment, pipes, manholes, pump stations, and other appurtenances necessary for the collection/transmission of domestic wastewater, including equipment provided pursuant to subsection 62-604.400(2), F.A.C., shall be maintained to function as intended. [\[62-604.500\(2\) and \(3\)\]](#)
2. The owner/operator of a collection/transmission system shall evaluate and update the emergency response plan portion of the operation and maintenance manual annually. The emergency response plan shall assess system security including cybersecurity; water quality monitoring for sanitary sewer overflows affecting surface waters; and hurricane and severe storm preparedness and response. [\[62-604.500\(4\)\]](#)
3. Collection/transmission systems shall be maintained to minimize excessive infiltration and inflow into the collection/transmission system, as well as excessive leakage from the collection/transmission system. The owner/operator of a collection/transmission system shall take corrective actions when infiltration, inflow, or leakage is excessive. Infiltration and inflow are considered excessive if one or both cause or contribute to sanitary sewer overflows. Leakage, or exfiltration, is considered excessive if it causes or contributes to a violation of surface water quality standards or ground water quality standards. [\[62-604.500\(5\)\]](#)
4. All collection/transmission systems shall be operated and maintained to prevent sanitary sewer overflows. Owners/operators shall evaluate the cause of all sanitary sewer overflows and evaluate potential corrective measures to avoid future sanitary sewer overflows. Corrective actions shall be taken by the owner/operator of the collection/transmission system if excessive inflow and infiltration causes or contributes to a sanitary sewer overflow. The owner/operator of a satellite collection system shall take corrective actions for a sanitary sewer overflow in the receiving collection system caused by excessive inflow and infiltration in the satellite collection system. [\[62-604.500\(6\)\]](#)
5. The approved Operation and Maintenance Manual and emergency response plan pursuant to [Rule 62-604.500\(4\), F.A.C.](#), shall be kept available at a site convenient for use by operation and maintenance personnel and for inspection by the Florida Department of Environmental Protection personnel. [\[62-604.500\(4\)\]](#)

PROJECT NAME: IRC Fire Station #7

PERMIT NUMBER: 0038890-044-DWC-CL

Executed in West Palm Beach, Florida

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION



Margie DeBerry
Environmental Manager
Permitting and Waste Cleanup Program
Southeast District

DATE: August 30, 2023

Jessica Hawkins

Subject: FW: DEP PW DSGP Issued - IRC Fire Rescue Station 7 0039206-1066
Attachments: PWSDSGPGeneralConditions_1_03.doc; PWSDSGPWMEXTENSION_1_02.docx;
PWSDSGPConstructionCompletion_1_02.docx; PWSDSGPClearanceRequest_1_02.pdf;
PWSDSGPMicrobialSampleCollection_1_02.doc

From: no-reply@dep.state.fl.us <no-reply@dep.state.fl.us>
Sent: Tuesday, August 15, 2023 8:32 AM
To: Aaron Stanton <aarons@mbveng.com>
Cc: djohnson@ircgov.com; jroland@ircgov.com; djohnson@ircgov.com; Angel.Morales@FloridaDEP.gov;
SED_Permitting@dep.state.fl.us
Subject: DEP PW DSGP Issued - IRC Fire Rescue Station 7 0039206-1066



**FLORIDA DEPARTMENT OF
Environmental Protection**

Bob Martinez Center
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Ron DeSantis
Governor

Jeanette Nuñez
Lt. Governor

Shawn Hamilton
Secretary

NOTICE OF ACCEPTANCE TO USE A GENERAL PERMIT

For:
Construction of Water Main Extensions for PWSs

08/15/2023

Permittee:

David Johnson
Chief
Emergency Services District of Indian River County
1801 27th Street, Vero Beach FL 32960
Sent by E-mail: djohnson@ircgov.com

Permit Number: 0039206-1066
Issue Date: 08/15/2023
Expiration Date: 08/14/2028
County: INDIAN RIVER
Project Name: IRC Fire Rescue Station 7

Water Supplier Name: INDIAN RIVER COUNTY UTILITIES (2 WTPS)

Water Supplier ID: 3314052

Dear Aaron Stanton:

On 08/08/2023, the Department received your Notice of Intent to Use the General Permit for Construction of Water Main Extensions for PWSs, under the provisions of Rules 62-4.530 and 62-555.405, Florida Administrative Code (F.A.C.). The Department does not object to the use of a General Permit for the activity described. Your general permit number is listed above; please refer to this number in all correspondence or inquiries regarding this permit. The activity covered under this general permit must conform to the description contained in your notice and any supplemental information. Any deviation will subject the Permittee to enforcement action and possible penalties.

Proposed Project Description and its Purpose: Construction of 476 LF of 8-inch HDPE DR11 directionally-bored water main, 1352 LF of 8-inch C900 DR18 water main, 34 LF of 8-inch PVC fire line, 80 LF of 6-inch PVC water main, 96 LF of 6-inch PVC fire line, 46 LF of 4" PVC FDC line, 138 LF 2" PVC water service, (5) 8" gate valves, (1) 6" gate valve, (1) 2" gate valve, (4) fire hydrant assemblies, (1) FDC w P.I.V., (1) 6" DDCV, (1) 2" water meter w/ RPZ, (1) 2" service saddle, (1) 8"x6" tee, (1) 2" blowoff, (1) connection to existing WM, and (1) 8" tee.

Project Location: 32-38-34-00000-1000-00005.0

Permit Remarks: Indian River County Fire Rescue Station 7

Any activities performed under this general permit are subject to the general conditions required in Rule 62-4.540, F.A.C. and the general conditions applicable to this general permit in Rule 62-555.405, F.A.C.; copies of which are provided as attachments to this document. You should become familiar with the General Conditions and any sampling and/or reporting requirements for which you may be responsible. This General Permit does not relieve you, the permittee, from the responsibility for obtaining any other permits required by the Department or any federal, state or local agency.

Upon completion of construction of the project and before placing into operation for any purpose other than testing for leakage, disinfection or testing equipment operations, you are required to obtain a clearance from the Department per the attached requirements.

Copies of satisfactory bacteriological analysis taken within sixty (60) days of completion of construction shall be submitted to the Department. Samples shall be taken from locations within the distribution system or water main extension to be cleared, in accordance with Rules 62-555.315(6), 62-555.330, and 62-555.340, F.A.C. and American Water Works Association (AWWA) Standard C 651-92, as follows:

Description of Sampling Points: Project will include three (3) sample point locations.

Each location shall be sampled on two consecutive days, with sample points, chlorine residual readings, and presence or absence of total coliform clearly indicated on the report. A sketch or description of all bacteriological sampling locations must also be provided.

CLEARANCE REQUIREMENTS

To review clearance requirements and submit clearance documentation, please visit the ESSA electronic portal at: https://prodenv.dep.state.fl.us/DepEssa/coreenginestart?name=dwrm_pwc&Create=new.

If you have any questions or comments regarding coverage under the General Permit, please contact Angel Morales by e-mail at Angel.Morales@FloridaDEP.gov.

NOTICE OF RIGHTS

This action is final and effective on the date filed with the Clerk of the Department unless a petition for an administrative hearing is timely filed under Sections 120.569 and 120.57, F.S., before the deadline for filing a petition. On the filing of a timely and sufficient petition, this action will not be final and effective until further order of the Department. Because the administrative hearing process is designed to formulate final agency action, the hearing process may result in a modification of the agency action or even denial of the application.

Petition for Administrative Hearing

A person whose substantial interests are affected by the Department's action may petition for an administrative proceeding (hearing) under Sections 120.569 and 120.57, F.S. Pursuant to Rules 28-106.201 and 28-106.301, F.A.C., a petition for an administrative hearing must contain the following information:

- a. The name and address of each agency affected and each agency's file or identification number, if known;
- b. The name, address, and telephone number of the petitioner; the name, address, and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests are or will be affected by the agency determination;
- c. A statement of when and how the petitioner received notice of the agency decision;
- d. A statement of all disputed issues of material fact. If there are none, the petition must so indicate;
- e. A concise statement of the ultimate facts alleged, including the specific facts that the petitioner contends warrant reversal or modification of the agency's proposed action;
- f. A statement of the specific rules or statutes that the petitioner contends require reversal or modification of the agency's proposed action, including an explanation of how the alleged facts relate to the specific rules or statutes; and
- g. A statement of the relief sought by the petitioner, stating precisely the action that the petitioner wishes the agency to take with respect to the agency's proposed action.

The petition must be filed (received by the Clerk) in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000, or via electronic correspondence at Agency_Clerk@dep.state.fl.us. Also, a copy of the petition shall be mailed to the applicant at the address indicated above at the time of filing.

Time Period for Filing a Petition

In accordance with Rule 62-110.106(3), F.A.C., petitions for an administrative hearing by the applicant and persons entitled to written notice under Section 120.60(3), F.S., must be filed within 14 days of receipt of this written notice. Petitions filed by any persons other than the applicant, and other than those entitled to written notice under Section 120.60(3), F.S., must be filed within 14 days of receipt of the written notice, whichever occurs first. The failure to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under Sections 120.569

and 120.57, F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention (in a proceeding initiated by another party) will be only at the discretion of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205, F.A.C.

Extension of Time

Under Rule 62-110.106(4), F.A.C., a person whose substantial interests are affected by the Department's action may also request an extension of time to file a petition for an administrative hearing. The Department may, for good cause shown, grant the request for an extension of time. Requests for extension of time must be filed with the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000, or via electronic correspondence at Agency_Clerk@dep.state.fl.us, before the deadline for filing a petition for an administrative hearing. A timely request for extension of time shall toll the running of the time period for filing a petition until the request is acted upon.

Mediation

Mediation is not available in this proceeding.

FLAWAC Review

The applicant, or any party within the meaning of Section 373.114(1)(a) or 373.4275, F.S., may also seek appellate review of this order before the Land and Water Adjudicatory Commission under Section 373.114(1) or 373.4275, F.S. Requests for review before the Land and Water Adjudicatory Commission must be filed with the Secretary of the Commission and served on the Department within 20 days from the date when this order is filed with the Clerk of the Department.

Judicial Review

Once this decision becomes final, any party to this action has the right to seek judicial review pursuant to Section 120.68, F.S., by filing a Notice of Appeal pursuant to Florida Rules of Appellate Procedure 9.110 and 9.190 with the Clerk of the Department in the Office of General Counsel (Station #35, 3900 Commonwealth Boulevard, Tallahassee, Florida 32399-3000) and by filing a copy of the Notice of Appeal accompanied by the applicable filing fees with the appropriate district court of appeal. The notice must be filed within 30 days from the date this action is filed with the Clerk of the Department.

EXECUTION AND CLERKING

Executed in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

Enclosures:

All supporting documentation provided by the applicant can be found here:

<https://prodenv.dep.state.fl.us/DepNexus/public/electronic-documents/0039206-1066/permit>

This link will not be available immediately. These documents will be available no later than 3 days from the date of issuance of this permit.

Attachments:

1. General Conditions for All General Permits, Rule 62-4.540, F.A.C., effective date 8/31/1988
2. Requirements for this General Permit, Construction of Water Main Extensions for Public Water Systems, Rule 62-555.405, F.A.C., effective date 8/28/2003
3. Certification of Construction Completion and Clearance for Public Water System Components, Rule 62-555.345, F.A.C., effective date 8/28/2003

4. Certification of Construction Completion and Request for Clearance to Place Permitted PWS Components into Operation, Form 62-555.900(9), F.A.C., effective date 8/28/2003
5. Drinking Water Microbial Sample Collection & Laboratory Reporting format, Form 62-550.730 Reporting Format effective 01/1995, Revised 02/2010

CERTIFICATE OF SERVICE

Enterprise Self-Service Authorization System (ESSA) hereby certifies that this document and all attachments were sent on the filing date below to the following listed persons:

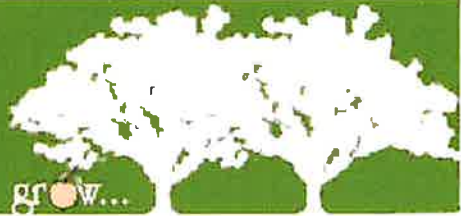
Aaron Stanton
David Johnson
Angel Morales

FILING AND ACKNOWLEDGMENT

FILED, on this date, pursuant to Section 120.52, F. S.

ESSA
Clerk

08/15/2023
Date



Fellsmere

April 11, 2024

Mr. Todd Howder P.E.
MBV Engineering Inc.
1835 20th Street
Vero Beach, FL 32960

Re: 9700 26th Place, Fellsmere Fire Station #7 Site Construction Plan- Approval

Dear Mr. Howder,

This letter shall serve as the approval of the site construction plans for the Fellsmere Fire Station #7. The City is in receipt of all required agency permits and all comments related to the construction plan have been addressed. The city is awaiting final payment for all building-related permits.

As utility service is being provided by Indian River County and off-site stormwater outfall leads to a county right-of-way, please coordinate directly with the county on required inspections for utility and stormwater installations. The City will be involved with a final inspection of the sitework, including landscape installation. A final as-built plan of the work shall be provided to the City in .pdf and AutoCAD format (2013 compatible) prior to issuance of a Certificate of Occupancy.

Finally, the City is in receipt of the building permit plans and it appears that all construction documents have been reviewed and approved; with any remaining comments to be provided directly to the contact provided on the building permit application form. Should you have any additional questions or concerns, please feel free to contact me at my office at your earliest convenience.

Sincerely,

Robert Loring Assoc. AIA/APA
City Planner
22 S. Orange Street
Fellsmere, FL 32948
Tel: (772) 646-6322

Cc: Mark Mathes, City Manager
Warren Dill Esq.
file

RESOLUTION NO. 2023-50

A RESOLUTION OF THE CITY OF FELLSMERE, INDIAN RIVER COUNTY, FLORIDA, APPROVING THE FINAL DEVELOPMENT PLAN FOR A PLANNED DEVELOPMENT BY INDIAN RIVER COUNTY, FLORIDA/EMERGENCY SERVICE DISTRICT FOR FIRE STATION 7 ON THE CORRIGAN RANCH; PROVIDING FOR RATIFICATION; PROVIDING FOR CONSISTENT WITH THE COMPREHENSIVE PLAN AND LAND DEVELOPMENT CODE; PROVIDING FOR FINAL DEVELOPMENT PLAN APPROVAL WITH CONDITIONS; AND FURIBER PROVIDING FOR SEVERABILITY, REPEAL OF CONFLICTING PROVISIONS AND AN EFFECTIVE DATE.

WHEREAS, Indian River County, the owner of the land described herein, (the "Applicant" or "Owner") filed an Application with the City of Fellsmere for a Final Development Plan for Fire Station 7 with accessory and office uses (the "Project"); and

WHEREAS, the Applicant owns 3.0 acres, more or less, as described on Exhibit "A" attached hereto and by this reference made a part hereof (the "Property"); and

WHEREAS, the Applicant submitted an Application for Planned Development District Zoning for the development of the Property to be adopted along with the Final Development Plan; and

WHEREAS, the Planning and Zoning Commission/Local Planning Agency held a duly noticed public meeting on December 6 2023 to review the Final Development Plan for the Project and determined that it is in conformance with the official plans and policies of the City and the requirements of Article XVII Section 17.15 of the Land Development Code and recommended that the City Council approve the Final Development Plan; and

WHEREAS, the City Council has determined at a duly advertised public hearing that the Final Development Plan is in the best interest of the public health, safety, environmental and general welfare and that it is appropriate to approve the Final Development Plan subject to the conditions contained herein.

NOW, IBEREFOR, BE IT RESOLVED, by the City Council of the City of Fellsmere, Indian River County, Florida, as follows:

SECTION 1. RATIFICATION. The above recitals are hereby ratified, confirmed and adopted as legislative findings by the City Council.

SECTION 2. CONSISTENT WITH COMPREHENSIVE PLAN AND LAND DEVELOPMENT CODE. The Final Development Plan for the Project meets the provisions of the Comprehensive Plan and Land Development Code Section 17.15. The following additional findings of fact are made:

- a. There are adequate public facilities to service the proposed use and complies with Section I7.24 Concurrency Management of the Code.
- b. There is adequate fire protection to service the proposed use.

- c. Ingress and egress to Property and proposed structures are adequate with reference to automotive and pedestrian safety, traffic flow and control, provision of services, and access in case of fire or catastrophe.
- d. Off-street parking areas are adequate with conditions imposed, with attention to automotive and pedestrian safety, traffic flow and control, access in case of fire or catastrophe, convenience to the units it is designed to serve, and landscaping for the buffering of abutting property where applicable.
- e. Recreation and open spaces are adequate, with attention to the location, size and development of the areas in regard to their adequacy, their effect on privacy of adjacent living areas, and their relationship to community wide open spaces and recreation facilities.
- f. Density of development is adequate, within the framework of the permitted density.
- g. General character and compatibility are adequate, with reference to ensuring the proposed development will be designed so as not to cause substantial depreciation of property values or reduce the safety, light and general convenience of neighboring developments.
- h. The environmental impact of the development is acceptable on the total land area of the Property including how development will affect protected species, wetlands, surficial aquifer recharge areas, physical features, and natural resources.
- i. Renderings, architectural elevations, or photographs of the proposed development are adequate.
- j. Water and sewer improvements are in accordance with standards and specifications of the City.
- k. The Final Development Plan provides for dedication of the necessary rights-of-way.

SECTION 3. FINAL DEVELOPMENT PLAN APPROVAL WITH CONDITIONS.

The Final Development Plan dated June 2023 prepared by MBV Engineering, Inc. as signed by the Mayor on December 7, 2023 and maintained on file in the Community Development Department and City Clerk's office is approved. The following conditions shall apply.

