IFBC No. 19-TA002934OV
WARNER'S BAYOU BOAT RAMP SOUTH PARKING LOT IMPROVEMENTS
NOVEMBER 21, 2018
PROJECT NO. 6071402
913-36

Manatee County BCC
Procurement Division
1112 Manatee Avenue West Ste 803
Bradenton, FL 34205
purchasing@mymanatee.org

Manatee County
FLORIDA

ADVERTISEMENT
INVITATION FOR BID CONSTRUCTION
NO. 19-TA002934OV
WARNER'S BAYOU BOAT RAMP SOUTH PARKING LOT IMPROVEMENTS

Manatee County, a political subdivision of the State of Florida (hereinafter referred to as County), will receive sealed bids from individuals, corporations, partnerships, and other legal entities authorized to do business in the State of Florida, to provide Warner's Bayou Boat Ramp South Parking Lot Improvements, as specified in this Invitation for Bid Construction to include installaton of concrete parking area, cast-in-place concrete, concrete sidewalk at the Warner's Bayou Boat Ramp located at 5800 Riverview Blvd., Manatee County, FL.

DATE, TIME AND PLACE DUE:
The Due Date and Time for submission of Bids in response to this IFBC **is December 21, 2018 at 3:00 P.M. ET.** Bids must be delivered to the following location: Manatee County Administration Building, 1112 Manatee Ave. W., Suite 803, Bradenton, FL 34205 prior to the Due Date and Time.

SOLICITATION INFORMATION CONFERENCE:
A non-mandatory Information Conference will be held at 11:00 A.M. on November 30, 2018 at the Manatee County Administration Building, 1112 Manatee Ave West, Ste. 803, Bradenton, FL 34205.

DEADLINE FOR QUESTIONS AND CLARIFICATION REQUESTS:
The deadline to submit all questions, inquiries, or requests concerning interpretation, clarification or additional information pertaining to this Invitation for Bid Construction to the Manatee County Procurement Division is December 7, 2018. Questions and inquiries should be submitted via email to the Designated Procurement Contact shown below.

Important: A prohibition of lobbying is in place. Review Section A.13 carefully to avoid violation and possible sanctions.

DESIGNATED PROCUREMENT CONTACT: Olga Valcich, CPPB, Procurement Agent
(941) 749-3055, Fax (941) 749-3034
Email: olga.valcich@mymanatee.org
Manatee County Financial Management Department
Procurement Division

AUTHORIZED FOR RELEASE: _____

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SECTION A
INFORMATION FOR BIDDERS

To receive consideration, entities who submit a response to this Invitation for Bid (Bidders) must meet the minimum qualification requirements and comply with the following instructions. Bid responses (Bids) will be accepted from single business entities, joint ventures, partnerships or corporations.

A.01 BID DUE DATE

The Due Date and Time for submission of Bids in response to this Invitation for Bid (IFBC) **is December 21, 2018 at 3:00 P.M. ET.** Bids must be delivered to the following location: Manatee County Administration Building, 1112 Manatee Ave. W., Suite 803, Bradenton, FL 34205 and time stamped by a Procurement representative prior to the Due Date and Time.

Bids received after the Due Date and Time will not be considered. It will be the sole responsibility of the Bidder to deliver its Bid to the Manatee County Procurement Division for receipt on or before the Due Date and Time. If a Bid is sent by U.S. Mail, courier or other delivery services, the Bidder will be responsible for its timely delivery to the Procurement Division. Bids delayed in delivery will not be considered, will not be opened at the public opening, and arrangements will be made for their return at the Bidder's request and expense.

A.02 SOLICITATION INFORMATION CONFERENCE:

In order to provide prospective Bidders with information and understanding of the County's needs a non-mandatory Solicitation Information Conference will be held at 11:00 A.M. on November 30, 2018 at the Manatee County Administration Building, located at 1112 Manatee Avenue West, Suite 803, Purchasing Conference Room, Bradenton, FL 34205.

Attendance to mandatory information conferences and/or site visits are required to meet the minimum qualification requirements of the IFBC. Attendance to non-mandatory information conferences is not required, but is strongly encouraged.

A.03 PUBLIC OPENING OF BIDS

Bids will be opened immediately following the Due Date and Time at the Manatee County Administration Building, Suite 803 in the presence of County officials. Bidders or their representatives may attend the Bid opening.

Manatee County will make public at the opening the names of the business entities which submitted a Bid, the total bid price submitted, and the city and state in which Bidder resides. No review or analysis of the Bids will be conducted at the Bid opening.

A.04 SUBMISSION OF BIDS

The contents of the Bid sealed package must include:

- One (1) bound original clearly identifying Bidder and marked "ORIGINAL".
- Two (2) bound copies clearly identifying Bidder and marked "COPY" with all required information and identical to the original.
- One (1) electronic format copy clearly identifying Bidder.
-

Electronic format copy should be submitted on a Universal Serial Bus (USB) portable flash memory drive or compact disc (CD) in MicroSoft Office® or Adobe Acrobat® portable document format (PDF) in one continuous file. Do not password protect or otherwise encrypt electronic Bid copies. Electronic copies must be searchable and contain an identical Bid to the original.

Submit the Bid package in a sealed container with the following information clearly marked on the outside of the package: IFBC No. 19-TA002934OV, Warner's Bayou Boat Ramp South Parking Lot Improvements, Bidder's name, and Bidder's address. Bids must be delivered to the Manatee County Procurement Division prior to the Due Date and Time at the following address:

Manatee County Procurement Division
1112 Manatee Ave. West, Ste. 803
Bradenton, FL 34205

A.05 DISTRIBUTION OF SOLICITATION DOCUMENTS

All documents issued pursuant to this IFBC are distributed electronically and available for download at no charge at www.mymanatee.org > *Bids and Proposals.* This link is located on the left side of the County website home page. Documents may be viewed and downloaded for printing using Adobe Reader® software.

At its sole discretion, the County may utilize a third-party provider, such as DemandStar by Onvia® (DemandStar) to distribute proposals. Visit the DemandStar website at www.Demandstar.com for more information regarding this service. Participation in the DemandStar system is not a requirement for doing business with Manatee County.

Additionally, the IFBC and all related documents are available for public inspection at the Manatee County Procurement Division, 1112 Manatee Avenue West, Suite 803, Bradenton, FL 34205. Call (941) 749-3014 to schedule an appointment. Documents are available between the hours of 8:00 A.M. and 5:00 P.M., Monday through Friday, with the exception of County holidays.

As a courtesy, Manatee County notifies the Manatee County Chamber of Commerce and the Manatee County Black Chamber of Commerce of all active solicitations, who then distributes the information to its members.

A.06 EXAMINATION OF BID DOCUMENTS AND SITE(S)

It is the responsibility of each bidder before submitting a bid, to (a) examine the IFBC documents thoroughly; (b) visit the Project Site(s) to become familiar with local conditions that may affect cost, progress, performance, or furnishing of the Work; (c) consider federal, state, and local codes, laws, and regulations that may affect costs, progress, performance, or furnishing of the Work; (d) study and carefully correlate bidder's observations with the IFBC documents; and (e) notify County in writing of all conflicts, errors, or discrepancies in the IFBC documents.

Each bidder may, at bidder's own expense, make or obtain any additional examinations, investigations, explorations, tests and studies, and obtain any additional information and data which pertain to the physical conditions at or contiguous to the Project Site(s) or otherwise which may affect cost, progress, performance or furnishing of the Work and which bidder deems necessary to determine his bid for performing and furnishing the Work in accordance with the time, price and other terms and conditions of the IFBC documents. County will provide each bidder access to the site(s) to conduct such explorations and tests.

Bidder shall fill all holes, clean up and restore the Project Site(s) to its former condition upon completion of such explorations. The lands upon which the Work is to be performed, rights-of-way and easements for access thereto, and other lands designated for use by successful bidder in performing the Work are identified in the IFBC documents.

All additional lands and access thereto required for temporary construction facilities or storage of materials and equipment are to be provided by successful bidder. Easements for permanent structures or permanent changes in existing structures are to be obtained and paid for by County unless otherwise provided in the IFBC documents.

Inspection of the Project Site(s) is a requirement to be considered for award of this bid. Prior to submitting a bid, each bidder shall examine the Project Site(s) and all conditions thereon fully familiarizing themselves with the full scope of the Work. Failure to become familiar with Project Site conditions will in no way relieve the successful bidder from the necessity of furnishing any materials or performing any Work that is required to complete the Project in accordance with the Project Plans and Specifications. Bidder shall acknowledge inspection of the Project Site(s) on his/her signed, submitted Bid Form.

A.07 ADDENDA

Any interpretations, corrections or changes to this IFBC will be made by addenda. Addenda will be posted on the Procurement Division's web page of the County website at http://www.mymanatee.org/purchasing > *Bids and Proposals*. For those solicitations that are advertised on DemandStar, addenda will also be posted on the DemandStar distribution system on the 'Planholders' link.

All addenda are a part of the IFBC and each Bidder will be bound by such addenda. It is the responsibility of each Bidder to read and comprehend all addenda issued. Failure of any Bidder to acknowledge an issued addendum in its Bid will not relieve the Bidder from any obligation contained therein.

A.08 BID FORMS

Bids must include the forms provided in this IFBC. If needed, additional pages may be attached to a form. Bidders must fully complete and execute all Bid Forms. Bid Forms must be executed by an authorized official of the company who has the legal authority to bind the company.

A.09 BID EXPENSES

All costs incurred by Bidder in responding to this IFBC will be the sole responsibility of the Bidder.

A.10 QUESTION AND CLARIFICATION PERIOD

Each Bidder shall examine all IFBC documents and will judge all matters relating to the adequacy and accuracy of such documents. Any questions or requests concerning interpretation, clarification or additional information pertaining to this IFBC, including the sample Agreement, shall be made in writing via email to the Manatee County Procurement Division to the Designated Procurement Contact or to purchasing@mymanatee.org. All questions received and responses given will be provided to potential bidders via an addendum to this IFBC.

Manatee County will not be responsible for oral interpretations given by other sources including County staff, representative, or others. The issuance of a written addendum by the Procurement Division is the only official method whereby interpretation, clarification or additional information will be given.

A.11 FALSE OR MISLEADING STATEMENTS

Bids which contain false or misleading statements or which provide references which do not support an attribute or condition claimed by the Bidder, may be rejected. If, in the opinion of the County, such information was intended to mislead the County in its evaluation of the Bid, and the attribute, condition or capability is a requirement of this IFBC. Such Bidder will be disqualified from consideration for this IFBC and may be disqualified from submitting a response on future solicitation opportunities with the County.

A.12 CONFIDENTIALITY OF SECURITY RELATED RECORDS

a. Pursuant to Florida Statutes § 119.071(3), the following records (hereinafter referred to collectively as "the Confidential Security Records") are confidential and exempt from the disclosure requirements of Florida Statutes § 119.07(1):

   i. A Security System Plan or portion thereof for any property owned by or leased to County or any privately owned or leased property held by County.
   ii. Building plans, blueprints, schematic drawings, and diagrams, including draft, preliminary, and final formats, which depict the internal layout and structural elements of a building, arena, stadium, water treatment facility, or other structure owned or operated by County.
   iii. Building plans, blueprints, schematic drawings, and diagrams, including draft, preliminary, and final formats, which depict the internal layout or structural elements of an attractions and recreation facility, entertainment or resort complex, industrial complex, retail and service development, office development, or hotel or motel development in the possession of, submitted to County.

b. Successful Bidder agrees that, as provided by Florida Statute, it shall not, as a result of a public records request, or for other reason disclose the contents of, or release or provide copies of the Confidential Security Records to any other party absent the express written authorization of County's Property Management Director or to comply with a court order requiring such release or disclosure. To the extent successful Bidder receives a request for such records, it shall immediately contact the County's designated Contract administrator who shall coordinate County's response to the request.

A.13 LOBBYING

After the issuance of any IFBC, prospective bidders, bidders, or their agents, representatives or persons acting at the request of such bidder shall not contact, communicate with or discuss any matter relating to the IFBC with any officer, agent or employee of Manatee County other than the Procurement Official or the contact identified in this IFBC, pursuant to the Manatee County Code of Laws. This prohibition includes copying such persons on all written communication, including email correspondence. This requirement begins with the issuance of an IFBC and ends upon execution of the final Agreement or when the IFBC has been cancelled. Violators of this prohibition shall be subject to sanctions as provided in the Manatee County Code of Laws.