- 1) The use, occupancy, development, phasing or redevelopment of the Property shall be limited to and in accordance with the Final Development Plan attached as Exhibit "B", and by this reference made a part hereof. Where specific provisions in this Resolution or in the Land Development Code are not addressed on the Final Development Plan, the specific provisions of this Resolution or in the Land Development Code shall apply to the development of the Property.
- 2) Before commencement of development, the Applicant shall obtain all Federal, State, County and Local permits as may be applicable to any new development, redevelopment, or use of the Property and to continuously keep such permits current and in good standing. Issuance of this development order by the City does not create any right on the part of the

Applicant to obtain a permit from a Federal, State, County or Local agency and does not create any liability on the part of the City for issuance of a development order if the Applicant fails to obtain requisite approvals or fulfill the obligations imposed by a Federal, State, County or Local agency or undertakes actions that result in a violation of Federal, State, County or Local law. See Section 166.33 F.S.

- 3) After the first year following the issuance of a Certificate of Occupancy or a final inspection for the improvements, the City Council shall have the authority to hold hearings at any time, upon notice to the Applicant and the property owner, to review the activity for compliance with all conditions and requirements of approval and all applicable ordinances and resolutions of the City. If the land use of the Property is not in compliance with the use specified in the approved Planned Development and the conditions in this Resolution, the City Council may amend the Conditions of Approval, terminate the Planned Development Permit or refer the matter to the Code Enforcement Special Master as a code violation for other sanctions as deemed appropriate.
- 4) All public or private improvements required under the terms of this Resolution shall be constructed at the expense of and by the Applicant as approved by the City.
- 5) The Applicant shall obtain all necessary permits, deeds, easements or other legal instruments as required to construct all necessary public or private improvements.
- 6) If the parking, vehicular access or unpaved status of the site or access roadway are determined by the City, at its sole discretion, to be inadequate to serve the demand generated by the use of the Property, the Applicant shall be required to submit an application for a site construction plan to provide additional legal parking, modify vehicular access areas, within sixty (60) days of receiving written notice from the City. If said additional legal parking, modified vehicular access areas or paving of the access roadway cannot be provided, the use of the Property and occupancy of the structure shall be restricted commensurate with the available parking, vehicular access, and unpaved nature of the site to support such use.
- 7) Relief from the following Sections of the Land Development Code are approved until major redevelopment or the occurrence of the stated activity as determined by the City:
 - A. Section 7.9.A.2, Sidewalks, bicycle facilities and multi-use-paths- waive multi-use path along the access roadway to the site and 98th Avenue or payment of \$14,960 for both sidewalks in lieu thereof until such time as a non-governmental site plan approval occurs on site or until 26th Street is paved or widened, whichever occurs first; and

For the purposes of this Resolution, major redevelopment is defined as any development on the Property that exceeds 50% of the assessed value prior to onset of such development as set forth by the Indian River County Property Appraiser's Office.

- 8) For calculating any time periods required by this Resolution, the first day shall start on the effective date of this Resolution.
- 9) The Applicant shall provide an electronic as-built plan to the City within ninety (90) days of completion of the Project in a form acceptable to the City.
- 10) A violation of any of the conditions or requirements of approval shall constitute a code

violation subject to enforcement through the Code Enforcement Special Master, unless a different remedy is specifically provided in any such condition or requirement, in which case such different remedy shall supersede this provision or be in addition to code enforcement action.

SECTION 4. SEVERABILITY. If any section, part of a sentence, paragraph, phrase or word of this Resolution is for any reason held to be unconstitutional, inoperative or void, such holding shall not affect the remaining portions hereof and it shall be construed to have been the legislative intent to pass this Resolution without such unconstitutional, invalid or inoperative part.

SECTION 5. REPEAL OF CONFLICTING PROVISIONS. All previous resolutions or parts thereof, which conflict with the provisions of this Resolution, to the extent of such conflict, are superseded and repealed.

SECTION 6. EFFECTIVE DATE. This Resolution shall take effect concurrently with the effective date of Ordinance No. 2023-28. If Ordinance No. 2023-28 does not become effective, this Resolution shall automatically become void and of no further force or effect.

The foregoing Resolution was moved for adoption by Council Member Renick Hernandez The motion was seconded by Council Member _____ and, upon being put to a vote, the vote was as follows:

Mayor, Joel Tyson	<u>Yes</u>
Council Member Fernando Herrera	<u>Yes</u>
Council Member Inocencia Hernandez	<u>Yes</u>
Council Member Gerald Renick	<u>Yes</u>
Council Member Jessica Salgado	<u>Yes</u>

The Mayor thereupon declared this Resolution duly passed and adopted this 7 day of December, 2023.

CITY OF FELLSMERE, FLORIDA

Joel Tyson

Joel Tyson, Mayor



ATTEST:

Maria Suarez-Sanchez
Maria Suarez-Sanchez, CMC, City Clerk

HEREBY CERTIFY that Notice of the public hearings on this Resolution was published in the Press Journal, as required by the Land Development Code, that the foregoing Resolution was duly passed and adopted on the 7 day of December 2023, and the first reading was held on the 16 day of November, 2023, and the second reading and public hearing was held on the 7 day of December 2023.

Maria Suarez-Sanchez
Maria Suarez-Sanchez, CMC, City Clerk

11-15-2023

EXHIBIT "A"
TO
RESOLUTION NO. 2023-50

LEGAL DESCRIPTION

Sketch and Legal Description for: INDIAN RIVER COUNTY

Legal Description

BEING A PARCEL OF LAND LYING IN THE SOUTHWEST ONE QUARTER OF SECTION 34, TOWNSHIP 32 SOUTH, RANGE 38 EAST, INDIAN RIVER COUNTY, FLORIDA, SAID PARCEL ALSO BEING A PORTION OF THOSE LANDS AS DESCRIBED IN OFFICIAL RECORD BOOK 1612, PAGE 1824, PUBLIC RECORDS OF INDIAN RIVER COUNTY, FLORIDA. SAID PARCEL BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

THE NORTH 361.50 FEET, OF THE SOUTH 491.50 FEET, OF THE EAST 361.50 FEET, OF THE WEST 461.50 FEET OF THE SOUTHWEST ONE QUARTER OF SAID SECTION 34, TOWNSHIP 32 SOUTH, RANGE 38 EAST.

CONTAINING 130,680 SQUARE FEET, (3.00 ACRES) MORE OR LESS

Surveyor's Notes

- 1). THIS SKETCH AND LEGAL DESCRIPTION WAS PREPARED WITH THE BENEFIT OF A BOUNDARY SURVEY PREPARED BY CARTER ASSOCIATES, INC., PROJECT NO. 01-580S, DATED AUGUST 15, 2001.
- 2). THIS LEGAL DESCRIPTION SHALL NOT BE VALID UNLESS:
 - (A) PROVIDED IN ITS ENTIRETY CONSISTING OF 2 SHEETS, WITH SHEET 2 SHOWING THE SKETCH OF DESCRIPTION.
 - (B) REPRODUCTIONS OF THE DESCRIPTION AND SKETCH ARE SIGNED AND SEALED WITH AN EMBOSSED SURVEYOR'S SEAL.

Certification

(NOT VALID WITHOUT THE SIGNATURE AND ORIGINAL
RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER)


Legend and Abbreviations

I.R.F.W.C.D. = INDIAN RIVER FARMS
WATER CONTROL DISTRICT

I HEREBY CERTIFY THAT THE SKETCH AND LEGAL DESCRIPTION OF THE PROPERTY SHOWN AND DESCRIBED HEREON WAS COMPLETED UNDER MY DIRECTION AND SAID SKETCH AND LEGAL IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

I FURTHER CERTIFY THAT THIS SKETCH AND DESCRIPTION MEETS THE STANDARDS OF PRACTICE FOR SURVEYS SET FORTH BY THE FLORIDA PROFESSIONAL BOARD OF SURVEYORS AND MAPPERS IN CHAPTER 6J-17.052 FLORIDA ADMINISTRATIVE CODE, PURSUANT TO SECTION 472.027 FLORIDA STATE STATUTES.

10-6-23
DATE OF SIGNATURE


DAVID W. SCHRYVER
PROFESSIONAL SURVEYOR AND MAPPER
FLORIDA CERTIFICATE NO. 4864

This is not a Boundary Survey

AGENCY: INDIAN RIVER COUNTY, FL PUBLIC WORKS DEPT./ENGINEERING DIV.	
DATE: 09/22/2021	DRAWN BY: R. INGLETT
SCALE: N/A	APPROVED BY: D. SCHRYVER
SHEET: 1 OF 2	JOB NO: IRC-3051

Sketch and Legal Description
for:
INDIAN RIVER COUNTY

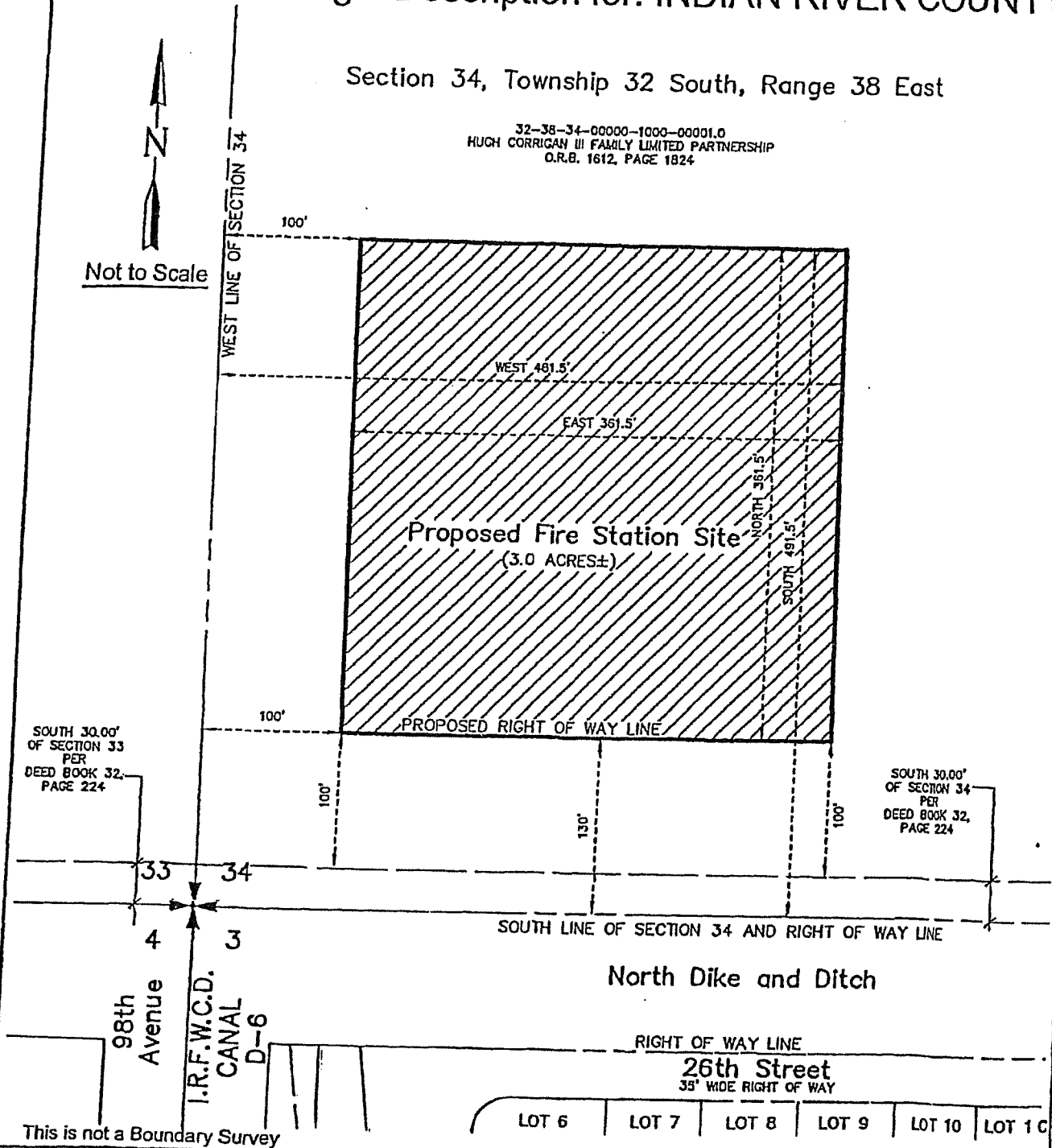
Sketch and Legal Description for: INDIAN RIVER COUNTY

Section 34, Township 32 South, Range 38 East

32-38-34-00000-1000-00001.0
 HUGH CORRIGAN III FAMILY LIMITED PARTNERSHIP
 O.R.B. 1612, PAGE 1824



Not to Scale



This is not a Boundary Survey

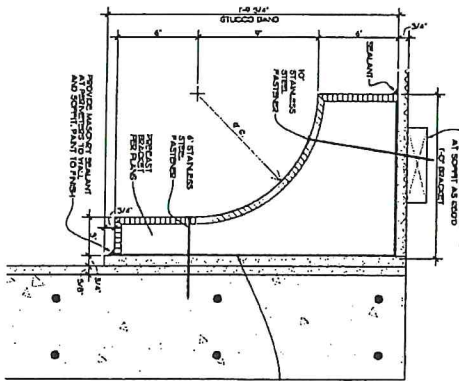
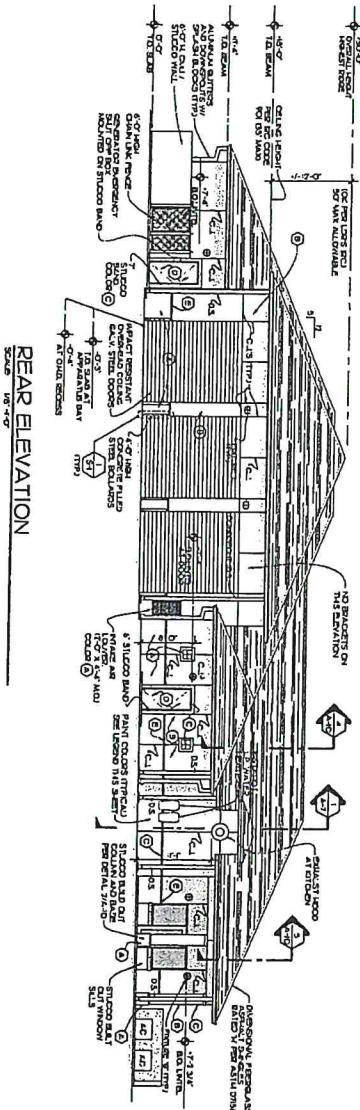
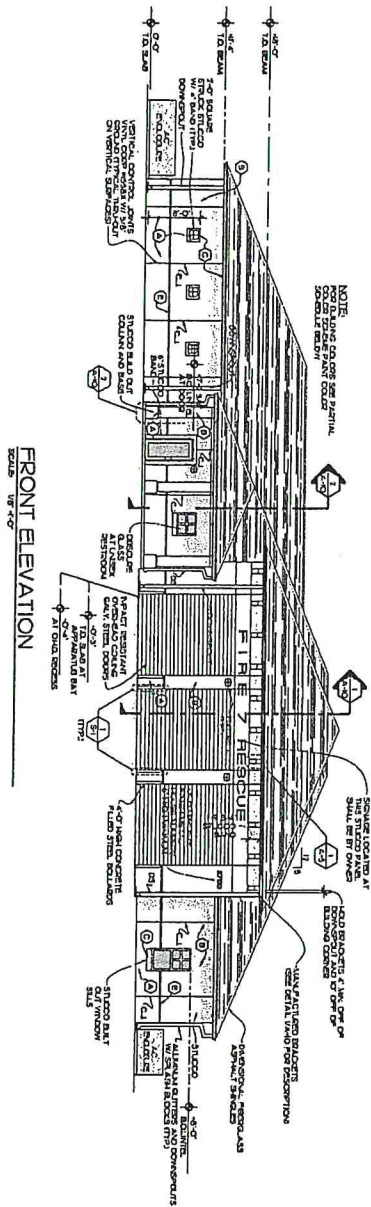
AGENCY:		INDIAN RIVER COUNTY, FL PUBLIC WORKS DEPT./ENGINEERING DIV.	
DATE: 09/22/2021	DRAWN BY: R. INGLETT		
SCALE: N/A	APPROVED BY: D. SCHRYVER		
SHEET: 2 OF 2	JOB NO: IRC-3051		

Sketch and Legal Description
 for:
 INDIAN RIVER COUNTY

11-15-2023

EXHIBIT "B"
TO
RESOLUTION NO. 2023-50
FINAL DEVELOPMENT PLAN

Joe Tyson
 Mayor Joe Tyson 12/07/23



NOTE: ALL PAINTS SHALL BE APPLIED TO THE SURFACE OF THE WALLS AND CEILING. ALL PAINTS SHALL BE APPLIED TO THE SURFACE OF THE WALLS AND CEILING. ALL PAINTS SHALL BE APPLIED TO THE SURFACE OF THE WALLS AND CEILING.

PAINT COLOR SCHEDULE

1	BASE SILICO COLOR
2	SILICO FIELD COLOR
3	SILICO TRIM & BAND PAINTS / DOORS / PARTITION / STAIR
4	PAINT SILICO TRIM & BAND

LIGHT FIXTURE MOUNTING HEIGHTS

1. WALL FIXTURE AT APPROXIMATE 8'-0\"/>

NOTE: ALL MOUNTING HEIGHTS SHALL BE TO THE CENTER OF THE LIGHT FIXTURE UNLESS OTHERWISE NOTED.

DETAIL

GENERAL NOTE: ALL MATERIALS SHALL BE AS SHOWN UNLESS OTHERWISE NOTED. ALL MATERIALS SHALL BE AS SHOWN UNLESS OTHERWISE NOTED. ALL MATERIALS SHALL BE AS SHOWN UNLESS OTHERWISE NOTED.

SHEET NO. A-5 OF 1 PARTS	PROJECT: STATION #7 FOR: INDIAN RIVER COUNTY FIRE DISTRICT 1840 PALM STREET VERO BEACH, FL 32960	SCALE:	ARCHITECTS: EDLUND - DRITENBAS - BINKLEY ARCHITECTS AND ASSOCIATES, P.A. 45-14 CROSS 65 ROYAL PALM POINTE, SUITE "D" VERO BEACH, FLORIDA 32960 PHONE: (772) 569-4320
	DATE:	REVISIONS:	DRAWN BY:

APPENDIX B

INDIAN RIVER COUNTY FERTILIZER ORDINANCES

ORDINANCE NO. 2013 - 012

AN ORDINANCE OF THE BOARD OF COUNTY COMMISSIONERS OF INDIAN RIVER COUNTY, FLORIDA, AMENDING THE CODE OF INDIAN RIVER COUNTY TO ESTABLISH A NEW CHAPTER 316, ENTITLED "FERTILIZER AND LANDSCAPE MANAGEMENT;" ADOPTING THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION'S MODEL ORDINANCE FOR FLORIDA-FRIENDLY USE OF FERTILIZER ON URBAN LANDSCAPES, WITH MODIFICATIONS; MAKING FINDINGS AND PROVIDING FOR SEVERABILITY, CODIFICATION; DIRECTING COUNTY ATTORNEY'S OFFICE TO POST SUMMARY ON COUNTY WEBSITE, AND AN EFFECTIVE DATE.

WHEREAS, as a result of impairment to Indian River County's surface waters caused by excessive nutrients, or, as a result of increasing levels of nitrogen in the surface and/or ground water within the aquifers or canals within the boundaries of Indian River County, the Board of County Commissioners has determined that the use of fertilizers on lands within Indian River County creates a risk of contributing to adverse effects on surface and/or ground water; and

WHEREAS, in order to address this risk, the Board of County Commissioners has determined that it is not only critical to adopt the Florida Department of Environmental Protection's Model Ordinance for Florida-Friendly Use of Fertilizer on Urban Landscapes, but that as part of Indian River County's science-based, and economically and technically feasible, comprehensive program to address nonpoint sources of nutrient pollution, additional and more stringent standards are necessary in order to adequately address urban fertilizer contributions to nonpoint source nutrient loading to the surface and/or ground water of Indian River County; and

WHEREAS, this ordinance regulates the proper use of fertilizers by any applicator; requires proper training of Commercial Fertilizer Applicators and Institutional Fertilizer Applicators; establishes training and licensing requirements; establishes a Prohibited Application Period; and specifies allowable fertilizer application rates and methods, fertilizer-free zones, low maintenance zones, and exemptions. The ordinance requires the use of Best Management Practices which provide specific management guidelines to minimize negative secondary and cumulative environmental effects associated with the misuse of fertilizers. These secondary and cumulative effects have been observed in and on Indian River County's natural and constructed stormwater conveyances, rivers, creeks, canals, lakes, estuaries and other water bodies. Collectively, these water bodies are an asset critical to the environmental, recreational, cultural and economic well-being of Indian River County residents and the health of the public. Overgrowth of algae and vegetation hinder the effectiveness of flood attenuation provided by natural and constructed stormwater conveyances. Regulation of nutrients, including both phosphorus and nitrogen contained in fertilizer, will help improve and maintain water and habitat quality,

ORDINANCE NO. 2013 - 012

NOW, THEREFORE, BE IT ORDAINED BY THE BOARD OF COUNTY COMMISSIONERS OF INDIAN RIVER COUNTY, FLORIDA, THAT:

Section 1. Enactment Authority.

Article VIII, §1 of the Florida Constitution and Chapter 125, Florida Statutes vest broad home rule powers in counties to enact ordinances, not inconsistent with general or special law, for the purpose of promoting the public health, safety and welfare of the residents of the county. The Board specifically determines that the enactment of this ordinance is consistent with general or special law, and is necessary and appropriate to promote the health, safety and welfare of the residents of Indian River County.

Section 2. Findings.

The Board finds that the above "Whereas" clauses are true and correct, and hereby incorporates such clauses as findings of the Board.

Section 3. Adoption of Chapter 316 of the Code of Indian River County (the "Code").

Chapter 316 of the Code is hereby adopted, as follows (new language is indicated by underline):

Section 316.1. Title.

This chapter shall be known as the "Indian River County Fertilizer and Landscape Management Ordinance."

Section 316.2. Definitions.

For the purposes of this chapter, the following terms shall have the following meanings:

"Administrator" shall mean the County Administrator, or an administrative official of the County designated by the County Administrator to administer and enforce the provisions of this chapter.

"Application" or "apply" shall mean the actual physical deposit of fertilizer to turf or landscape plants.

"Applicator" shall mean any Person who applies fertilizer on turf and/or landscape plants in Indian River County.

"Board" shall mean the Indian River County Board of County Commissioners.

"Best Management Practices" shall mean turf and landscape practices or combination of practices based on research, field-testing, and expert review, determined to be the most effective

ORDINANCE NO. 2013 - _____

and practicable on-location means, including economic and technological considerations, for improving water quality, conserving water supplies and protecting natural resources.

“Chapter 85-427” shall mean The Indian River County Environmental Control Act, Chapter 85-427, Special Acts, Laws of Florida.

“Code Enforcement Officer shall mean any designated employee or agent of Indian River County whose duty it is to enforce codes and ordinances enacted by Indian River County.

“Commercial Fertilizer Applicator,” except as provided in §482.1562(9), Florida Statutes, shall mean any person who applies fertilizer for payment or other consideration to property not owned by the person or firm applying the fertilizer or the employer of the applicator.

“Code” shall mean The Code of Indian River County.

“Environmental Control Officer” shall mean the Indian River County Environmental Control Officer appointed by the Board pursuant to Chapter 85-427, and Chapter 303 (Part I) of this Code, and his or her designees.

“Fertilize,” “fertilizing,” or “fertilization” shall mean the act of applying fertilizer to turf, specialized turf, or landscape plants.

“Fertilizer” shall mean any substance or mixture of substances that contains one or more recognized plant nutrients and promotes plant growth, or controls soil acidity or alkalinity, or provides other soil enrichment, or provides other corrective measures to the soil.

“Heavy rain” shall mean rainfall greater than two inches in a 24 hour period.

“Institutional Fertilizer Applicator” shall mean any person, other than a private, non-commercial applicator or a Commercial Fertilizer Applicator (unless such definitions also apply under the circumstances), that applies fertilizer for the purpose of maintaining turf and/or landscape plants. Institutional Fertilizer Applicators shall include, but shall not be limited to, owners, managers or employees of public lands, schools, parks, religious institutions, utilities, industrial or business sites and any residential properties maintained in condominium and/or common ownership.

“Landscape plant” shall mean any native or exotic tree, shrub, or groundcover (excluding turf).

“Low maintenance zone” shall mean an area a minimum of ten feet wide adjacent to water courses which is planted and managed in order to minimize the need for fertilization, watering, mowing, etc.

“Person” shall mean any natural person, business, corporation, limited liability company, partnership, limited partnership, association, club, organization, and/or any group of people acting as an organized entity.

ORDINANCE NO. 2013 - 012

"Restricted Season" shall mean June 1 through September 30.

"Saturated soil" shall mean a soil in which the voids are filled with water. Saturation does not require flow. For the purposes of this chapter, soils shall be considered saturated if standing water is present or the pressure of a person standing on the soil causes the release of free water.

"Slow Release Nitrogen" shall mean nitrogen in a form which delays its availability for plant uptake and use after application, or which extends its availability to the plant longer than a reference rapid or quick release product.

"Turf," "sod," or "lawn" shall mean a piece of grass-covered soil held together by the roots of the grass.

"Urban landscape" shall mean pervious areas on residential, commercial, industrial, institutional, highway rights-of-way, or other nonagricultural lands that are planted with turf or horticultural plants. For the purposes of this section, agriculture has the same meaning as in §570.02, Florida Statutes.

Section 316.3. Timing of fertilizer application.

No applicator shall apply fertilizers containing nitrogen and/or phosphorus to turf and/or landscape plants during the Restricted Season, to saturated soils, or during a period in which a Flood Watch or Warning, or a Tropical Storm Watch or Warning, or a Hurricane Watch or Warning is in effect for any portion of Indian River County, issued by the National Weather Service, or if heavy rain is likely.

Section 316.4. Fertilizer-free zones.

Fertilizer shall not be applied within ten feet of any pond, stream, watercourse, lake, canal, or wetland as defined by the Florida Department of Environmental Protection (Chapter 62-340, Florida Administrative Code) or from the top of a seawall. If more stringent Indian River County Code regulations apply, this provision does not relieve the requirement to adhere to the more stringent regulations. Newly planted turf and/or landscape plants may be fertilized in this zone only for a 60-day period beginning thirty days after planting if needed to allow the plants to become well established. Caution shall be used to prevent nutrients from being directly deposited into the water.

Section 316.5. Low maintenance zones.

A voluntary ten foot low maintenance zone is strongly recommended, but not mandated, from any pond, stream, water course, lake, wetland or from the top of a seawall. A swale/berm system is recommended for installation at the landward edge of this low maintenance zone to capture and filter runoff. If more stringent Indian River County Code regulations apply, this provision

ORDINANCE NO. 2013 - 012

does not relieve the requirement to adhere to the more stringent regulations. Notwithstanding the voluntary nature of the above sentences, no mowed or cut vegetative material may be deposited or left remaining in this zone or deposited in the water. Care should be taken to prevent the over-spray of aquatic weed products in this zone.

Section 316.6. Fertilizer content and application rates.

(a) No fertilizer containing phosphorous shall be applied to turf or landscape plants in Indian River County unless a soil or plant tissue deficiency is verified by a University of Florida, Institute of Food and Agriculture Sciences, approved testing methodology. In the case that a deficiency has been verified, the application of a fertilizer containing phosphorous shall be in accordance with the rates and directions for the Central Region of Florida as provided by Rule 5E-1.003(2), Florida Administrative Code. Deficiency verification shall be no more than 2 years old. However, recent application of compost, manure, or top soil shall warrant more recent testing to verify current deficiencies.

(b) The nitrogen content of fertilizer applied to turf or landscape plants within Indian River County shall contain at least 50% slow release nitrogen per guaranteed analysis label.

(c) Fertilizers applied to an urban lawn or turf within Indian River County shall be applied in accordance with requirements and directions set forth on the label or tag for packaged fertilizer products, or in the printed information accompanying the delivery of bulk fertilizer products, as provided by Rule 5E-1.003(2), Florida Administrative Code, *Labeling Requirements For Urban Turf Fertilizers*. All packaged and bulk fertilizer products sold in Indian River County shall be sold in packages with labels or tags, or, if sold in bulk, be accompanied by printed information, which complies with the requirements of Rule 5E-1.003(2), Florida Administrative Code.

(d) Fertilizer containing nitrogen or phosphorus shall not be applied before seeding or sodding a site, and shall not be applied for the first 30 days after seeding or sodding, except when hydro-seeding for temporary or permanent erosion control in an emergency situation (wildfire, etc.), or in accordance with the Stormwater Pollution Prevention Plan for that site.

Section 316.7. Application practices.

(a) Spreader deflector shields are required when fertilizing via rotary (broadcast) spreaders. Deflectors must be positioned such that fertilizer granules are deflected away from all impervious surfaces, fertilizer-free zones and water bodies, including wetlands.

(b) Fertilizer shall not be applied, spilled, or otherwise deposited on any impervious surfaces.

(c) Any fertilizer applied, spilled, or deposited, either intentionally or accidentally, on any impervious surface shall be immediately and completely removed to the greatest extent practicable.

ORDINANCE NO. 2013 - 012

(d) Fertilizer released on an impervious surface must be immediately contained and either legally applied to turf or any other legal site, or returned to the original or other appropriate container.

(e) In no case shall fertilizer be washed, swept, or blown off impervious surfaces into stormwater drains, ditches, conveyances, or water bodies.

Section 316.8. Management of grass clippings and vegetative materials.

In no case shall grass clippings, vegetative material, and/or vegetative debris be washed, swept, or blown off into stormwater drains, ditches, conveyances, water bodies, wetlands, or sidewalks or roadways. Any material that is accidentally so deposited shall be immediately removed to the maximum extent practicable.

Section 316.9. Exemptions.

The provisions set forth above in this chapter shall not apply to:

(a) bona fide farm operations as defined in the Florida Right to Farm Act, § 823.14, Florida Statutes;

(b) other properties not subject to or covered under the Florida Right to Farm Act that have pastures used for grazing livestock;

(c) any lands used for bona fide scientific research, including, but not limited to, research on the effects of fertilizer use on urban stormwater, water quality, agronomics, or horticulture.;

(d) golf courses when landscaping is performed within the provisions of the Florida Department of Environmental Protection document, "Best Management Practices for the Enhancement of Environmental Quality on Florida Golf Courses", these provisions shall be followed when applying fertilizer to golf course practice and play areas;

(e) athletic fields at public parks and school facilities that apply the concepts and principles embodied in the Florida Green BMPs, while maintaining the health and function of their specialized turf areas;

(f) vegetable gardens owned by individual property owners or a community, and trees grown for their edible fruit.

Section 316.10. Training.

(a) Within the time period set forth in section 316.12 of this Chapter, all Commercial Fertilizer Applicators and Institutional Fertilizer Applicators within Indian River County shall abide by and successfully complete the six-hour training program in the "Florida-friendly Best

ORDINANCE NO. 2013 - _____

Management Practices for Protection of Water Resources by the Green Industries” offered by the Florida Department of Environmental Protection through the University of Florida Extension “Florida-Friendly Landscapes” program, or an approved equivalent.

(b) Private, non-commercial applicators are encouraged to follow the recommendations of the University of Florida Institute of Food and Agriculture Sciences Florida Yards and Neighborhoods program when applying fertilizers.

Section 316.11. General education program.

The Public Works Department shall have an employee who shall address issues pertaining to this Chapter. This employee shall implement a program to inform the general public of the requirements of this chapter, which program shall include, among other things, informative postings on the County website, printing and distributing informative brochures and other print materials, and speaking engagements at community associations, civic organizations, etc. The program shall also include, to the extent practicable, use of any materials from the Be Floridian program and coordination and collaboration with University of Florida Institute of Food and Agriculture Sciences educational activities. Any claimed or alleged deficiency in the County’s general education program shall not constitute a defense to any action brought to enforce the provisions of this chapter.

Section 316.12. Licensing of commercial fertilizer applicators.

(a) No later than December 31, 2013, all Commercial Fertilizer Applicators within Indian River County, shall abide by and successfully complete training and continuing education requirements in the “Florida-friendly Best Management Practices for Protection of Water Resources by the Green Industries,” offered by the Florida Department of Environmental Protection through the University of Florida Institute of Food and Agriculture Sciences “Florida-friendly Landscapes” program, or an approved equivalent program, prior to obtaining an Indian River County Local Business Tax Certificate for any category of occupation which may apply any fertilizer to turf and/or landscape plants. Commercial Fertilizer Applicators shall provide proof of completion of the program to the Indian River County Tax Collector’s Office within 180 days of the effective date of this ordinance.

(b) After December 31, 2013, all Commercial Fertilizer Applicators within Indian River County shall have and carry in their possession at all times when applying fertilizer, evidence of certification by the Florida Department of Agriculture and Consumer Services as a Commercial Fertilizer Applicator per Rule 5E-14.117(18), Florida Administrative Code.

(c) All businesses applying fertilizer to turf and/or landscape plants (including but not limited to residential lawns, golf courses, commercial properties, and multi-family and condominium properties) must ensure that at least one employee has a “Florida-friendly Best Management Practices for Protection of Water Resources by the Green Industries” training certificate prior to the business owner obtaining a Local Business Tax Certificate. Owners for any category of

ORDINANCE NO. 2013 - 012

occupation which may apply any fertilizer to turf and/or landscape plants shall provide proof of completion of the program to the Indian River County Tax Collector's Office.

Section 316.13. Enforcement.

This chapter may be enforced by the Code Enforcement Officer in the Public Works Department who is devoted to issues pertaining to this Chapter, pursuant to Chapter 162, Florida Statutes, and §103.07 of this Code. In addition, this chapter may be enforced by the Environmental Control Officer pursuant to Chapter 85-427, Special Acts, Laws of Florida, and §303.14 of this Code. Penalties and remedies for violations shall be as set forth in §100.05 of this Code, and, to the extent applicable, Chapter 85-427, Special Acts, Laws of Florida. Funds generated by penalties imposed under this section shall be used by Indian River County for the administration and enforcement of §403.9337, Florida Statutes, and the corresponding sections of this chapter, and to further water conservation and nonpoint pollution prevention activities.

Section 316.14. References to state law.

Any references in this chapter to Florida Statutes, rules or regulations shall refer to such statutes, rules or regulations, as amended from time to time.

Section 316.15. Applicability.

This chapter shall be applicable to and shall regulate any and all applicators of fertilizer and areas of application of fertilizer within the area of Indian River County, unless such applicator is specifically exempted; provided, however, that this chapter shall not apply within the limits of any municipality which has adopted an ordinance regulating the same subject matter. This chapter shall be prospective only, and shall not impair any existing contracts.