A.14 UNBALANCED BIDDING PROHIBITED

County recognizes that large and/or complex projects will often result in a variety of methods, sources, and prices. However, where in the opinion of the County such variation does not appear to be justified given bid requirements and industry and market conditions, the Bid will be presumed to be unbalanced. Examples of unbalanced Bids will include:

a. Bids showing omissions, alterations of form, additions not specified, or required conditional or unauthorized alternate bids.
b. Bids quoting prices that substantially deviate, either higher or lower, from those included in the Bids of competitive Bidders for the same line item unit costs.
c. Bids where the unit costs offered are in excess of, or below reasonable cost analysis values.

In the event County determines that a Bid is presumed unbalanced, it will request the opportunity to and reserves the right to, review all source quotes, bids, price lists, letters of intent, and other supporting documentation which the Bidder obtained and upon which the Bidder relied upon to develop its Bid. County reserves the right to deem any presumptive unbalanced Bid where the Bidder is unable to demonstrate the validity and/or necessity of the unbalanced unit costs as non-responsive.

A.15 FRONT LOADING OF BID PRICING PROHIBITED

Prices offered for performance and/or acquisition activities which occur early in the Project Schedule, such as mobilization; clearing and grubbing; or maintenance of traffic; that are substantially higher than pricing of competitive bidders within the same portion of the Project Schedule, will be presumed to be front loaded. Front loaded bids could reasonably appear to be an attempt to obtain unjustified early payments creating a risk of insufficient incentive for the bidder to complete the Work or otherwise creating an appearance of an undercapitalized bidder.

In the event County determines that a bid is presumed to be front loaded, it will request the opportunity to, and reserves the right to, review all source quotes, bids, price lists, letters of intent, and other documents which the bidder obtained and upon which the bidder relied upon to develop the pricing or acquisition timing for these bid items. County reserves the right to reject as nonresponsive any presumptive front loaded bids where the bidder is unable to demonstrate the validity and/or necessity of the front-loaded costs.

A.16 WITHDRAWAL OR REVISION OF BIDS

Bidders may withdraw Bids under the following circumstances:

a. If Bidder discovers a mistake(s) prior to the Due Date and Time. Bidder may withdraw its Bid by submitting a written notice to the Procurement Division. The notice must be received in the Procurement Division prior to the Due Date and Time for receiving Bids. A copy of the request shall be retained and the unopened Bid returned to the Bidder; or

b. After the Bids are opened but before a contract is signed, Bidder alleges a material mistake of fact if:

   1. The mistake is clearly evident in the solicitation document; or
   2. Bidder submits evidence which clearly and convincingly demonstrates that a mistake was made in the Bid. Request to withdraw a Bid must be in writing and approved by the Procurement Official.

A.17 IRREVOCABLE OFFER

Any Bid may be withdrawn up until the Due Date and Time. Any Bid not so withdrawn shall, upon opening, constitute an irrevocable offer for a period of ninety (90) days to provide the goods or services set forth in this IFBC or until one or more of the Bids have been duly accepted by County, whichever occurs first.

A.18 RESERVED RIGHTS

County reserves the right to accept or reject any and/or all bids, to waive irregularities and minor technicalities, and to request resubmission. Also, County reserves the right to accept all or any part of the bid and to increase or decrease quantities to meet additional or reduced requirements of County. Any sole response received by the first submission date may or may not be rejected by County depending on available competition and current needs of County. For all items combined, the bid of the lowest, responsive, responsible bidder will be accepted, unless all bids are rejected.

The lowest, responsible bidder shall mean that Bidder who makes the lowest Bid to sell goods and/or services of a quality which meets or exceeds the quality of goods and/or services set forth in the IFBC documents or otherwise required by County.

To be responsive, a Bidder shall submit a Bid which conforms in all material respects to the requirements set forth in the IFBC.

To be a responsible bidder, the bidder shall have the capability in all respects to perform fully the bid requirements, and the tenacity, perseverance, experience, integrity, reliability, capacity, facilities, equipment, and credit which will assure good faith performance.

Also, County reserves the right to make such investigation as it deems necessary to determine the ability of any bidder to furnish the service requested. Information County deems necessary to make this determination shall be provided by the bidder. Such information may include, but shall not be limited to current financial statements, verification of availability of equipment and personnel, and past performance records.

A.19 APPLICABLE LAWS

Bidder must be authorized to transact business in the State of Florida. All applicable laws and regulations of the State of Florida and ordinances and regulations of Manatee County will apply to any resulting Agreement. Any involvement with the Manatee County Procurement Division shall be in accordance with the Manatee County Procurement Ordinance as amended.

A.20 COLLUSION

By submitting a bid in response to this IFBC, Bidder certifies that it has not divulged, discussed or compared its bid with any other bidder, and has not colluded with any other bidder or parties to this bid whatsoever. Further, Bidder, and in the case of a joint bid each party thereto, certifies as to their own organization, that in connection with this IFBC that:

a. All prices and/or cost data submitted have been arrived at independently, without consultation, communication, or agreement, for the purpose of restricting competition, as to any matter relating to such prices and/or cost data, with any other bidder or with any competitor;

b. All prices and/or cost data quoted for this bid have not been knowingly disclosed by the Bidder and will not knowingly be disclosed by the Bidder, prior to the scheduled opening, directly or indirectly to any other bidder or to any competitor;

c. No attempt has been made, or will be made, by Bidder to induce any other person or firm to submit or not to submit a bid for the purpose of restricting competition;

d. The only person or persons interested in this bid is/are named in Bidder's Bid and that no person other than those identified has any interest in the Bid or in the resulting Agreement to be entered into.

e. No person or agency has been employed or retained to solicit or secure the resulting Agreement upon an agreement or understanding or a commission, percentage, brokerage, or contingent fee except bona fide employees or established commercial agencies maintained by Bidder for purpose of doing business.