Section 4. Severability.

If any part of this ordinance is held to be invalid or unconstitutional by a court of competent jurisdiction, the remainder of this ordinance shall not be affected by such holding and shall remain in full force and effect.

Section 5. Codification.

It is the intention of the Board of County Commissioners that the provisions of this ordinance shall become and be made part of the Indian River County Code, and that the sections of this ordinance may be renumbered or re-lettered and the word ordinance may be changed to section, article or such other appropriate word or phrase in order to accomplish such intention.

ORDINANCE NO. 2013 - 012

Section 6. Directing County Attorney's Office to Post Summary on County Website.

The County Attorney's Office is directed to post a summary of this ordinance on the County's website within 15 days of the filing of this ordinance with the Florida Department of State.

Section 7. Effective Date.

This ordinance shall become effective 45 days after the filing of the ordinance with the Florida Department of State.

This ordinance was advertised in the Vero Beach Press Journal, on the 8th day of July, 2013, for a public hearing to be held on the 18th day of July, 2013, and on the 10th day of August, 2013 for an additional public hearing to be held on the 20th day of August, 2013, at which time it was moved for adoption by Commissioner Solari, seconded by Commissioner O'Bryan, and adopted by the following vote:

Chairman Joseph E. Flescher	<u>AYE</u>
Vice Chairman Wesley S. Davis	<u>AYE</u>
Commissioner Peter D. O'Bryan	<u>AYE</u>
Commissioner Bob Solari	<u>AYE</u>
Commissioner Tim Zorc	<u>AYE</u>

The Chairman thereupon declared the ordinance duly passed and adopted this 20th day of August, 2013.



**BOARD OF COUNTY COMMISSIONERS
INDIAN RIVER COUNTY, FLORIDA**

By: Joseph E. Flescher
Joseph E. Flescher, Chairman

Approved as to form and legal sufficiency:

ATTEST: Jeffrey R. Smith, Clerk of Court
and Comptroller

By: Jeffrey R. Smith
Deputy Clerk

Dylan Reingold
Dylan Reingold, County Attorney

EFFECTIVE DATE: This ordinance was filed with the Florida Department of State on the ____ day of _____, 2013.

ORDINANCE NO. 2013 - 014

AN ORDINANCE OF THE BOARD OF COUNTY COMMISSIONERS OF INDIAN RIVER COUNTY, FLORIDA CONCERNING THE FERTILIZER AND LANDSCAPE MANAGEMENT ORDINANCE, AMENDING SECTION 316.6 (FERTILIZER CONTENT AND APPLICATION RATES) AND SECTION 316.15 (APPLICABILITY) OF CHAPTER 316 (INDIAN RIVER COUNTY FERTILIZER AND LANDSCAPE MANAGEMENT ORDINANCE) OF THE CODE OF INDIAN RIVER COUNTY TO ALLOW FOR THE GRADUAL AMORTIZATION OF THE SUPPLY OF CERTAIN NITROGEN CONTAINING FERTILIZER AND APPLYING CHAPTER 316 TO UNINCORPORATED INDIAN RIVER COUNTY, AND MAKING FINDINGS AND PROVIDING FOR SEVERABILITY, CODIFICATION; AND AN EFFECTIVE DATE.

WHEREAS, the Board of County Commissioners adopted an ordinance regulating the proper use of fertilizers in order to protect the water quality of Indian River County's natural and constructed stormwater conveyances, rivers, creeks, canals, lakes, estuaries and other water bodies; and

WHEREAS, the new fertilizer regulations require that the nitrogen content of fertilizer applied to turf or landscape plants within Indian River County shall contain at least 50% slow release nitrogen per guaranteed analysis label; and

WHEREAS, the new fertilizer regulations go into effect on October 14, 2013; and

WHEREAS, in order to provide adequate time for the supply of fertilizer containing nitrogen that does not comply with these regulations to be eliminated, it is necessary to provide additional time for retailers to eliminate those supplies that meet at least a minimum threshold of slow release nitrogen,

NOW, THEREFORE, BE IT ORDAINED BY THE BOARD OF COUNTY COMMISSIONERS OF INDIAN RIVER COUNTY, FLORIDA, THAT:

Section 1. Enactment Authority.

Article VIII, §1 of the Florida Constitution and Chapter 125, Florida Statutes vest broad home rule powers in counties to enact ordinances, not inconsistent with general or special law, for the purpose of promoting the public health, safety and welfare of the residents of the county. The Board specifically determines that the enactment of this ordinance is consistent with general or special law, and is necessary and appropriate to promote the health, safety and welfare of the residents of Indian River County.

Section 2. Findings.

The Board finds that the above "Whereas" clauses are true and correct, and hereby incorporates such clauses as findings of the Board.

ORDINANCE NO. 2013 - 014

Section 3. Amendment of Section 316.6 (Fertilizer content and application rates) of Chapter 316 (Indian River County Fertilizer and Landscape Management Ordinance) of the Code of Indian River County (the "Code").

Section 316.6 (Fertilizer content and application rates) of Chapter 316 (Indian River County Fertilizer and Landscape Management Ordinance) of the Code is hereby amended as follows:

Section 316.6. Fertilizer content and application rates.

(b) As of the effective date of this chapter, the The nitrogen content of fertilizer applied to turf or landscape plants within Indian River County shall contain at least ~~25~~50% slow release nitrogen per guaranteed analysis label. As of June 1, 2014, the nitrogen content of fertilizer applied to turf or landscape plants within Indian River County shall contain at least 50% slow release nitrogen per guaranteed analysis label.

Section 4. Amendment of Section 316.15 (Applicability) of Chapter 316 (Indian River County Fertilizer and Landscape Management Ordinance) of the Code of Indian River County (the "Code").

Section 316.15 (Applicability) of Chapter 316 (Indian River County Fertilizer and Landscape Management Ordinance) of the Code is hereby amended as follows:

Section 316.15. Applicability.

This chapter shall be applicable to and shall regulate any and all applicators of fertilizer and areas of application of fertilizer within the unincorporated area of Indian River County, unless such applicator is specifically exempted; ~~provided, however, that this chapter shall not apply within the limits of any municipality which has adopted an ordinance regulating the same subject matter.~~ This chapter shall be prospective only, and shall not impair any existing contracts.

Section 5. Severability.

If any part of this ordinance is held to be invalid or unconstitutional by a court of competent jurisdiction, the remainder of this ordinance shall not be affected by such holding and shall remain in full force and effect.

Section 6. Codification.

It is the intention of the Board of County Commissioners that the provisions of this ordinance shall become and be made part of the Indian River County Code, and that the sections of this ordinance may be renumbered or re-lettered and the word ordinance may be changed to section, article or such other appropriate word or phrase in order to accomplish such intention.

ORDINANCE NO. 2013 - 014

Section 7. Effective Date.

This ordinance shall become effective upon filing with the Florida Department of State.

This ordinance was advertised in the Vero Beach Press Journal, on the 16th day of September, 2013, for a public hearing to be held on the 1st day of October, 2013, at which time it was moved for adoption by Commissioner Solari, seconded by Commissioner O'Bryan, and adopted by the following vote:

Chairman Joseph E. Flescher	<u>Aye</u>
Vice Chairman Wesley S. Davis	<u>Aye</u>
Commissioner Peter D. O'Bryan	<u>Aye</u>
Commissioner Bob Solari	<u>Aye</u>
Commissioner Tim Zorc	<u>Aye</u>

The Chairman thereupon declared the ordinance duly passed and adopted this 1st day of October, 2013.



**BOARD OF COUNTY COMMISSIONERS
INDIAN RIVER COUNTY, FLORIDA**

By: Joseph E. Flescher
Joseph E. Flescher, Chairman

ATTEST: Jeffrey R. Smith, Clerk of Court
and Comptroller

Approved as to form and legal sufficiency:

By: Laura Allen
Deputy Clerk

Dylan Reingold
Dylan Reingold, County Attorney

EFFECTIVE DATE: This ordinance was filed with the Florida Department of State on the ____ day of _____, 2013.

APPENDIX C

INDIAN RIVER COUNTY TRAFFIC ENGINEERING DIVISION

SPECIAL CONDITIONS FOR RIGHT-OF-WAY CONSTRUCTION



INDIAN RIVER COUNTY TRAFFIC ENGINEERING DIVISION SPECIAL CONDITIONS FOR RIGHT-OF-WAY CONSTRUCTION

SPECIAL CONDITIONS:

1. All work performed under this permit shall be in accordance with the Florida Department of Transportation Design Standards (<https://www.fdot.gov/design/standardplans/current/default.shtm>), Indices 102-600 and the Manual on Uniform Traffic Control Devices.
2. All special conditions listed are in addition to the attached Indian River County Traffic Engineering Regulations for Maintenance of Traffic.
3. It shall be the contractor's responsibility to contact Sunshine State One Call System (1-800-432-4770) at least 72 hours in advance of commencing construction work to coordinate traffic control and obtain locations of underground traffic signal conduit for the County's Computerized Traffic Signal Coordination System.
4. The contractor shall be responsible for using the applicable Traffic Control Plan for the type of work being performed. All job supervisors shall have a copy of the control plan on site at all times and shall be familiar with the correct set-up of the plan.
5. At least one lane of traffic shall be maintained at all times. One-lane traffic shall be controlled with at least two (2) flagmen. Flagmen shall use STOP/SLOW paddles at all times. Flags shall not be used for one-lane traffic control.
6. **After proper notification to Traffic Engineering**, consideration will be given to the contractor to close roadways to through traffic on a daily basis during daylight hours on narrow roadways where maintaining one-lane traffic would be difficult. The roadway shall be open to traffic at the end of each work day and on weekends. It shall be the contractor's responsibility to provide all necessary construction signs and traffic control devices to close the road and provide a detour route in accordance with Indian River County standards. Signing shall be installed that clearly indicates the time periods the road is closed to traffic.
7. There shall be no construction work after dark.
8. All open excavations shall be back filled before the close of each work day.
9. A compacted roadway shall be provided at the end of each work day. Disrupted roadways shall be clearly marked as a construction area.
10. Refer to the attached Traffic Engineering Regulations for construction work on Indian River County roadways for maintenance of traffic inspection policy and procedure
11. All construction equipment, materials, etc. shall be stored outside of the clear zone. Equipment and construction materials that are stored within the clear zone shall be clearly marked with Type II barricades with flashing yellow lights.
12. All projects and work within Indian River County right-of-way shall have an approved Traffic Control Plan (TCP). All work shall be executed under the established TCP and Indian River County approved procedures. The TCP shall provide the proposed detour route, traffic control devices, and other pertinent information for the proposed project and shall be submitted for review and approval by the Public Works Department.
The TCP shall be prepared by personnel with a minimum of an Intermediate Maintenance of Traffic current certification in the State of Florida. (Denote on the TCP, certification number and name of the certified personnel that prepared the MOT plan.)
For full road closures, a TCP is required to be submitted by the contractor a minimum of two (2) weeks prior to the proposed road closure.

All traffic control devices shall be in accordance with the Florida Department of Transportation (FDOT) Design Standards, Indices 102-600, FY 2019-2020, and the Manual on Uniform Traffic Control Devices, 2009 Edition.
13. For full road closures, Portable Changeable Message Signs are required to pre-advertise the roadway closure, a minimum of seven (7) days in advance of the road closure and during the duration of the road closure. The use of Portable Changeable Message Signs for lane closures on thoroughfare plan roadways will be required. Messages are to be approved by the Public Works Department and shown on the TCP.

TRAFFIC ENGINEERING REGULATIONS

Maintenance and Protection of Traffic:

It shall be the responsibility of the contractor to provide for the maintenance and protection of traffic in accordance with the applicable indices in the most current edition of the Florida Department of Transportation Roadway and Traffic Design Standards and the Federal Highway Administration Manual on Uniform Traffic Control Devices. The indices shall be considered the minimum standards and a

Special Conditions for Right of Way Construction

Page 2

more extensive work zone set-up or modifications may be required by the County Public Work Director or his designee for the protection of personnel in the work area as well as the traveling public.

It shall be the responsibility of the contractor to ensure that all subcontractors are in full compliance with all traffic control regulations. It shall be the responsibility of the contractor working on County roadways or within Right-of-Ways to establish maintenance of traffic prior to any work being performed. The contractor shall frequently monitor the work zone set-up to ensure that all signing is properly placed and that warning signs remain at the proper advance posting distance from the work area. Any signs that do not apply to the work zone shall be removed or covered. The contractor shall remove the work zone set-up at the conclusion of the work.

Traffic Engineering shall be notified a minimum of seventy-two (72) hours in advance of any lane closings and ten (10) days in advance of any road closures.

Lane closures are restricted to outside the normal peak hours of traffic, lane closures shall occur during the hours of 9:00 AM to 4:00 PM unless otherwise approved by the Public Works Director or his designee.

Traffic Engineering staff shall inspect the Maintenance of Traffic prior to construction commencement to ensure compliance with the approved Traffic Control Plan.

It is the policy of the Traffic Engineering Division to randomly monitor the contractor's compliance with all regulations while working on County roadways and within right-of-ways. Matters of public safety shall be attended to immediately upon notification by the County Public Work Director or his designee.

If the contractor is found to be negligent in maintaining proper work zone set-up in accordance with the County's Right-of-Way ordinance (Chapter 312), the County Public Work Director or his designee shall impose penalties in the amount of \$250.00 for working without the proper traffic control.

Construction at or Near Signalized Intersections:

The contractor shall have full responsibility for any work performed at or near any traffic signals in Indian River County. The contractor shall request that the County locate buried interconnect conduit and cable, loop sensors, and pull boxes prior to commencing construction. Any damage to the interconnect conduit, loop sensors, and pull boxes or any other traffic signal equipment shall be repaired at the contractor's expense. It shall be the responsibility of the contractor to notify Traffic Engineering Division a minimum of 72 hours prior to any work being performed near a signalized intersection or flashing beacon.

Once the proper notification and locate procedures are satisfied, the contractor working in or near signalized intersections or around traffic signal poles, signal cabinets, or flashing beacons shall be advised of the following regulations:

1. No excavation shall be performed within a 15-foot radius of any traffic signal pole. If excavation is necessary within a 15-foot radius, it will be the contractors responsibility to provide the following:
 - a. In a manner approved by the County Public Works Director or his designee, the contractor shall provide constant support of the traffic signal pole to prevent movement during excavation and backfill operations.
 - b. Compaction around the excavation site to a 98% density, bringing the backfill up in 1 foot lifts.
 - c. Density reports from a licensed testing company provided to the County Public Works Director.
 - d. Restore the traffic signal and all support equipment to original condition or better.
2. There shall be no pavement cuts made within 500 feet of a signal or flashing beacon without contacting Indian River County Traffic Engineering Division at (772-226-1547), 72 hours prior to construction.
3. Any traffic signal, loop sensors, conduit, interconnect cable, or any support equipment damaged by a contractor shall be repaired/replaced at the contractor's expense.
4. Any contractor that works at or in the vicinity of a signalized intersection shall have full responsibility for any liability incurred by causing damage to signal equipment that results in the failure of the traffic signal functions. If such a failure occurs, the contractor shall notify the police and the Traffic Engineering Division immediately at (772-226-1547).

APPENDIX D

Subsurface Soil Exploration and Geotechnical Engineering Evaluation

**SUBSURFACE SOIL EXPLORATION AND
GEOTECHNICAL ENGINEERING CONSULTING
PROPOSED FIRE STATION NO. 7
INDIAN RIVER COUNTY, FLORIDA**

AACE FILE NO. 22-160



ANDERSEN ANDRE CONSULTING ENGINEERS, INC.

834 SW Swan Avenue
Port St. Lucie, Florida 34983
Ph: 772-807-9191 Fax: 772-807-9192
www.aaceinc.com

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- Appendix II General Notes (Soil Boring, Sampling and Testing Methods)
- Appendix III AACE Project Limitations and Conditions





Indian River County Board of County Commissioners
Public Works Department
1801 27th Street, Building A
Vero Beach, FL 32960

Attention: Ms. Kirstin Leiendecker, P.E.
Roadway Production Manager

**SUBSURFACE SOIL EXPLORATION AND
GEOTECHNICAL ENGINEERING CONSULTING
PROPOSED FIRE STATION NO. 7
INDIAN RIVER COUNTY, FLORIDA**

1.0 INTRODUCTION

In accordance with your request and authorization, Andersen Andre Consulting Engineers, Inc. (AACE) has completed a subsurface exploration and geotechnical engineering analyses for the above referenced project. The purpose of performing this exploration was to explore shallow soil types and groundwater levels as they relate to the proposed fire station construction, and restrictions which these soil and groundwater conditions may place on the proposed site development. Our work included Standard Penetration Test (SPT) borings, auger borings, field permeability testing, laboratory testing, and engineering analysis. This report documents our explorations and tests, presents our findings, and summarizes our conclusions and recommendations.

2.0 EXECUTIVE SUMMARY

The following summary is intended to provide a brief overview of our findings and recommendations; however, the report should be read in its entirety by the project design team members.

- The proposed building site, at the locations explored, was found to be underlain by soils which are generally satisfactory to support the proposed low-rise (1- to 2-stories) fire station building on conventional spread foundations. A maximum design foundation bearing pressure of 2,500 pounds per square foot (psf) is recommended for the proposed structures.
- Typical pavement sections consisting of an asphaltic or rigid concrete wearing surface atop a calcareous base, followed by a stabilized subgrade on compacted natural soils is considered appropriate for the project.
- Site preparation procedures will include clearing, stripping and grubbing of all surface vegetation and organic topsoil, followed by proofrolling of building and pavement areas.
- The groundwater table was encountered at depths of about 4.5 to 5.5 feet below the existing grades, and was not encountered within the upper 7 feet in some borings.

3.0 SITE INFORMATION AND PROJECT UNDERSTANDING

3.1 Site Location and Description

The proposed ±3-acre Fire Station No. 7 site is located north of the intersection of 98th Avenue and 26th Street in Indian River County, Florida within a parent tract identified by the Indian River County Property Appraiser with Property ID 32383400000100000005.0 (within Section 34, Township 32 South, Range 38 East). The location of the subject site is graphically depicted on the Site Vicinity Map (2021 aerial photograph) as well as on a reproduction of the 1983 USGS Quadrangle Map of “South of Fellsmere, Florida”, both presented on our Figure No. 1. The USGS Quadrangle Map depicts the subject property as being relatively level with an average surface elevation of about 22 feet relative to the National Geodetic Vertical Datum of 1929.

The site is currently partially overgrown with a few “ATV trails” providing vehicular access to its interior. Based on a cursory review of readily available on-line historical aerial photographs, the site appears to have remained relatively unchanged since at least 1995. A representative photograph of the current site conditions is presented below.



3.2 Review of USDA Soil Survey

According to the USDA NRCS Web Soil Survey, the predominant surficial soil types in the area where the site is located are as follows:

- Oldsmar fine sand (USDA Map Unit 6)
- Riviera fine sand, 0 to 2 percent slopes (USDA NRCS Map Unit 10)

In brief, these soil types are both noted by the USDA to consist of sandy and loamy marine deposits originating from flatwoods, flats and drainageways within prehistoric marine terraces, with fine sands, sandy clay loam and loamy fine sand present to depths in excess of 80 inches.

The location of the subject site is superimposed on an aerial photograph obtained from the USDA NRCS Web Soil Survey and is shown on Figure No. 1. Further, excerpts from the USDA Web Soil Survey summary report are included in Appendix I.

3.3 Project Understanding

Based on our conversations, and our review of the forwarded site plan prepared by MBV Engineering, Inc. (dated 03/23/22), we understand that it is proposed to construct a $\pm 8,500$ SF fire station with associated drive aisles, parking area, a stormwater pond and various auxiliary features.

We have not been provided with any specific structural or architectural information relative to the building, however, we expect it will be 1- to 2-stories and will be constructed with load-bearing masonry (CMU) walls and individual columns. For construction of this type we expect maximum wall loads of 2-3 kips per lineal foot and maximum column loads of 250 kips.

Additional site improvement features include improvements to ± 800 feet of 98th Avenue which provides access to the subject site from SR-60 to the south.

Details of the provided Site Plan and an aerial photograph obtained from Google Earth Pro are presented as our Field Work Location Plan on Figure No. 2.

4.0 FIELD EXPLORATION PROGRAM

To explore subsurface conditions at the site, the exploration program described in the following was completed.

Soil Borings

The field exploration program consisted of performing four (4) Standard Penetration Test (SPT) borings and ten (10) hand auger borings at the approximate locations shown on Figure No. 2. The SPT borings (ASTM D1586) were advanced to depths of 20 feet below grade and the hand auger borings (ASTM D1452) were advanced to depths of about 7 feet below grade.

Field Permeability Testing

Field permeability testing was performed in the vicinity of the proposed stormwater pond. In brief, the field permeability test was performed by installing a perforated 6-inch diameter screened PVC casing snugly into a 6-ft deep augered borehole. The pipe was then filled to the top with water, stabilized/saturate for 20 minutes, followed by constant-head testing.

General Notes

Our site visits and field exploration program were completed on March 25, 2022. The field work locations shown on Figure No. 2 were determined in the field by our field crew using the provided site plan, aerial photographs, existing site features, and a combination of GPS instruments and tape/wheel measurements. The locations should be considered accurate only to the degree implied by the method of measurement used. We preliminarily anticipate that the actual locations are within 15 feet of those shown on Figure No. 2.

Summaries of AACE's field procedures are presented in Appendix II and the individual boring profiles are presented on the attached on Sheets No. 1 and 2. Samples obtained during performance of the borings were visually classified in the field, and representative portions of the samples were transported to our laboratory in sealed sample jars for further classification. The soil samples recovered from our explorations will be kept in our laboratory for 60 days, then discarded unless you specifically request otherwise.

5.0 OBSERVED SUBSURFACE CONDITIONS

5.1 General Soil Conditions

Detailed subsurface conditions are illustrated on the soil boring profiles presented on the attached Sheets No. 1 and 2. The stratification of the boring profiles represents our interpretation of the field boring logs and the results of laboratory examinations of the recovered samples. The stratification lines represent the approximate boundary between soil types. The actual transitions may be more gradual than implied.

In general, at the locations and depths explored, the majority of our soil borings encountered a thin layer of topsoil (sands with roots/organics) followed by loose to medium dense fine sands (SP), slightly clayey fine sands (SP-SC) and clayey fine sands (SC) reaching the termination depths of our borings. In addition, most of our borings encountered a 13 to 18 inches thick stratum of fine sands (SP) with silt and hardpan fragments (hardpan-type soils) within the upper 5 feet of borehole.

The above soil profile is outlined in general terms only. Please refer to the attached Sheets No. 1 and 2 for individual soil profile details.

5.2 Measured Groundwater Level

The groundwater table depth as encountered in the borings during the field investigations is shown adjacent to the soil profiles on the attached Sheets No. 1 and 2. As can be seen, the groundwater table was generally encountered at depths ranging from about 4.5 feet to about 5.5 feet below the existing ground surface, however, was not encountered in some borings within the upper 7 feet of borehole. Fluctuations in groundwater levels should be anticipated throughout the year primarily due to seasonal variations in rainfall and other factors that may vary from the time the borings were conducted.

5.3 Estimated Normal Seasonal High Groundwater Table

The groundwater table will fluctuate seasonally, primarily based on rainfall. The normal seasonal high groundwater level is likely during the rainy season in Southeast Florida, typically between June and September of each year. The water table elevations associated with a 100-year flood level (or during an extreme storm event) would be much higher than the normal seasonal high water table elevation. The normal seasonal high groundwater table can also be influenced by the presence of relief points such as canals, lakes, ponds, swamps, etc., as well as by the drainage characteristics of the in-situ soils.

Based upon our field exploration, our observation of recovered soil samples and on review of the soil survey, we estimate that the normal seasonal high groundwater level at the boring locations is about 2 feet above the levels encountered in the borings.

The estimated normal seasonal high groundwater levels do not provide any assurance that the groundwater levels will not exceed these estimated levels during any given year in the future. Drainage impediments, storm events or other such occurrences may result in groundwater levels exceeding our estimates. Further, as noted, it should be expected that rainwater could perch atop the encountered hardpan-type soils after periods of intense or prolonged rainfall events at depths shallower than the normal seasonal high level, possibly for extended periods of time.

If a more accurate determination of the seasonal groundwater level variations on this site is prudent for the design of the project, we would recommend installing a number of piezometers and performing periodic monitoring of the ambient groundwater levels.

5.4 Field Permeability Testing

One (1) field permeability test was completed at the location shown on Figure No. 2 using the test methodology previously described. The results from the permeability testing are summarized below.

Table 1 - Field Permeability Test Results

Test No.	Groundwater Depth (ft-bls)	Flow Rate, Q (gpm)	Horizontal Permeability Rate, K_H (ft/day)	K_H/K_V Ratio
PT-1	5.0	1.5	1.0	2
Soil Description				
	0 - 2' 2' - 4' 4' - 6'		Light gray fine sand (SP) Dark brown fine sand (SP) with traces of hardpan Brown fine sand	

We recommend utilizing a factor of safety of 2 when using the permeability rates presented above in the design of stormwater retention/detention features.

6.0 LABORATORY TESTING PROGRAM

Our drillers observed the soil recovered from the SPT sampler and the augers, placed the recovered soil samples in moisture proof containers, and maintained a log for each boring. The recovered soil samples, along with the field boring logs, were transported to our Port St. Lucie soils laboratory where they were visually examined by AACE's project engineer to determine their engineering classification. The visual classification of the samples was performed in accordance with the Unified Soil Classification System, USCS.

Representative samples were selected for limited index laboratory testing, consisting of moisture content tests (ASTM D2216) and percent fines tests (ASTM D1140). These tests were performed to aid in classifying the soils and to help evaluate the general engineering characteristics of the site soils. The results of our classifications and laboratory examinations and tests are presented on the soil boring profiles on Sheets No. 1 and 2.

7.0 GEOTECHNICAL ENGINEERING EVALUATION

7.1 General

Based on the findings of our site exploration, our evaluation of subsurface conditions, and judgment based on our experience with similar projects, we conclude that the soils underlying this site are generally satisfactory to support the proposed fire station building construction on conventional spread foundations. However, in our opinion, the bearing capacity of the loose near-surface soils should be improved in order to reduce the risk of unsatisfactory foundation performance. The general soil improvement we recommend includes proofrolling the individual building sites site with a heavy vibratory roller.

Following are specific recommendations for site preparation procedures, foundation design, and pavement systems for the project.

7.2 Site Preparation Recommendations

7.2.1 Clearing

The building area and the areas to be paved should be cleared, grubbed and stripped of all vegetation, topsoil, trash and debris. Stumps should be removed entirely, and their excavations backfilled with clean granular soils, compacted to the specifications noted below.

7.2.2 Compaction Procedures

Following clearing, the proposed building and pavement areas should be proofrolled with a 10 ton (minimum) vibratory roller; any soft, yielding soils detected should be excavated and replaced with clean, compacted backfill that conforms with the recommendations below. Sufficient passes should be made during the proofrolling operations to produce dry densities not less than 95 percent of the modified Proctor (ASTM D1557) maximum dry density of the compacted material to depths of 2 feet below the compacted surface, or 2 feet below the bottom of footings, whichever is lower. In any case, the building and pavement areas should receive not less than 10 overlapping passes, half of them in each of two perpendicular directions.

After the exposed surface has been proofrolled and tested to verify that the desired dry density has been obtained, the building and pavement areas may be filled to the desired grades. All fill material should conform to the recommendations below. It should be placed in uniform layers not exceeding 12 inches in loose thickness. Each layer should be compacted to a dry density not less than 95 percent of its modified Proctor (ASTM D1557) maximum value.

After completion of the general site preparations discussed above, the bottom of foundation excavations dug through the compacted natural ground, fill or backfill, should be compacted so as to densify soils loosened during or after the excavation process, or washed or sloughed into the excavation prior to the placement of forms. A vibratory, walk-behind plate compactor can be used for this final densification immediately prior to the placement of reinforcing steel, with previously described density requirements to be maintained below the foundation level.

Following removal of foundation forms, backfill around foundations should be placed in lifts six inches or less in thickness, with each lift individually compacted with a plate tamper. The backfill should be compacted to a dry density of at least 95 percent of the modified Proctor (ASTM D-1557) maximum dry density.

7.2.3 Structural Fill and Utility/Storm Drain Trenches

All fill material under the building and pavement areas should consist of clean sands, free of organics and other deleterious materials. The fill material should have not more than 12 percent by dry weight passing the U.S. No. 200 sieve, and no particle larger than 3 inches in diameter. Backfill behind walls, if any, should be particularly pervious, with not more than 4 percent by dry weight passing the U.S. No. 200 sieve.

Fill excavated from the proposed stormwater pond should be suitable for use as fill for the project, provided that soil excavated from below the water table are allowed to dry before placement and compaction. Further, the encountered upper fine sands (SP) should be suitable for use as site fill and pipe trench backfill. However, we note that a thin stratum of dark brown/brown hardpan-type soils was encountered in our borings within the upper 5 feet.

Hardpan-type soils can be challenging for several reasons:

- Hardpan can be difficult to excavate, often requiring special equipment, especially in confined excavations such as utility trenches.
- Excavated hardpan-type soils are often boulder-size chunks of cemented soils which are not easily broken down for re-use as structural fill.
- When pulverized into fragments that can be compacted to an adequately dense matrix, the in-place soil often fails the relative compaction test because during laboratory preparation, the soil is pulverized into smaller particles, resulting in a denser laboratory matrix than that which occurs in the field.
- Alternative acceptance criteria may need to be implemented for hardpan-type soils used as fill. This criteria would need to be developed on a site specific basis after observing the contractor's earthwork methodology and the nature and condition of the compacted hardpan-type soils.

With respect to stormwater ponds or retention/detention areas, the hardpan-type soils are often relatively impervious and typically create a horizontal groundwater flow until a fracture in the hardpan occurs. Consideration can be given to overexcavating such hardpan-type soils from within the ponds or retention/detention areas so as to facilitate a more rapid drainage, if needed. Backfill in the detention or retention areas should consist of free-draining sandy materials with fines content less than 4 percent by dry weight passing the U.S. No. 200 sieve. The backfill should be placed in level lifts of 12-18 inches and receive some measure of compaction which likely can be accomplished by overlapping travel paths of loaded earthmoving equipment. The depth of this overexcavation will be dependent upon the pond design.

The encountered slightly clayey fine sands (SP-SC) and clayey fine sands (SC) are suitable for structural fill, but will likely be more difficult to compact due to their inherent nature to retain excess soil moisture. If the use of slightly clayey soils is desired, it may be necessary to stockpile these soils in order for them to drain. Thinner lifts (perhaps 6 to 8 inches in loose thickness) may be required for placement and compaction of these soils. Further, it may become necessary to mix these soils with drier, cleaner granular sands prior to placement to increase the "workability" of these soils.

7.3 Building Foundation and Slab Design

After the foundation soils have been prepared as recommended above, the site should be suitable for supporting the proposed fire station building construction on conventional shallow foundations proportioned for an allowable bearing stress of 2,500 pounds per square foot [psf], or less.

To provide an adequate factor of safety against a shearing failure in the subsoils, all continuous foundations should be at least 18 inches wide, and all individual column footings should have a minimum width of 24 inches. Exterior foundations should bear at least 18 inches below adjacent outside final grades.

Based upon the boring information and the assumed loading conditions, we estimate that the recommended allowable bearing stress will provide a minimum factor of safety in excess of two against bearing capacity failure. With the site prepared and the foundations designed and constructed as recommended, we anticipate total settlements of one inch or less, and differential settlement between adjacent similarly loaded footings of less than one-quarter of an inch. Because of the granular nature of the subsurface soils, the majority of the settlements should occur during construction; post-construction settlement should be minimal.

We recommend that representatives of AAACE inspect all footing excavations in order to verify that footing bearing conditions are consistent with expectations. Foundation concrete should not be cast over a foundation surface containing topsoil or organic soils, trash of any kind, surface made muddy by rainfall runoff, or groundwater rise, or loose soil caused by excavation or other construction work. Reinforcing steel should also be clean at the time of concrete casting. If such conditions develop during construction, the reinforcing steel must be lifted out and the foundation surface reconditioned and approved by AAACE.

After the ground surface is proofrolled and filled, if necessary, as recommended in this report, the floor slab can be placed directly on the prepared subgrade. For design purposes, we recommend using a subgrade reaction modulus of 200 pounds per cubic inch (pci) for the compacted shallow sands. In our opinion, a highly porous base material is not necessary. We recommend to use a minimum of 10 mil polyolefin film as the main component of a vapor barrier system.

8.0 PAVEMENT RECOMMENDATIONS

8.1 General

Actual pavement section thickness should be provided by the design civil engineer based on traffic loads, volume, and the owners design life requirements. The following sections represent minimum thicknesses representative of typical load and construction practices and as such periodic maintenance should be anticipated. In addition, recommendations for a rigid pavement design are presented for use in delivery areas, dumpster pads, and potentially for apparatus travel lanes. All pavement materials and construction procedures should conform to Indian River County requirements.

We recommend that the pavement sections be installed late in construction when most heavy construction traffic has ceased. If base material is placed during construction to provide a working surface it should be proofrolled, leveled, and thickened as required prior to paving at the end of construction.

8.2 Flexible Pavement Sections

We recommend a pavement section consisting of an asphaltic concrete wearing surface on a calcareous base course supported on stabilized subbase over well-compacted subgrade.

After clearing and proofrolling the site surface as previously recommended, the surficial soils should be suitable to support the pavement sections. The embankment material should be compacted to a dry density of 98 percent of the modified Proctor (ASTM D1557/AASHTO T-180) maximum dry density of the compacted soil to a depth of one foot below the surface.

8.2.1 Stabilized Subgrade

The subbase material to a depth of 12 inches should have a minimum Limerock Bearing Ratio (LBR) value (FDOT FM 5-515) of 40 and it should be compacted to at least 98 percent of its modified Proctor (ASTM D1557 or AASHTO T-180) maximum dry density.

8.2.2 Base Course

The base course may consist of crushed limerock or coquina and should have a minimum Limerock Bearing Ratio (LBR) value (FDOT FM 5-515) of 100. We recommend a base course at least 6 inches thick for standard pavements and a base course of 10 inches for heavy-duty pavements. The 6-inch base course may be placed and compacted in a single layer, however, the 10-inch base course should be placed and compacted in two layers. All base course material should be compacted to at least 98 percent of its modified Proctor maximum dry density.

8.2.3 Asphalt Surface

We recommend an FDOT Type SP-9.5 or SP-12.5 asphaltic wearing surface. We recommend a wearing surface 1.5 inches thick on standard pavement and 2.5 inches thick on heavy-duty pavement. The 2.5-inch wearing surface should be placed and compacted in two layers. Care must be exercised to place the asphalt over dry, well primed base material.