A.21 CODE OF ETHICS

With respect to this and any bid, if a Bidder violates, directly or indirectly, the ethics provisions of the Manatee County Procurement Code and/or Florida criminal or civil laws related to public procurement, including but not limited to Florida Statutes Chapter 112, Part II, Code of Ethics for Public Officers and Employees, such Bidder will be ineligible for award to perform the work described in this IFBC, and may be disqualified from submitting on any future quote or bid requests to supply goods or services to Manatee County. By submitting a bid, the Bidder represents to County that all statements made and materials submitted are truthful, with no relevant facts withheld.

A.22 PUBLIC CONTRACTING AND ENVIRONMENTAL CRIMES

A person or affiliate who has been placed on the convicted vendor list following a conviction for a public entity crime, as that term is defined in Section 287.133, Florida Statutes, may not submit a bid to provide any goods or services to a public entity; may not submit a bid with a public entity for the construction or repair of a public building or public work; may not submit bids on leases of real property to a public entity; may not be awarded or perform Work as a contractor, supplier, Subcontractor, or consultant under an agreement with any public entity; and may not transact business with any public entity in excess of the threshold amount provided in Section 287.017, Florida Statutes, for CATEGORY TWO for a period of thirty-six (36) months following the date of being placed on the convicted list.

In addition, the Manatee County Code of Laws prohibits the award of any bid to any person or entity who/which has, within the past five (5) years, been convicted of, or admitted to in court or sworn to under oath, a public entity crime or of any environmental law that, in the reasonable opinion of the Procurement Official, establishes reasonable grounds to believe the person or business entity will not conduct business in a responsible matter.

To ensure compliance with the foregoing, the Code requires all persons or entities desiring to do business with County to execute and file with the Purchasing Official an affidavit, executed under the pain and penalties of perjury, confirming that person, entity and any person(s) affiliated with the entity, does not have such a record and is therefore eligible to seek and be awarded business with County. In the case of a business entity other than a partnership or a corporation, such affidavit shall be executed by an authorized agent of the entity. In the case of a partnership, such affidavit shall be executed by the general partner(s). A Public Contracting and Environmental Crimes Certification form is attached herein for this purpose.

A.23 SCRUTINIZED COMPANIES

Florida Statutes § 287.135, as amended from time to time, may contain limitations on the part of a company to conduct business with the County. Submission of a response to this solicitation shall be subject to all procedural requirements contained within that statute including the submission of any required certification of eligibility to contract with the County. It shall be the responsibility of the company responding to this solicitation to concurrently review the current version of the statute and ensure it is compliant. To the extent a certification is required, it shall be provided on the form located at Attachment E *Vendor Certification Regarding Scrutinized Companies Lists*.

A.24 AGREEMENT

The successful Bidder will be required to execute the Agreement, a sample of which is attached hereto and made a part hereof. The County will transmit the Agreement to the successful Bidder for execution. The successful Bidder agrees to deliver the required number of duly executed copies of the Agreement, with any other required documents, to the County within ten calendar days of receipt.

A.25 LEGAL NAME

Bidders shall clearly indicate the full legal name, including any d/b/a, address, email address, and telephone number on the Bid Form. Bid Forms shall be signed above the typed or printed name and title of the signer. The signer must be an official of the organization and have the authority to bind the bidder to the submitted bid.

When bidder is a partnership, the Bid Form shall be signed in the name of the firm and by all partners required under the terms of the partnership agreement. When a corporation is a bidder, the authorized corporate officers shall sign.

Bidders who are corporations or limited partnerships shall provide a certified copy of their permit to transact business in the State of Florida, preferably along with the Bid Form, or within forty-eight (48) hours after request by County.

When submitting a bid as a joint venture, it must have filed paper documents with the Division of Profession's Construction Industry Licensing Board prior to submitting a bid.

A.26 DISCOUNTS

All discounts must be incorporated in the prices contained in the bid and not shown separately. Unless otherwise specified in this IFBC, pricing must be all inclusive, including delivery costs. The prices indicated on the Pricing Form shall be the prices used in determining award.

A.27 TAXES

Manatee County is exempt from Federal Excise and State Sales Taxes. (F.E.T. Cert. No. 59-78-0089K; Florida Sales Tax Exempt Cert. No. 85-8012622206C-6). Therefore, the Bidder is prohibited from delineating a separate line item in its bid for any sales or service taxes.

The successful Bidder will be responsible for the payment of taxes of any kind, including but not limited to sales, consumer, use, and other similar taxes payable on account of the work performed and/or materials furnished under the award in accordance with all applicable laws and regulations.

A.28 QUALITY

Unless otherwise specifically provided in the IFBC documents, all goods provided shall be new, the latest make or model, of the best quality, of the highest grade of workmanship, and of the most suitable for the purpose intended.

Unless otherwise specifically provided in the IFBC documents, reference to any equipment, material, article or patented process, by trade name, brand name, make or catalog number, shall be regarded as establishing a standard of quality and shall not be construed as limiting competition.

A.29 AUTHORIZED PRODUCT REPRESENTATION

Bidder, by virtue of submitting the name and specifications of a manufacturer's product, will be required to furnish the named manufacturer's product. Failure to do so may, in the County's sole discretion, be deemed a material breach of the resulting agreement and shall constitute grounds for County's immediate termination of the resulting agreement.

A.30 ROYALTIES AND PATENTS

The successful Bidder shall pay all royalties and license fees for equipment or processes in conjunction with the equipment and/or services being furnished. Successful Bidder shall defend all suits or claims for infringement of any patent, trademark or copyright, and shall save County harmless from loss on account thereof, including costs and attorney's fees.

A.31 AMERICANS WITH DISABILITIES ACT

Manatee County does not discriminate upon the basis of any individual's disability status. This non-discrimination policy involves every aspect of County's functions including one's access to participation, employment, or treatment in its programs or activities. Anyone requiring reasonable accommodation for an information conference or bid opening should contact the person named on the cover page of this document at least twenty-four (24) hours in advance of either activity.