8.2.4 Flexible Pavement Summary

The above recommendations should provide high quality pavement. If greater risk of more frequent pavement maintenance and repair is acceptable, then the above recommendations could be relaxed somewhat. Table 2 summarizes the recommended flexible pavement sections.

Table 2 - Flexible Pavement Summary

Traffic Group	Thickness [inches]			Structural Number
	Stabilized Subgrade	Base Course	Asphalt Surface	
Light Duty (interior roads): Auto parking area, light panel and pickup trucks; average gross vehicle weight of 5,000 lbs.	12	6	1.5	2.7
Heavy Duty: Bus drop-off areas, delivery trucks; average gross vehicle weight of 25,000 lbs	12	10	2.5	3.8

8.3 Rigid Pavement Sections

After clearing and proofrolling the site surface as previously recommended, the surficial soils should be suitable to support the pavement sections. The subgrade material should be compacted to a dry density of 98 percent of the modified Proctor (ASTM D1557 or AASHTO T-180) maximum dry density of the compacted soil to a depth of two feet below the surface. The subgrade surface should be saturated immediately prior to concrete placement to provide adequate moisture for curing of the concrete.

We recommend a six-inch thick pavement section of Portland cement concrete. The concrete should have a minimum 28-day compressive strength of 4,000 psi. Construction control joints should be placed no more than 15 feet apart in either direction and should be at least one-quarter of the thickness of the concrete. They should be cut as soon as the concrete will support the crew and equipment (8 to 12 hours). The concrete should be cured by moist curing or by application of a liquid curing compound. The steel reinforcement within the concrete pavement should be designed by the project civil or structural engineer.

8.4 Curbing

The curbing around landscaped areas adjacent to pavement should be constructed with full-depth curb sections. Use of extruded curb sections that lie directly above the final asphalt surface, or omission of the curbing, can allow migration of irrigation water from the landscaped areas. The excess water often causes separation of the asphalt wearing surface from the base and softening of the base material, resulting in early deterioration of the pavement.

9.0 QUALITY ASSURANCE

We recommend establishing a comprehensive quality control program to verify that all site preparation and foundation and pavement construction is conducted in accordance with the appropriate plans and specifications. Materials testing and inspection services should be provided by Andersen Andre Consulting Engineers, Inc.

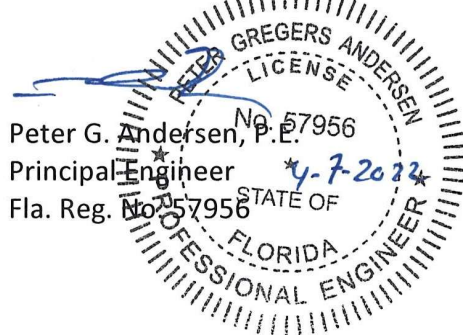
10.0 CLOSURE


The geotechnical evaluation submitted herein is based on the data obtained from the soil boring and test profiles presented on Sheets No. 1 and 2, and our understanding of the project as previously described. Limitations and conditions to this report are presented in Appendix III.

This report has been prepared in accordance with generally accepted soil and foundation engineering practices for the exclusive use of Indian River County Board of County Commissioners. No other warranty, expressed or implied, is made.

We are pleased to be of assistance to you on this phase of your project. When we may be of further service to you or should you have any questions, please contact us.

Sincerely,
ANDERSEN ANDRE CONSULTING ENGINEERS, INC.

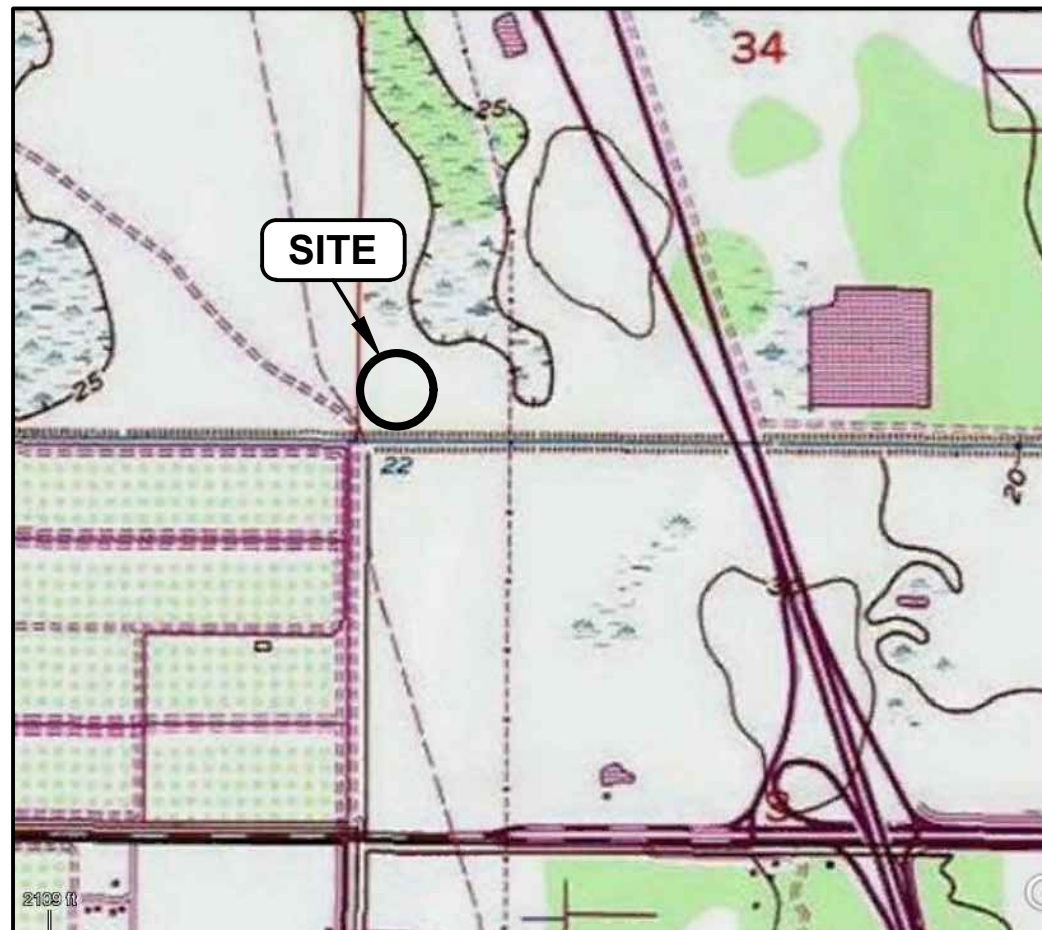

Peter G. Andersen, P.E.
Principal Engineer
Fla. Reg. No. 57956


David P. Andre, P.E.
Principal Engineer
Fla. Reg. No. 53969
4/7/22

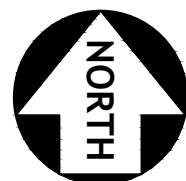
2021 AERIAL PHOTOGRAPH



USGS TOPOGRAPHIC QUADRANGLE MAP OF "SOUTH OF FELLSMERE, FL"



USDA SOIL SURVEY MAP



NOT TO SCALE

- Graphical sources:
- Google Earth Pro
 - QUADS/Earth Survey
 - USDA NRCS Web Soil Survey

PUBLIC LAND SURVEY SYSTEM

Section 34, Township 32 South, Range 38 East

USDA NRCS SOIL TYPE WITHIN SITE BOUNDARY

- 6: Oldsmar fine sand
- 10: Riviera fine sand, 0 to 2 percent slopes



ANDERSEN ANDRE CONSULTING ENGINEERS, INC.

834 SW Swan Avenue, Port St. Lucie, FL 34983 772-807-9191 www.AACEinc.com

SITE VICINITY MAPS




SUBSURFACE SOIL EXPLORATION AND
GEOTECHNICAL ENGINEERING EVALUATION
PROPOSED FIRE STATION NO. 7
INDIAN RIVER COUNTY, FLORIDA

Drawn by: PGA
Checked by: DPA
AAACE File No: 22-160

Date: April 2022
Date: April 2022

Figure No. 1

LEGEND

- TB-#**
 Standard Penetration Test Boring
- #**
 Hand Auger Boring (HAB-#)
- PT-#**
 Permeability Test

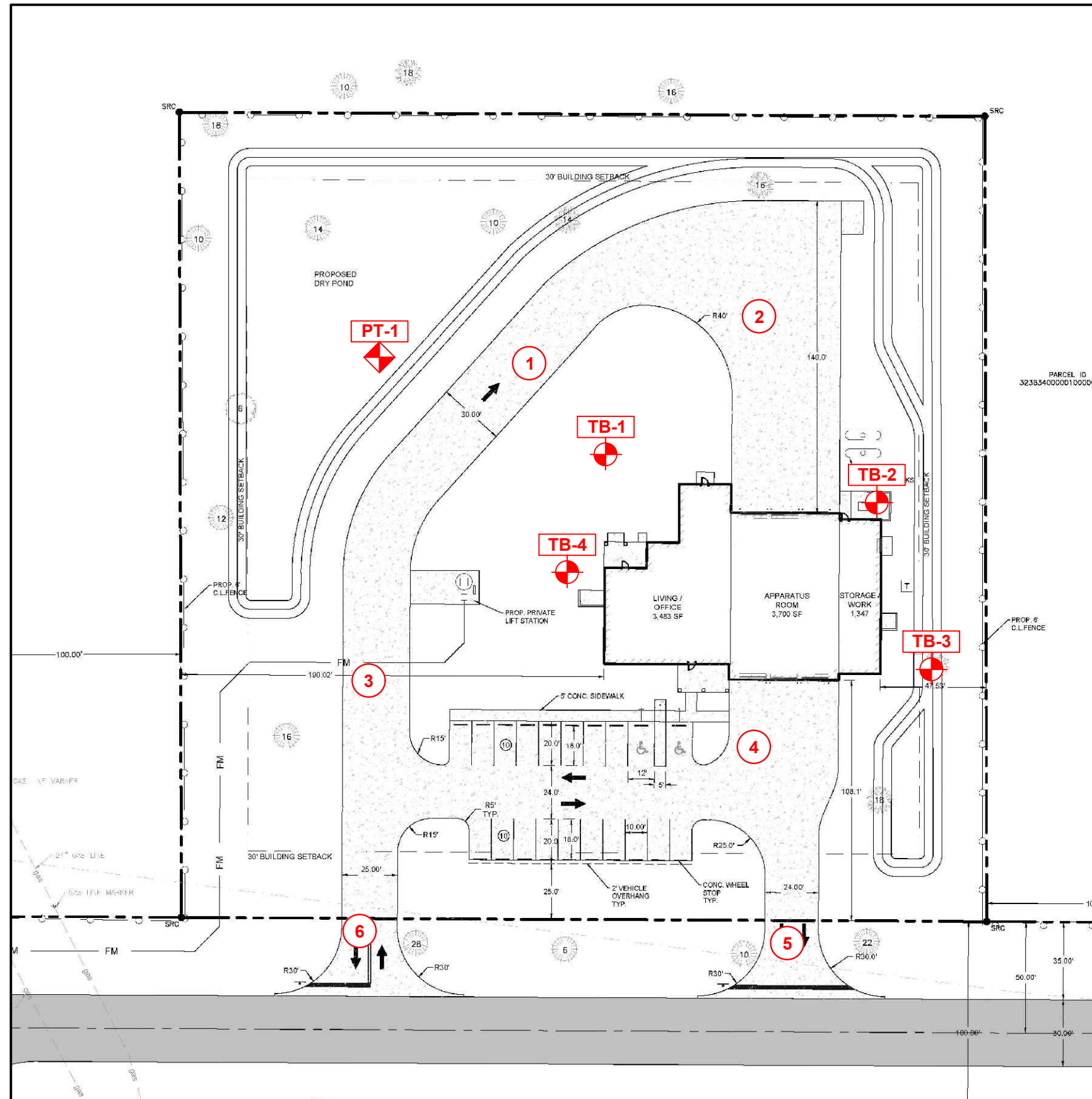
NOTES

Shown and noted field work locations are approximate, and were located using the provided site plan, aerial photographs, existing site features, and a hand-held GPS instrument. Atmospheric disturbances, forest canopy cover, local weather conditions, etc. may affect the accuracy of the GPS instrument readings. The shown field work locations should be considered accurate only to the degree implied by the method of measurement used.



NOT TO SCALE

Graphical sources:
 Conceptual Site Plan by MBV Engineering (03/23/22)
 Google Earth Pro



ANDERSEN ANDRE CONSULTING ENGINEERS, INC.
 834 SW Swan Avenue, Port St. Lucie, FL 34983 772-807-9191 www.AACEinc.com

FIELD WORK LOCATION PLAN

SUBSURFACE SOIL EXPLORATION AND
 GEOTECHNICAL ENGINEERING EVALUATION
 PROPOSED FIRE STATION NO. 7
 INDIAN RIVER COUNTY, FLORIDA

Drawn by: PGA

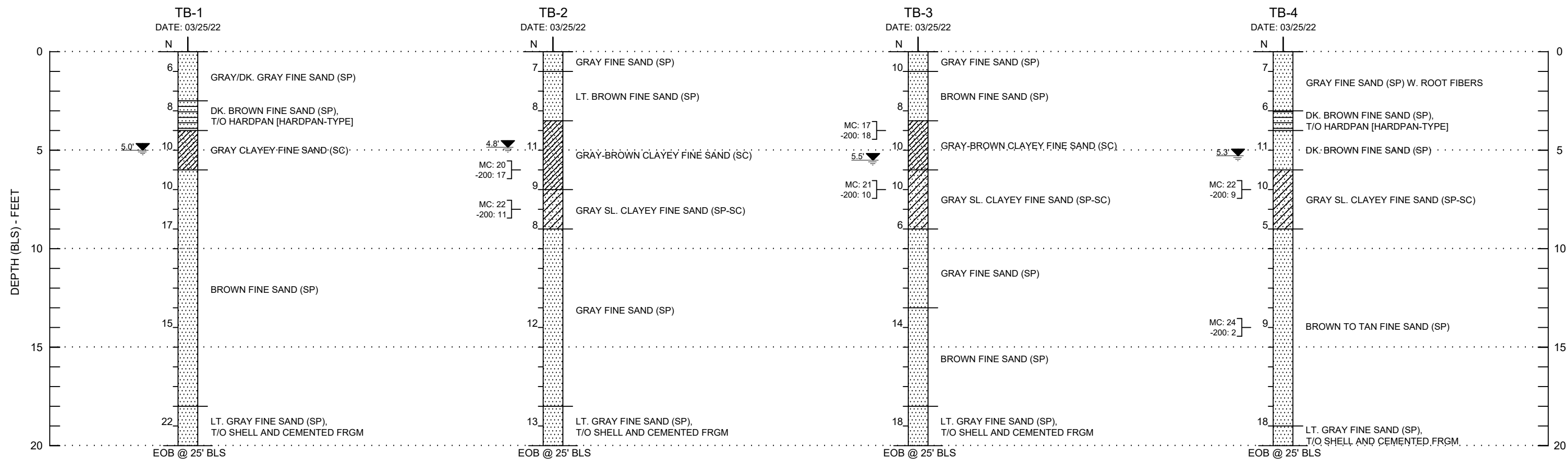
Checked by: DPA

AACE File No: 22-160

Date: April 2022

Date: April 2022

Figure No. 2



SOIL GRAPHICAL LEGEND:

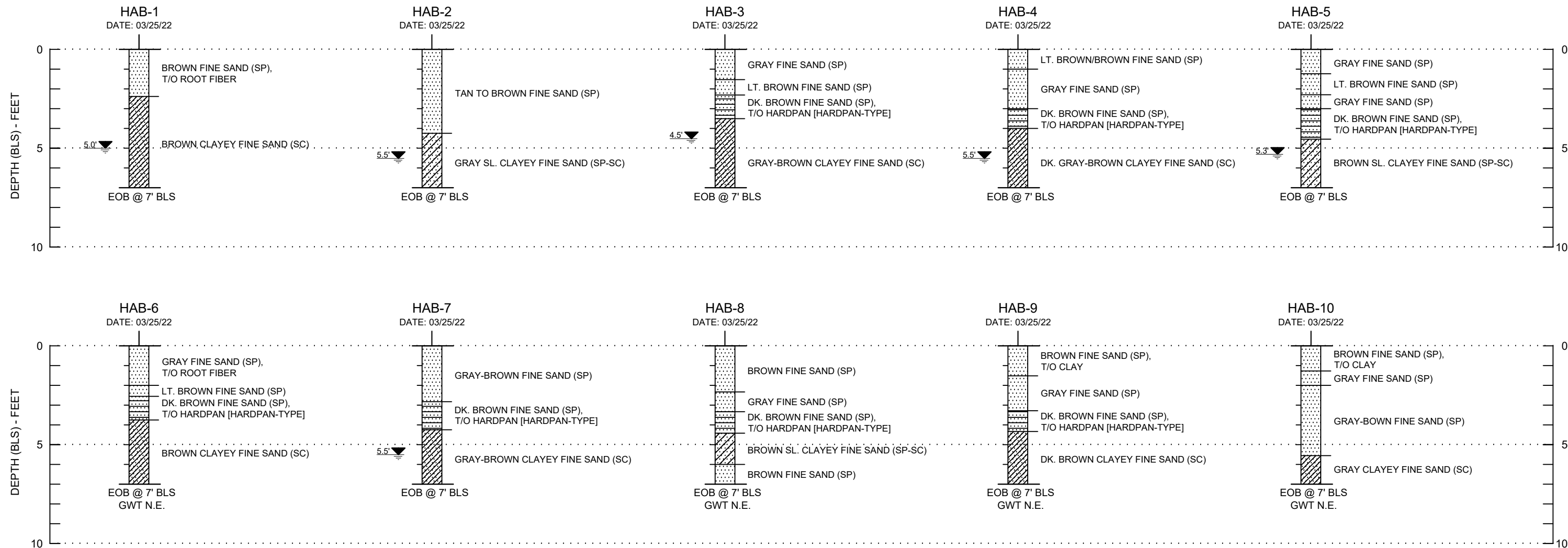
-  FINE SAND (SP)
-  FINE SAND (SP) W. HARDPAN FRAGMENTS [HARDPAN-TYPE]
-  SLIGHTLY CLAYEY FINE SAND (SP-SC)
-  CLAYEY FINE SAND (SC)