A.32 EQUAL EMPLOYMENT OPPORTUNITY

In accordance with Title VI of the Civil Rights Act of 1964, Title 15, Part 8 of the Code of Federal Regulations and the Civil Rights Act of 1992, Manatee County hereby notifies all Bidders that it will affirmatively ensure minority business enterprises are afforded full opportunity to participate in response to this IFBC and will not be discriminated against on the grounds of race, color, national origin, religion, sex, age, handicap, or marital status in consideration of award.

A.33 MINORITY AND/OR DISADVANTAGED BUSINESS ENTERPRISES

The State of Florida Office of Supplier Diversity provides the certification process and maintains the database of certified MBE/DBE firms. Additional information may be obtained at http://www.osd.dms.state.fl.us/iframe.htm or by calling (850) 487-0915.

A.34 DELIVERY

Unless otherwise specified, all prices shall include all delivery cost (FOB Destination).

A.35 MATHEMATICAL ERRORS

1. Bid pricing forms without imbedded mathematical formulas: In the event of multiplication/extension error(s), the unit price shall prevail. In the event of addition error(s) the extension totals will prevail. In the event the dollar amount for contract contingency is omitted, it will be added to the total price of the Bid.

2. Bid pricing forms with imbedded mathematical formulas: Interactive bid pricing forms that contain mathematical formulas may be provided to automate lengthy and complex bid forms. In the event bid pricing forms with imbedded formulas are used and a multiplication/extension error(s) is discovered in the formula, the unit price entered by the Bidder shall prevail.

3. Bidder shall assume the responsibility and accuracy of the information input in the bid pricing form and therefore shall verify that the calculations are correct before submitting its Bid.

4. Regardless of the type of bid pricing form used, all Bids shall be reviewed mathematically by the County using these standards.

A.36 SUBCONTRACTORS

The successful bidder will obtain prior written approval from the County for any subcontractor(s) and the work each will perform. A subcontractor is defined as any entity performing work within the scope of the project who is not an employee of the successful Bidder.

Bidders subcontracting any portion of the work shall include a list of subcontractors along with their bid. The list shall include: name and address of subcontractor, type of work to be performed and the percent of the contract amount to be subcontracted.

A.37 E-VERIFY

Prior to the employment of any person under this contract, the successful Bidder shall utilize the U.S. Department of Homeland Security's E-Verify system to verify the employment eligibility of (a) all persons employed during the contract term by the successful Bidder to perform employment duties within Florida and (b) all persons, including subcontractors, assigned by the successful Bidder to perform work pursuant to the contract with Manatee County. For more information on this process, please refer to United States Citizenship and Immigration Service site at: http://www.uscis.gov/.

Only those individuals determined eligible to work in the United States shall be employed under this contract.

By submission of a bid in response to this IFBC, the successful Bidder commits that all employees and subcontractors will undergo e-verification before placement on this contract.

The successful Bidder shall maintain sole responsibility for the actions of its employees and subcontractors. For the life of the contract, all employees and new employees brought in after contract award shall be verified under the same requirement stated above.

A.38 DISCLOSURE

Upon receipt, all inquiries and responses to inquiries related to this IFBC become "Public Records," and shall be subject to public disclosure consistent with Florida Statues, Chapter 119.

Bids become subject to disclosure thirty (30) days after the opening or if a notice of intent to award decision is made earlier than this time as provided by Florida Statutes § 119.071(1)(b). No announcement or review of the bids shall be conducted at the public opening.

Based on the above, County will receive bids at the time and date stated and will make public at the opening the names of the business entities of all that submitted a bid.

If County rejects all bids and concurrently notices its intent to reissue the solicitation, the rejected bids are exempt from public disclosure until such time as County provides notice of an intended decision concerning the reissued solicitation or until County withdraws the reissued solicitation. A bid is not exempt for longer than twelve (12) months after the initial notice rejecting all bids.

Pursuant to Florida Statutes 119.0701, to the extent successful Bidder is performing services on behalf of the County, successful Bidder must:

a. Keep and maintain public records required by public agency to perform the service.

b. Upon request from the public agency's custodian of public records, provide the public agency 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 Florida Statutes, Chapter 119, or as otherwise provided by law.

c. 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 successful Bidder does not transfer the records to the public agency.

d. Upon completion of the contract, transfer, at no cost, to the public agency all public records in possession of contractor or keep and maintain public records required by the public agency to perform the service. If the successful Bidder transfers all public records to the public agency upon completion of the contract, the successful Bidder shall destroy any duplicate public records that are exempt or confidential and exempt from public records disclosure requirements. If the successful Bidder keeps and maintains public records upon completion of the contract, the successful Bidder shall meet all applicable requirements for retaining public records. All records stored electronically must be provided to the public agency, upon request from public agency's custodian of public records, in a format that is compatible with the information technology systems of the public agency.

IF THE SUCCESSFUL BIDDER HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO THE SUCCESSFUL BIDDER'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO ANY RESULTING CONTRACT, CONTACT COUNTY'S CUSTODIAN OF PUBLIC RECORDS AT:

Phone: (941) 742-5845
Email: debbie.scaccianoce@mymanatee.org
Mail: Manatee County BCC
Attn: Records Manager
1112 Manatee Ave W.
Bradenton, FL 34205.

A.39 LOCAL PREFERENCE

Local business is defined as a business legally authorized to engage in the sale of the goods and/or services, and which certifies within its Bid that for at least six (6) full months prior to the advertisement of this IFBC it has maintained a physical place of business in Manatee, Desoto, Hardee, Hillsborough, Pinellas or Sarasota County with at least one full-time employee at that location.

Local preference shall not apply to the following categories of agreements:

1. Purchases or agreements which are funded, in whole or in part, by a governmental or other funding entity, where the terms and conditions governing the funds prohibit the preference.
2. Any bid announcement which specifically provides that local preference, as set forth in this section, is suspended due to the unique nature of the goods or services sought, the existence of an emergency as found by either the County Commission or County Administrator, or where such suspension is, in the opinion of the County Attorney, required by law.
3. For a competitive solicitation for construction services in which fifty percent (50%) or more of the cost will be paid from state.
4. To qualify for local preference under this section, **a local business must certify to County** by completing an "**Affidavit as to Local Business Form,**" which is available for download at www.mymanatee.org/vendor. Click on "Affidavit for Local Business" to access and print the form. Complete, notarize, and mail the notarized original to the following address: Manatee County Procurement Division, 1112 Manatee Avenue West, Suite 803, Bradenton, FL 34205.
5. It is the responsibility of the bidder to ensure accuracy of the Affidavit as to Local Business and notify County of any changes affecting same.

A.40 VENDOR REGISTRATION

Registering your business will provide Manatee County a sourcing opportunity to identify suppliers of needed goods and services and identify local businesses. To register as a supplier with the County go to www.mymanatee.org/vendor. For assistance with supplier registration, call the Procurement Division main number at (941) 749-3014. Office hours are Monday – Friday, 8:00 A.M. to 5:00 P.M., excluding County holidays.

A link to Vendor Registration is listed on the Procurement Division's web page at http://www.mymanatee.org/home/government/departments/financial-management/purchasing.html. Click on *"Register as a Vendor"*, then *"Vendor Registration Form"*. Registration is not mandatory to submit a Bid.

A.41 ENVIRONMENTAL SUSTAINABILITY

All bidders are encouraged to use as many environmentally preferable "green" products, materials, as supplies, as possible to promote a safe and healthy environment. Environmentally preferable are products or services that have a reduced adverse effect on the environment.

Bidder shall acknowledge in its Bid if Bidder has an environmental sustainability initiative. In addition, Bidder shall submit with its Bid a brief summary of Bidder's environmental sustainability initiative. This information will be used as a determining factor in the award decision when all other factors, including local preference, are otherwise equal.

A.42 ePAYABLES

Manatee County Board of County Commissioners and the Manatee County Clerk of the Circuit Court have partnered to offer the ePayables program, which allows payments to be made to vendors via credit cards.

The Clerk of the Circuit Court will issue a unique credit card number to vendor after goods are delivered or services rendered, vendors submit invoices to the remit to address on the purchase order. When payments are authorized, an email notification is sent to the vendor. The email notification includes the invoice number(s), invoice date(s), and amount of payment. There is no cost for vendors to participate in this program; however, there may be a charge by the company that processes your credit card transactions.

If Bidder is interested in participating in this program, complete the ePayables Application attached herein and return the completed form via email to lori.bryan@manateeclerk.com.

A.43 BASIS OF AWARD

County will not make award to a Bidder who is delinquent in payment of any taxes, fees, fines, contractual debts, judgments, or any other debts due and owed to the County, or is in default on any contractual or regulatory obligation to the County. By submitting this solicitation response, Bidder attests that it is not delinquent in payment of any such debts due and owed to the County, nor is it in default on any contractual or regulatory obligation to the County. In the event the Bidder's statement is discovered to be false, bidder will be subject to suspension and/or debarment and the County may terminate any award it has with bidder.

Award shall be to the lowest, responsive, responsible bidder(s) meeting specifications which includes delivery time requirements, qualification requirements, and having the lowest total offer for requirements listed on the Bid Form for the Work as set forth in this IFBC. Bid prices shall include costs for furnishing all labor, equipment and/or materials for the completion of the Work to the County's satisfaction, in accordance with and in the manner set forth and described in the IFBC documents and within the prescribed time.

Base Bid and Bid Option shall be submitted and considered; Bid 'A', based on 45 calendar days completion time OR Bid 'B' based on 75 calendar days completion time. County, at its sole discretion, shall select either Bid A or Bid B, whichever is in the best interest of the County. Only one (1) award will be made. Optional Bid Items may be awarded as additional bid items and award shall be made to the responsive and responsible bidder having the lowest total offer for Bid 'A' or Bid 'B', including any optional bid items chosen. This project shall be awarded with a monetary limit of $300,000. Award is subject to availability of funding.

In evaluating Bids, County shall consider the qualifications of the Bidders; and if required, may also consider the qualifications of the subcontractors, suppliers, and other persons and organizations proposed. County may also consider the operating costs, maintenance requirements, performance data and guarantees of major items of materials and equipment proposed for incorporation in the Work. Whenever two or more responsive, responsible bids which are equal with respect to price and all other evaluation factors are received, the bid from the local business shall be given preference in award.

Whenever two or more responsive, responsible bids which are equal with respect to price are received, and both or neither of these bids are from a local business, the award shall be determined by a chance drawing, coin toss, or similar tie-breaking method conducted by the Procurement Division and open to the public.

Bidder acknowledges that County has, or may hire, others to perform work similar to or the same as that which is within the scope of work of this IFBC. In the event that the successful Bidder cannot meet the delivery time or availability requirements of materials, the County, at its sole discretion can obtain the goods and services from other sources.

A.44 SCOPE OF WORK

The successful Bidder shall furnish and install all materials, equipment and labor which is reasonably inferable and necessary for the proper completion of the Work specified in this IFBC, whether specifically indicated in the IFBC or not.

The successful Bidder shall furnish all shop drawings, work drawings, labor, materials, equipment, tools, services and incidentals necessary to complete all Work required by these Specifications.

The successful Bidder shall perform the Work complete, in place and ready for continuous service and shall include any repairs, replacements, and / or restoration required as a result of damages caused prior to acceptance by the County.

The Project consists of the removal and disposal of the existing gravel and concrete parking lot improvements, and installation of the following: concrete parking area, cast-in-place concrete, concrete sidewalk, kayak access, access improvements, stormwater improvements, landscaping, irrigation, sodding, signage and striping. Location of Project Site: 5800 Riverview Blvd., Bradenton.

A.45 COMPLETION OF WORK

The Work will be completed and ready for final inspection within the specified calendar days from the date the Contract Time commences to run. Completion time shall be based on Bid 'A' based on 45 calendar days completion time OR Bid 'B'based on 75 calendar days completion time whichever is in the best interest of the County.

A.46 LIQUIDATED DAMAGES

If the successful Bidder fails to achieve substantial completion of the Work within the contract time and as otherwise required by the Agreement (to include not only the entire Work but any portion of the Work as set forth therein), the County shall be entitled to retain or recover from the successful Bidder, as liquidated damages and not as a penalty, the sum of $150.00 per calendar day, commencing upon the first day following expiration of the contract time and continuing until the actual date of substantial completion.