NOTE: 3"-6" of topsoil (sands w. roots/organics) encountered in most borings (not shown on boring profiles)

DRILLING NOTES:

TB-#	STANDARD PENETRATION TEST [SPT] BORING (ASTM D1586)	DRILL CREW CHIEF: DT
N	SPT RESISTANCE IN BLOWS PER FOOT	DRILL RIG: CME-45
HAB-#	HAND AUGER BORING (ASTM D1452)	DRILLING METHOD: ROTARY-WASH/BENTONITE SLURRY
xx'▼	GROUNDWATER TABLE (FT-BLS) AT TIME OF DRILLING	CASING: NONE
GWT N.E.	GROUNDWATER TABLE NOT ENCOUNTERED	SPLIT-SPOON SAMPLER:
EOB	END OF BORING	LENGTH: 24"
BLS	BELOW LAND SURFACE	OUTSIDE DIAMETER: 2.0"
SP, SP-SC, SC	UNIFIED SOIL CLASSIFICATION SYSTEM [USCS]	SPT HAMMER:
	USCS GROUPS DETERMINED BY VISUAL CLASSIFICATION	AVERAGE DROP: 30"
	EXCEPT FOR NOTED LABORATORY TESTS	WEIGHT: 140 LBS
MC	NATURAL MOISTURE CONTENT IN PERCENT (ASTM D2216)	TYPE: SAFETY/MANUAL
-200	PERCENT FINES PASSING THE NO. 200 SIEVE (ASTM D1140)	





SOIL GRAPHICAL LEGEND:

-  FINE SAND (SP)
-  FINE SAND (SP) W. HARDPAN FRAGMENTS [HARDPAN-TYPE]
-  SLIGHTLY CLAYEY FINE SAND (SP-SC)
-  CLAYEY FINE SAND (SC)

NOTE: 3"-6" of topsoil (sands w. roots/organics) encountered in most borings (not shown on boring profiles)

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N	SPT RESISTANCE IN BLOWS PER FOOT	DRILL RIG: CME-45
HAB-#	HAND AUGER BORING (ASTM D1452)	DRILLING METHOD: ROTARY-WASH/BENTONITE SLURRY
xx▼	GROUNDWATER TABLE (FT-BLS) AT TIME OF DRILLING	CASING: NONE
GWT N.E.	GROUNDWATER TABLE NOT ENCOUNTERED	SPLIT-SPOON SAMPLER:
EOB	END OF BORING	LENGTH: 24"
BLS	BELOW LAND SURFACE	OUTSIDE DIAMETER: 2.0"
SP, SP-SC, SC	UNIFIED SOIL CLASSIFICATION SYSTEM [USCS] USCS GROUPS DETERMINED BY VISUAL CLASSIFICATION EXCEPT FOR NOTED LABORATORY TESTS	SPT HAMMER:
MC	NATURAL MOISTURE CONTENT IN PERCENT (ASTM D2216)	AVERAGE DROP: 30"
-200	PERCENT FINES PASSING THE NO. 200 SIEVE (ASTM D1140)	WEIGHT: 140 LBS
		TYPE: SAFETY/MANUAL



APPENDIX I

USDA Soil Survey Information

Custom Soil Resource Report for Indian River County, Florida

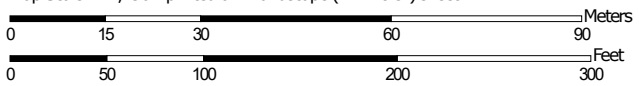
IRC FS-7



Custom Soil Resource Report Soil Map (IRC FS-7)




Map Scale: 1:1,190 if printed on A landscape (11" x 8.5") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)




















Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines


 Soil Map Unit Points

Special Point Features






-  Blowout
-  Borrow Pit
-  Clay Spot
-  Closed Depression
-  Gravel Pit
-  Gravelly Spot
-  Landfill
-  Lava Flow
-  Marsh or swamp
-  Mine or Quarry
-  Miscellaneous Water
-  Perennial Water
-  Rock Outcrop
-  Saline Spot
-  Sandy Spot
-  Severely Eroded Spot
-  Sinkhole
-  Slide or Slip
-  Sodic Spot

-  Spoil Area
-  Stony Spot
-  Very Stony Spot
-  Wet Spot
-  Other
-  Special Line Features


Water Features

 Streams and Canals

Transportation

-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL:
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Indian River County, Florida
 Survey Area Data: Version 20, Aug 25, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jan 25, 2019—Jan 29, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend (IRC FS-7)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
6	Oldsmar fine sand	3.2	63.9%
10	Riviera fine sand, 0 to 2 percent slopes	1.8	36.1%
Totals for Area of Interest		5.0	100.0%

Map Unit Descriptions (IRC FS-7)

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however,

Custom Soil Resource Report

onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Indian River County, Florida

6—Oldsmar fine sand

Map Unit Setting

National map unit symbol: tdfp
Elevation: 20 to 200 feet
Mean annual precipitation: 52 to 60 inches
Mean annual air temperature: 68 to 75 degrees F
Frost-free period: 350 to 365 days
Farmland classification: Farmland of unique importance

Map Unit Composition

Oldsmar, non-hydric, and similar soils: 80 percent
Oldsmar, hydric, and similar soils: 10 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Oldsmar, Non-hydric

Setting

Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Talf
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Sandy and loamy marine deposits

Typical profile

A - 0 to 5 inches: fine sand
E - 5 to 32 inches: fine sand
Bh - 32 to 50 inches: fine sand
Btg - 50 to 62 inches: sandy clay loam
Cg - 62 to 80 inches: loamy fine sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 6 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water supply, 0 to 60 inches: Low (about 4.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: A/D
Forage suitability group: Sandy soils on flats of mesic or hydric lowlands (G156BC141FL)

Custom Soil Resource Report

Other vegetative classification: South Florida Flatwoods (R155XY003FL), Sandy soils on flats of mesic or hydric lowlands (G156BC141FL)
Hydric soil rating: No

Description of Oldsmar, Hydric

Setting

Landform: Flats on marine terraces
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy and loamy marine deposits

Typical profile

A - 0 to 5 inches: fine sand
E - 5 to 32 inches: fine sand
Bh - 32 to 50 inches: fine sand
Btg - 50 to 62 inches: sandy clay loam
Cg - 62 to 80 inches: loamy fine sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water supply, 0 to 60 inches: Low (about 4.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: A/D
Forage suitability group: Sandy soils on flats of mesic or hydric lowlands (G156BC141FL)
Other vegetative classification: South Florida Flatwoods (R155XY003FL), Sandy soils on flats of mesic or hydric lowlands (G156BC141FL)
Hydric soil rating: Yes

Minor Components

Eaugallie, non-hydric

Percent of map unit: 3 percent
Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Talf
Down-slope shape: Convex
Across-slope shape: Linear
Other vegetative classification: South Florida Flatwoods (R155XY003FL), Sandy soils on flats of mesic or hydric lowlands (G156BC141FL)
Hydric soil rating: No

Custom Soil Resource Report

Holopaw

Percent of map unit: 3 percent
Landform: Drainageways on marine terraces
Landform position (three-dimensional): Dip
Down-slope shape: Linear
Across-slope shape: Concave
Other vegetative classification: Slough (R155XY011FL), Sandy soils on flats of mesic or hydric lowlands (G156BC141FL)
Hydric soil rating: Yes

Wabasso, non-hydric

Percent of map unit: 2 percent
Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Talf
Down-slope shape: Convex
Across-slope shape: Linear
Other vegetative classification: South Florida Flatwoods (R155XY003FL), Sandy soils on flats of mesic or hydric lowlands (G156BC141FL)
Hydric soil rating: No

Malabar, non-hydric

Percent of map unit: 2 percent
Landform: Flats on marine terraces
Landform position (three-dimensional): Dip
Down-slope shape: Convex
Across-slope shape: Linear
Other vegetative classification: Cabbage Palm Flatwoods (R155XY005FL), Sandy soils on flats of mesic or hydric lowlands (G156BC141FL)
Hydric soil rating: No

10—Riviera fine sand, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2tzw2
Elevation: 0 to 80 feet
Mean annual precipitation: 44 to 59 inches
Mean annual air temperature: 68 to 77 degrees F
Frost-free period: 350 to 365 days
Farmland classification: Farmland of unique importance

Map Unit Composition

Riviera and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Riviera

Setting

Landform: Drainageways on marine terraces, flats on marine terraces

Custom Soil Resource Report

Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Linear
Across-slope shape: Concave, linear
Parent material: Sandy and loamy marine deposits

Typical profile

A - 0 to 6 inches: fine sand
E - 6 to 28 inches: fine sand
Bt/E - 28 to 32 inches: fine sandy loam
Btg - 32 to 42 inches: sandy clay loam
C - 42 to 80 inches: fine sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.60 to 6.00 in/hr)
Depth to water table: About 3 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water supply, 0 to 60 inches: Moderate (about 6.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: A/D
Forage suitability group: Sandy over loamy soils on flats of hydric or mesic lowlands (G155XB241FL)
Other vegetative classification: Sandy over loamy soils on flats of hydric or mesic lowlands (G155XB241FL), Slough (R155XY011FL)
Hydric soil rating: Yes

Minor Components

Wabasso

Percent of map unit: 8 percent
Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Tread, talf
Down-slope shape: Convex, linear
Across-slope shape: Linear
Other vegetative classification: South Florida Flatwoods (R155XY003FL), Sandy soils on flats of mesic or hydric lowlands (G155XB141FL)
Hydric soil rating: No

Pinellas

Percent of map unit: 4 percent
Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Tread, talf
Down-slope shape: Convex, linear
Across-slope shape: Linear
Other vegetative classification: Cabbage Palm Flatwoods (R155XY005FL), Sandy over loamy soils on flats of hydric or mesic lowlands (G155XB241FL)
Hydric soil rating: No

Custom Soil Resource Report

Brynwood

Percent of map unit: 4 percent

Landform: Flatwoods on marine terraces

Landform position (three-dimensional): Tread, talf

Down-slope shape: Linear

Across-slope shape: Linear

Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), South Florida Flatwoods (R155XY003FL)

Hydric soil rating: Yes

Oldsmar

Percent of map unit: 2 percent

Landform: Flatwoods on marine terraces

Landform position (three-dimensional): Talf

Down-slope shape: Convex, linear

Across-slope shape: Linear

Other vegetative classification: South Florida Flatwoods (R155XY003FL), Sandy soils on flats of mesic or hydric lowlands (G155XB141FL)

Hydric soil rating: No

Floridana

Percent of map unit: 2 percent

Landform: Depressions on marine terraces

Landform position (three-dimensional): Tread, dip

Down-slope shape: Concave, linear

Across-slope shape: Concave, linear

Other vegetative classification: Freshwater Marshes and Ponds (R155XY010FL), Sandy over loamy soils on stream terraces, flood plains, or in depressions (G155XB245FL)

Hydric soil rating: Yes

APPENDIX II

General Notes (Soil Borings, Sampling and Testing Methods)

ANDERSEN ANDRE CONSULTING ENGINEERS, INC.
SOIL BORING, SAMPLING AND TESTING METHODS

GENERAL

Andersen Andre Consulting Engineers, Inc. (AACE) borings describe subsurface conditions only at the locations drilled and at the time drilled. They provide no information about subsurface conditions below the bottom of the boreholes. At locations not explored, surface conditions that differ from those observed in the borings may exist and should be anticipated.

The information reported on our boring logs is based on our drillers' logs and on visual examination in our laboratory of disturbed soil samples recovered from the borings. The distinction shown on the logs between soil types is approximate only. The actual transition from one soil to another may be gradual and indistinct.

The groundwater depth shown on our boring logs is the water level the driller observed in the borehole when it was drilled. These water levels may have been influenced by the drilling procedures, especially in borings made by rotary drilling with bentonitic drilling mud. An accurate determination of groundwater level requires long-term observation of suitable monitoring wells. Fluctuations in groundwater levels throughout the year should be anticipated.

The absence of a groundwater level on certain logs indicates that no groundwater data is available. It does not mean that groundwater will not be encountered at that boring location at some other point in time.

STANDARD PENETRATION TEST

The Standard Penetration Test (SPT) is a widely accepted method of in situ testing of foundation soils (ASTM D-1586). A 2-foot (0.6m) long, 2-inch (50mm) O.D. split-barrell sampler attached to the end of a string of drilling rods is driven 24 inches (0.60m) into the ground by successive blows of a 140-pound (63.5 Kg) hammer freely dropping 30 inches (0.76m). The number of blows needed for each 6 inches (0.15m) increments penetration is recorded. The sum of the blows required for penetration of the middle two 6-inch (0.15m) increments of penetration constitutes the test result of N-value. After the test, the sampler is extracted from the ground and opened to allow visual description of the retained soil sample. The N-value has been empirically correlated with various soil properties allowing a conservative estimate of the behavior of soils under load. The following tables relate N-values to a qualitative description of soil density and, for cohesive soils, an approximate unconfined compressive strength (Qu):

Cohesionless Soils:	<u>N-Value</u>	<u>Description</u>
	0 to 4	Very loose
	4 to 10	Loose
	10 to 30	Medium dense
	30 to 50	Dense
	Above 50	Very dense

Cohesive Soils:	<u>N-Value</u>	<u>Description</u>	<u>Qu</u>
	0 to 2	Very soft	Below 0.25 tsf (25 kPa)
	2 to 4	Soft	0.25 to 0.50 tsf (25 to 50 kPa)
	4 to 8	Medium stiff	0.50 to 1.0 tsf (50 to 100 kPa)
	8 to 15	Stiff	1.0 to 2.0 tsf (100 to 200 kPa)
	15 to 30	Very stiff	2.0 to 4.0 tsf (200 to 400 kPa)
	Above 30	Hard	Above 4.0 tsf (400 kPa)

The tests are usually performed at 5 foot (1.5m) intervals. However, more frequent or continuous testing is done by AACE through depths where a more accurate definition of the soils is required. The test holes are advanced to the test elevations by rotary drilling with a cutting bit, using circulating fluid to remove the cuttings and hold the fine grains in suspension. The circulating fluid, which is bentonitic drilling mud, is also used to keep the hole open below the water table by maintaining an excess hydrostatic pressure inside the hole. In some soil deposits, particularly highly pervious ones, flush-coupled casing must be driven to just above the testing depth to keep the hole open and/or prevent the loss of circulating fluid. After completion of a test borings, the hole is kept open until a steady state groundwater level is recorded. The hole is then sealed by backfilling, either with accumulated cuttings or lean cement.

Representative split-spoon samples from each sampling interval and from different strata are brought to our laboratory in air-tight jars for classification and testing, if necessary. Afterwards, the samples are discarded unless prior arrangement have been made.

POWER AUGER BORINGS

Auger borings (ASTM D-1452) are used when a relatively large, continuous sampling of soil strata close to the ground surface is desired. A 4-inch (100 mm) diameter, continuous flight, helical auger with a cutting head at its end is screwed into the ground in 5-foot (1.5m) sections. It is powered by the rotary drill rig. The sample is recovered by withdrawing the auger out of the ground without rotating it. The soil sample so obtained, is classified in the field and representative samples placed in bags or jars and returned to the AACE soils laboratory for classification and testing, if necessary.

HAND AUGER BORINGS

Hand auger borings are used, if soil conditions are favorable, when the soil strata are to be determined within a shallow (approximately 5-foot [1.5m]) depth or when access is not available to power drilling equipment. A 3-inch (75mm) diameter hand bucket auger with a cutting head is simultaneously turned and pressed into the ground. The bucket auger is retrieved at approximately 6-inch (0.15m) interval and its contents emptied for inspection. On occasion post-hole diggers are used, especially in the upper 3 feet (1m) or so. Penetrometer probings can be used in the upper 5 feet (1.5m) to determine the relative density of the soils. The soil sample obtained is described and representative samples put in bags or jars and transported to the AACE soils laboratory for classification and testing, if necessary.

UNDISTURBED SAMPLING

Undisturbed sampling (ASTM D-1587) implies the recovery of soil samples in a state as close to their natural condition as possible. Complete preservation of in situ conditions cannot be realized; however, with careful handling and proper sampling techniques, disturbance during sampling can be minimized for most geotechnical engineering purposes. Testing of undisturbed samples gives a more accurate estimate of in situ behavior than is possible with disturbed samples.

Normally, we obtain undisturbed samples by pushing a 2.875-inch (73 mm) I.D., thin wall seamless steel tube 24 inches (0.6 m) into the soil with a single stoke of a hydraulic ram. The sampler, which is a Shelby tube, is 30 (0.8 m) inches long. After the sampler is retrieved, the ends are sealed in the field and it is transported to our laboratory for visual description and testing, as needed.