Such liquidated damages are hereby agreed to be a reasonable estimate of damages the County will incur because of delayed completion of the Work. The County may deduct liquidated damages as described in this paragraph from any unpaid amounts then or thereafter due the successful bidder under this Agreement. Any liquidated damages not so deducted from any unpaid amounts due the successful bidder shall be payable to the County at the demand of the County, together with interest from the date of the demand at the maximum allowable rate.

A.47 CONTRACT CONTINGENCY WORK

Contract contingency is a monetary allowance used solely at County's discretion to handle unexpected conditions as required to satisfactorily complete the Work in accordance with the IFBC documents. A Field Directive must be issued by an authorized County representative to authorize use of contract contingency funds.

The percentage for contract contingency is listed on the Bid Form. Bidder shall enter the dollar amount for contract contingency based on the percentage of the total base bid. The total contract award will include contract contingency.

Appropriate uses of contract contingency include increases to existing bid item quantities that do not change the initial scope of Work, which may be directed by County staff; modification items not originally bid which were unforeseen yet necessary during the Work to provide a safe, complete Project and that do not change the initial scope of Work; and unanticipated conflicts and/or design changes required during construction which are necessary to provide a safe, complete Project and that do not change the initial Scope of Work.

Inappropriate uses of contract contingency include anything that changes the initial scope of Work, including the Contract Sum and Contract Time, and adding bid items not previously contemplated that change the initial scope of Work.

A.48 LICENSES AND PERMITS

The successful Bidder shall be solely responsible for obtaining all necessary license and permit fees, including, but not limited to, all license fees, permit fees, impact fees, or inspection fees, and responsible for the costs of such fees. Successful Bidder is solely responsible for ensuring all work complies with all Federal, State, local, and Manatee County ordinances, orders, codes, laws, rules, regulations, directives, and guidelines.

A.49 PROTEST

Any actual bidder, proposer, or contractor who is aggrieved in connection with the notice of intent to award of a contract with a value greater than $250,000 where such grievance is asserted to be the result of a violation of the requirements of the Manatee County Procurement Code or any applicable provision of law by the officers, agents, or employees of the County, may file a protest to the Procurement Official.

Protest must be in writing and delivered via email at purchasing@mymanatee.org or by hand delivery to the Procurement Division at 1112 Manatee Avenue West, Suite 803, Bradenton, FL 34205 by 5:00 p.m. on the fifth business day following the date of posting of the Notice of Intent to Award on the County website. There is no stay of the procurement process during a protest. The Procurement Official shall have the authority to settle and resolve a protest concerning the intended award of a contract.

For additional information regarding the County protest process, visit the Procurement Division webpage on the County website.

A.50 SOLICITATION SCHEDULE

The following schedule has been established for this Solicitation process. Refer to the County's website (www.mymanatee.org > Online Services > *Bids & Proposals*) for meeting locations and updated information pertaining to any revisions to this schedule.

Scheduled Item	Scheduled Date
Non-Mandatory Solicitation Information Conference at the County Administration Building, 1112 Manatee Avenue West, Suite 803, Procurement Conference Room, Bradenton, FL	November 30, 2018 at 11:00 AM
Question and Clarification Deadline	December 7, 2018
Final Addendum Posted	December 13, 2018
Bid Response Due Date and Time	December 21, 2018, 3:00 PM, ET
Due Diligence Review Completed	December 31, 2018
Projected Award	January, 2019

NOTE: Any statements contained in the Scope of Work, Bid Summary, Construction Agreement, General Conditions of the Construction Agreement and/or Exhibits which vary from the information in Section A, Information for Bidders, shall have precedence over the Information for Bidders.

END OF SECTION A

SECTION B

BID FORMS

(To be completed and returned with Bid)

APPENDIX A
BIDDER'S QUESTIONNAIRE
IFBC No. 19-TA002934OV

Bidder must fully complete and return this form with its Bid. Bidder warrants the truth and accuracy of all statements and answers herein contained. (Attach additional pages if necessary.)

THIS QUESTIONNAIRE MUST BE COMPLETED AND SUBMITTED WITH YOUR BID

1. Contact Information:

   FEIN #: _____

   License #: _____
   License Issued to: _____
   Date License Issued (MM/DD/YR): _____
   Company Name: _____
   Physical Address: _____
   City: _____ State of Incorporation: _____ Zip Code: _____
   Phone Number: ( ) _____ Fax Number: ( ) _____
   Email address: _____

2. Bidding as: an individual __; a partnership __; a corporation __; a joint venture __

3. If a partnership, list names and addresses of partners; if a corporation, list names of officers, directors, shareholders, and state of incorporation; if joint venture, list names and address of ventures' and the same if any venture are a corporation for each such corporation, partnership, or joint venture:

   _____
   _____
   _____
   _____

4. Bidder is authorized to do business in the State of Florida: ☐ Yes ☐ No

   For how many years? _____

5. Your organization has been in business (under this firm's name) as a

   _____

   Is this firm in bankruptcy? _____

6. Attach a list of projects where this specific type of Work was performed.

   BIDDER: _____

7. Is this firm currently contemplating or in litigation? Provide summary details.

_____

_____

_____

8. Have you ever been assessed liquidated damages under a contract during the past five (5) years? If so, state when, where (contact name, address and phone number) and why.

_____

_____

_____

9. Have you ever failed to complete Work awarded to you? Or failed to complete projects within contract time? If so, state when, where (contact name, address, phone number) and why.

_____

_____

_____

10. Have you ever been debarred or prohibited from providing a bid to a governmental entity? If yes, name the entity and describe the circumstances.

_____

_____

_____

11. Will you subcontract any part of this Work? If so, describe which portion(s) and to whom.

_____

_____

_____

12. If any part of work will be subcontracted, list MBE/DBE/WBE/VETERAN to be utilized. Include the estimated dollar amount of the portion of Work each will perform.