ROCK CORING

In case rock strata is encountered and rock strength/continuity/composition information is needed for foundation or mining purposes, the rock can be cored (ASTM D-2113) and 2-inch to 4-inch diameter rock core samples be obtained for further laboratory analyses. The rock coring is performed through flush-joint steel casing temporarily installed through the overburden soils above the rock formation and also installed into the rock. The double- or triple-tube core barrels are advanced into the rock typically in 5-foot intervals and then retrieved to the surface. The barrel is then opened so that the core sample can be extruded. Preliminary field measurements of the recovered rock cores include percent recovery and Rock Quality Designation (RQD) values. The rock cores are placed in secure core boxes and then transported to our laboratory for further inspection and testing, as needed.

SFWMD EXFILTRATION TESTS

In order to estimate the hydraulic conductivity of the upper soils, constant head or falling head exfiltration tests can be performed. These tests are performed in accordance with methods described in the South Florida Water Management District (SFWMD) Permit Information Manual, Volume IV. In brief, a 6 to 9 inch diameter hole is augered to depths of about 5 to 7 feet; the bottom one foot is filled with 57-stone; and a 6-foot long slotted PVC pipe is lowered into the hole. The distance from the groundwater table and to the ground surface is recorded and the hole is then saturated for 10 minutes with the water level maintained at the ground surface.

If a constant head test is performed, the rate of pumping will be recorded at fixed intervals of 1 minute for a total of 10 minutes, following the saturation period.

LABORATORY TEST METHODS

Soil samples returned to the AACE soils laboratory are visually observed by a geotechnical engineer or a trained technician to obtain more accurate description of the soil strata. Laboratory testing is performed on selected samples as deemed necessary to aid in soil classification and to help define engineering properties of the soils. The test results are presented on the soil boring logs at the depths at which the respective sample was recovered, except that grain size distributions or selected other test results may be presented on separate tables, figures or plates as discussed in this report.

THE PROJECT SOIL DESCRIPTION PROCEDURE FOR SOUTHEAST FLORIDA
CLASSIFICATION OF SOILS FOR ENGINEERING PURPOSES

The soil descriptions shown on the logs are based upon visual-manual procedures in accordance with local practice. Soil classification is performed in general accordance with the United Soil Classification System and is also based on visual-manual procedures.

BOULDERS (>12" [300 MM]) and COBBLES (3" [75 MM] TO 12" [300 MM]):

GRAVEL: Coarse Gravel: 3/4" (19 mm) to 3" (75 mm)
 Fine Gravel: No. 4 (4.75 mm) Sieve to 3/4" (19 mm)

Descriptive adjectives:

0 - 5%	– no mention of gravel in description
5 - 15%	– trace
15 - 29%	– some
30 - 49%	– gravelly (shell, limerock, cemented sands)

SANDS:

COARSE SAND: No. 10 (2 mm) Sieve to No. 4 (4.75 mm) Sieve
 MEDIUM SAND: No. 40 (425 μm) Sieve to No. 10 (2 mm) Sieve
 FINE SAND: No. 200 (75 μm) Sieve to No. 40 (425 μm) Sieve

Descriptive adjectives:

0 - 5%	– no mention of sand in description
5 - 15%	– trace
15 - 29%	– some
30 - 49%	– sandy

SILT/CLAY: < #200 (75μM) Sieve

SILTY OR SILT: PI < 4
 SILTY CLAYEY OR SILTY CLAY: 4 ≤ PI ≤ 7
 CLAYEY OR CLAY: PI > 7

Descriptive adjectives:

< - 5%	– clean (no mention of silt or clay in description)
5 - 15%	– slightly
16 - 35%	– clayey, silty, or silty clayey
36 - 49%	– very

ORGANIC SOILS:

Organic Content	Descriptive Adjectives	Classification
0 - 2.5%	Usually no mention of organics in description	See Above
2.6 - 5%	slightly organic	add "with organic fines" to group name
5 - 30%	organic	SM with organic fines Organic Silt (OL) Organic Clay (OL) Organic Silt (OH)

**THE PROJECT SOIL DESCRIPTION PROCEDURE FOR SOUTHEAST FLORIDA
CLASSIFICATION OF SOILS FOR ENGINEERING PURPOSES**

Organic Clay (OH)

HIGHLY ORGANIC SOILS AND MATTER:

Organic Content	Descriptive Adjectives	Classification
30 - 75%	sandy peat	Peat (PT)
	silty peat	Peat (PT)
> 75%	amorphous peat	Peat (PT)
	fibrous peat	Peat (PT)

STRATIFICATION AND STRUCTURE:

<u>Descriptive Term</u>	<u>Thickness</u>
with interbedded	
seam	-- less than ½ inch (13 mm) thick
layer	-- ½ to 12-inches (300 mm) thick
stratum	-- more than 12-inches (300 mm) thick
pocket	-- small, erratic deposit, usually less than 1-foot
lens	-- lenticular deposits
occasional	-- one or less per foot of thickness
frequent	-- more than one per foot of thickness
calcareous	-- containing calcium carbonate (reaction to diluted HCL)
hardpan	-- spodic horizon usually medium dense
marl	-- mixture of carbonate clays, silts, shells and sands

ROCK CLASSIFICATION (FLORIDA) CHART:

<u>Symbol</u>	<u>Typical Description</u>
LS	Hard Bedded Limestone or Caprock
WLS	Fractured or Weathered Limestone
LR	Limerock (gravel, sand, silt and clay mixture)
SLS	Stratified Limestone and Soils

THE PROJECT SOIL DESCRIPTION PROCEDURE FOR SOUTHEAST FLORIDA
CLASSIFICATION OF SOILS FOR ENGINEERING PURPOSES

LEGEND FOR BORING LOGS

N:	Number of blows to drive a 2-inch OD split spoon sampler 12 inches using a 140-pound hammer dropped 30 inches
R:	Refusal (less than six inches advance of the split spoon after 50 hammer blows)
MC:	Moisture content (percent of dry weight)
OC:	Organic content (percent of dry weight)
PL:	Moisture content at the plastic limit
LL:	Moisture content at the liquid limit
PI:	Plasticity index (LL-PL)
qu:	Unconfined compressive strength (tons per square foot, unless otherwise noted)
-200:	Percent passing a No. 200 sieve (200 wash)
+40:	Percent retained above a No. 40 sieve
US:	Undisturbed sample obtained with a thin-wall Shelby tube
k:	Permeability (feet per minute, unless otherwise noted)
DD:	Dry density (pounds per cubic foot)
TW:	Total unit weight (pounds per cubic foot)

APPENDIX III

AACE Project Limitations and Conditions

ANDERSEN ANDRE CONSULTING ENGINEERS, INC.

Project Limitations and Conditions

Andersen Andre Consulting Engineers, Inc. has prepared this report for our client for his exclusive use, in accordance with generally accepted soil and foundation engineering practices. No other warranty, expressed or implied, is made herein. Further, the report, in all cases, is subject to the following limitations and conditions:

VARIABLE/UNANTICIPATED SUBSURFACE CONDITIONS

The engineering analysis, evaluation and subsequent recommendations presented herein are based on the data obtained from our field explorations, at the specific locations explored on the dates indicated in the report. This report does not reflect any subsurface variations (e.g. soil types, groundwater levels, etc.) which may occur adjacent or between borings.

The nature and extent of any such variations may not become evident until construction/excavation commences. In the event such variations are encountered, Andersen Andre Consulting Engineers, Inc. may find it necessary to (1) perform additional subsurface explorations, (2) conduct in-the-field observations of encountered variations, and/or re-evaluate the conclusions and recommendations presented herein.

We at Andersen Andre Consulting Engineers, Inc. recommend that the project specifications necessitate the contractor immediately notifying Andersen Andre Consulting Engineers, Inc., the owner and the design engineer (if applicable) if subsurface conditions are encountered that are different from those presented in this report.

No claim by the contractor for any conditions differing from those expected in the plans and specifications, or presented in this report, should be allowed unless the contractor notifies the owner and Andersen Andre Consulting Engineers, Inc. of such differing site conditions. Additionally, we recommend that all foundation work and site improvements be observed by an Andersen Andre Consulting Engineers, Inc. representative.

SOIL STRATA CHANGES

Soil strata changes are indicated by a horizontal line on the soil boring profiles (boring logs) presented within this report. However, the actual strata's changes may be more gradual and indistinct. Where changes occur between soil samples, the locations of the changes must be estimated using the available information and may not be at the exact depth indicated.

SINKHOLE POTENTIAL

Unless specifically requested in writing, a subsurface exploration performed by Andersen Andre Consulting Engineers, Inc. is not intended to be an evaluation for sinkhole potential.

MISINTERPRETATION OF SUBSURFACE SOIL EXPLORATION REPORT

Andersen Andre Consulting Engineers, Inc. is responsible for the conclusions and recommendations presented herein, based upon the subsurface data obtained during this project. If others render conclusions or opinions, or make recommendations based upon the data presented in this report, those conclusions, opinions and/or recommendations are not the responsibility of Andersen Andre Consulting Engineers, Inc.

CHANGED STRUCTURE OR LOCATION

This report was prepared to assist the owner, architect and/or civil engineer in the design of the subject project. If any changes in the construction, design and/or location of the structures as discussed in this report are planned, or if any structures are included or added that are not discussed in this report, the conclusions and recommendations contained in this report may not be valid. All such changes in the project plans should be made known to Andersen Andre Consulting Engineers, Inc. for our subsequent re-evaluation.

USE OF REPORT BY BIDDERS

Bidders who are reviewing this report prior to submission of a bid are cautioned that this report was prepared to assist the owners and project designers. Bidders should coordinate their own subsurface explorations (e.g.; soil borings, test pits, etc.) for the purpose of determining any conditions that may affect construction operations. Andersen Andre Consulting Engineers, Inc. cannot be held responsible for any interpretations made using this report or the attached boring logs with regard to their adequacy in reflecting subsurface conditions which may affect construction operations.

IN-THE-FIELD OBSERVATIONS

Andersen Andre Consulting Engineers, Inc. attempts to identify subsurface conditions, including soil stratigraphy, water levels, zones of lost circulation, "hard" or "soft" drilling, subsurface obstructions, etc. However, lack of mention in the report does not preclude the presence of such conditions.

LOCATION OF BURIED OBJECTS

Users of this report are cautioned that there was no requirement for Andersen Andre Consulting Engineers, Inc. to attempt to locate any man-made, underground objects during the course of this exploration, and that no attempts to locate any such objects were performed. Andersen Andre Consulting Engineers, Inc. cannot be responsible for any buried man-made objects which are subsequently encountered during construction.

PASSAGE OF TIME

This report reflects subsurface conditions that were encountered at the time/date indicated in the report. Significant changes can occur at the site during the passage of time. The user of the report recognizes the inherent risk in using the information presented herein after a reasonable amount of time has passed. We recommend the user of the report contact Andersen Andre Consulting Engineers, Inc. with any questions or concerns regarding this issue.

Important Information about Your Geotechnical Engineering Report

Subsurface problems are a principal cause of construction delays, cost overruns, claims, and disputes.

While you cannot eliminate all such risks, you can manage them. The following information is provided to help.

Geotechnical Services Are Performed for Specific Purposes, Persons, and Projects

Geotechnical engineers structure their services to meet the specific needs of their clients. A geotechnical engineering study conducted for a civil engineer may not fulfill the needs of a construction contractor or even another civil engineer. Because each geotechnical engineering study is unique, each geotechnical engineering report is unique, prepared *solely* for the client. No one except you should rely on your geotechnical engineering report without first conferring with the geotechnical engineer who prepared it. *And no one — not even you — should apply the report for any purpose or project except the one originally contemplated.*

Read the Full Report

Serious problems have occurred because those relying on a geotechnical engineering report did not read it all. Do not rely on an executive summary. Do not read selected elements only.

A Geotechnical Engineering Report Is Based on A Unique Set of Project-Specific Factors

Geotechnical engineers consider a number of unique, project-specific factors when establishing the scope of a study. Typical factors include: the client's goals, objectives, and risk management preferences; the general nature of the structure involved, its size, and configuration; the location of the structure on the site; and other planned or existing site improvements, such as access roads, parking lots, and underground utilities. Unless the geotechnical engineer who conducted the study specifically indicates otherwise, do not rely on a geotechnical engineering report that was:

- not prepared for you,
- not prepared for your project,
- not prepared for the specific site explored, or
- completed before important project changes were made.

Typical changes that can erode the reliability of an existing geotechnical engineering report include those that affect:

- the function of the proposed structure, as when it's changed from a parking garage to an office building, or from a light industrial plant to a refrigerated warehouse,

- elevation, configuration, location, orientation, or weight of the proposed structure,
- composition of the design team, or
- project ownership.

As a general rule, *always* inform your geotechnical engineer of project changes—even minor ones—and request an assessment of their impact. *Geotechnical engineers cannot accept responsibility or liability for problems that occur because their reports do not consider developments of which they were not informed.*

Subsurface Conditions Can Change

A geotechnical engineering report is based on conditions that existed at the time the study was performed. *Do not rely on a geotechnical engineering report* whose adequacy may have been affected by: the passage of time; by man-made events, such as construction on or adjacent to the site; or by natural events, such as floods, earthquakes, or groundwater fluctuations. *Always* contact the geotechnical engineer before applying the report to determine if it is still reliable. A minor amount of additional testing or analysis could prevent major problems.

Most Geotechnical Findings Are Professional Opinions

Site exploration identifies subsurface conditions only at those points where subsurface tests are conducted or samples are taken. Geotechnical engineers review field and laboratory data and then apply their professional judgment to render an opinion about subsurface conditions throughout the site. Actual subsurface conditions may differ—sometimes significantly—from those indicated in your report. Retaining the geotechnical engineer who developed your report to provide construction observation is the most effective method of managing the risks associated with unanticipated conditions.

A Report's Recommendations Are *Not* Final

Do not overrely on the construction recommendations included in your report. *Those recommendations are not final*, because geotechnical engineers develop them principally from judgment and opinion. Geotechnical engineers can finalize their recommendations only by observing actual

subsurface conditions revealed during construction. *The geotechnical engineer who developed your report cannot assume responsibility or liability for the report's recommendations if that engineer does not perform construction observation.*

A Geotechnical Engineering Report Is Subject to Misinterpretation

Other design team members' misinterpretation of geotechnical engineering reports has resulted in costly problems. Lower that risk by having your geotechnical engineer confer with appropriate members of the design team after submitting the report. Also retain your geotechnical engineer to review pertinent elements of the design team's plans and specifications. Contractors can also misinterpret a geotechnical engineering report. Reduce that risk by having your geotechnical engineer participate in prebid and preconstruction conferences, and by providing construction observation.

Do Not Redraw the Engineer's Logs

Geotechnical engineers prepare final boring and testing logs based upon their interpretation of field logs and laboratory data. To prevent errors or omissions, the logs included in a geotechnical engineering report should *never* be redrawn for inclusion in architectural or other design drawings. Only photographic or electronic reproduction is acceptable, *but recognize that separating logs from the report can elevate risk.*

Give Contractors a Complete Report and Guidance

Some owners and design professionals mistakenly believe they can make contractors liable for unanticipated subsurface conditions by limiting what they provide for bid preparation. To help prevent costly problems, give contractors the complete geotechnical engineering report, *but* preface it with a clearly written letter of transmittal. In that letter, advise contractors that the report was not prepared for purposes of bid development and that the report's accuracy is limited; encourage them to confer with the geotechnical engineer who prepared the report (a modest fee may be required) and/or to conduct additional study to obtain the specific types of information they need or prefer. A prebid conference can also be valuable. *Be sure contractors have sufficient time* to perform additional study. Only then might you be in a position to give contractors the best information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions.

Read Responsibility Provisions Closely

Some clients, design professionals, and contractors do not recognize that geotechnical engineering is far less exact than other engineering disciplines. This lack of understanding has created unrealistic expectations that

have led to disappointments, claims, and disputes. To help reduce the risk of such outcomes, geotechnical engineers commonly include a variety of explanatory provisions in their reports. Sometimes labeled "limitations" many of these provisions indicate where geotechnical engineers' responsibilities begin and end, to help others recognize their own responsibilities and risks. *Read these provisions closely.* Ask questions. Your geotechnical engineer should respond fully and frankly.

Geoenvironmental Concerns Are Not Covered

The equipment, techniques, and personnel used to perform a *geoenvironmental* study differ significantly from those used to perform a *geotechnical* study. For that reason, a geotechnical engineering report does not usually relate any geoenvironmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. *Unanticipated environmental problems have led to numerous project failures.* If you have not yet obtained your own geoenvironmental information, ask your geotechnical consultant for risk management guidance. *Do not rely on an environmental report prepared for someone else.*

Obtain Professional Assistance To Deal with Mold

Diverse strategies can be applied during building design, construction, operation, and maintenance to prevent significant amounts of mold from growing on indoor surfaces. To be effective, all such strategies should be devised for the *express purpose* of mold prevention, integrated into a comprehensive plan, and executed with diligent oversight by a professional mold prevention consultant. Because just a small amount of water or moisture can lead to the development of severe mold infestations, a number of mold prevention strategies focus on keeping building surfaces dry. While groundwater, water infiltration, and similar issues may have been addressed as part of the geotechnical engineering study whose findings are conveyed in this report, the geotechnical engineer in charge of this project is not a mold prevention consultant; ***none of the services performed in connection with the geotechnical engineer's study were designed or conducted for the purpose of mold prevention. Proper implementation of the recommendations conveyed in this report will not of itself be sufficient to prevent mold from growing in or on the structure involved.***

Rely, on Your ASFE-Member Geotechnical Engineer for Additional Assistance

Membership in ASFE/THE BEST PEOPLE ON EARTH exposes geotechnical engineers to a wide array of risk management techniques that can be of genuine benefit for everyone involved with a construction project. Confer with your ASFE-member geotechnical engineer for more information.

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