_____

_____

_____

BIDDER: _____

13. What equipment do you own to accomplish this Work? (A listing may be attached)

_____

_____

_____

14. What equipment will you purchase/rent for the Work? (Specify which)

_____

_____

_____

15. If applicable to the Work for this IFBC, Drilling Supervisor Qualifications: Contractor shall provide a boring specialist who shall remain on the project site during the entirety of the directional boring operation. This includes, but is not limited to, drilling fluid preparation, seaming, boring and pulling. The boring specialist shall have a minimum of five (5) years' experience in supervising directional bores of similar nature, diameter, materials and lengths. (Reference: Specification Section 02619, Horizontal Directional Drilling). Provide the contact information for a minimum of three (3) projects wherein the boring specialist has performed this type of work, diameter, materials and lengths.

Boring specialist's name: _____
Boring specialist's years of experience in supervising directional bores _____
Provide contact name, and contact number for projects:

_____

_____

_____

16. If applicable to the Work for this IFBC, Pipe Fusion Qualifications: All boring and fusing equipment shall be certified for operation. The Contractor responsible for thermal butt fusing pipe and fittings shall have manufacturer certification for performing such work or a minimum of five (5) years of experience performing this type of work.

Thermal butt fusing pipe and fittings contractor or subcontractor's name: _____
Attach a copy of contractor's/subcontractor's manufacturer certification to this Questionnaire
OR
Provide contractor's/subcontractor's years of experience in thermal butt fusing pipe and fittings _____
If manufacturer certification is not provided, include contact name, and contact number for projects that confirms five years of experience:

_____

_____

_____

BIDDER: _____

17. If applicable to the Work for this IFB, Pipe Bursting Qualifications: The Contractor shall be certified by the manufacturer of the pipe bursting system that they are fully trained licensed installer of the manufacturer's pipe bursting system. Contractor shall provide a letter to the County documenting this requirement. (Reference: Specification Section 02619A, Pipe Bursting (PB) of Existing Mains).

18. List the following regarding the surety which is providing the bond(s):

Surety's Name: _____

Address: _____

_____

Name, address, phone number and email of surety's resident agent for service of process in Florida:

Agent's Name: _____

Address: _____

_____

Phone: _____

Email: _____

19. Is Bidder a local business as defined in Section A.38, Local Preference?

☐ Yes ☐ No

If yes, by signing below Bidder certifies that for at least six months prior to the advertisement date of this IFB it has maintained a physical place of business in Manatee, Desoto, Hardee, Hillsborough, Pinellas or Sarasota counties with at least one full-time employee at that location.

BIDDER: _____

BY: _____

PRINTED NAME: _____

TITLE/DATE: _____

PHYSICAL ADDRESS OF QUALIFYING LOCAL LOCATION: _____

_____

NAME OF QUALIFYING EMPLOYEE AT LOCAL LOCATION: _____

20. Confirm if Bidder has an environmental sustainability initiative as defined in Section A.41.

☐ Yes ☐ No

If yes, submit a brief summary (2-3 paragraphs) of the environmental sustainability initiative.

BIDDER: _____

APPENDIX B
ENVIRONMENTAL CRIMES CERTIFICATION
SWORN STATEMENT PURSUANT TO ARTICLE V,
MANATEE COUNTY PROCUREMENT CODE
IFBC No. 19-TA002934OV

Bidder must fully complete and return this form with its Bid. This form must be signed and sworn to in the presence of a notary public or other official authorized to administer oaths.

This sworn statement is submitted to the Manatee County Board of County Commissioners by

_____
[Print individual's name and title]

for _____ [Print name of entity submitting sworn statement]

whose business address is
_____

and (if applicable) its Federal Employer Identification Number (FEIN) is _____. If the entity has no FEIN, include the Social Security Number of the individual signing this sworn statement: _____.

I understand that no person or entity shall be awarded or receive an Owner's Agreement for public improvements, procurement of goods or services (including professional services) or an Owner's lease, franchise, concession or management agreement, or shall receive a grant of Owner's monies unless such person or entity has submitted a written certification to Owner that it has not:

(1) been convicted of bribery or attempting to bribe a public officer or employee of Manatee County, the State of Florida, or any other public entity, including, but not limited to the Government of the United States, any state, or any local government authority in the United States, in that officer's or employee's official capacity; or

(2) been convicted of an agreement or collusion among bidders or prospective bidders in restraint of freedom of competition, by agreement to bid a fixed price, or otherwise; or

(3) been convicted of a violation of an environmental law that, in the sole opinion of Owner's Purchasing Official, reflects negatively upon the ability of the person or entity to conduct business in a responsible manner; or

(4) made an admission of guilt of such conduct described in items (1), (2) or (3) above, which is a matter of record, but has not been prosecuted for such conduct, or has made an admission of guilt of such conduct, which is a matter of record, pursuant to formal prosecution. An admission of guilt shall be construed to include a plea of nolo contendere; or

(5) where an officer, official, agent or employee of a business entity has been convicted of or has admitted guilt to any of the crimes set forth above on behalf of such an entity and pursuant to the direction or authorization of an official thereof (including the person committing the offense, if he is an official of the business entity), the business shall be chargeable with the conduct herein above set forth. A business entity shall be chargeable with the conduct of an affiliated entity, whether wholly owned, partially owned, or one which

has common ownership or a common Board of Directors. For purposes of this Form, business entities are affiliated if, directly or indirectly, one business entity controls or has the power to control another business entity, or if an individual or group of individuals controls or has the power to control both entities. Indicia of control shall include, without limitation, interlocking management or ownership, identity of interests among family members, shared organization of a business entity following the ineligibility of a business entity under this Article, or using substantially the same management, ownership or principles as the ineligible entity. (Continued)

Any person or entity who claims that this Article is inapplicable to him/her/it because a conviction or judgment has been reversed by a court of competent jurisdiction shall prove the same with documentation satisfactory to Owner's Purchasing Official. Upon presentation of such satisfactory proof, the person or entity shall be allowed to contract with Owner.

I UNDERSTAND THAT THE SUBMISSION OF THIS FORM TO THE CONTRACTING OFFICER FOR MANATEE COUNTY IS VALID THROUGH DECEMBER 31 OF THE CALENDAR YEAR IN WHICH IT IS FILED. I ALSO UNDERSTAND THAT ANY AGREEMENT OR BUSINESS TRANSACTION SHALL PROVIDE FOR SUSPENSION OF PAYMENTS, OR TERMINATION, OR BOTH, IF THE CONTRACTING OFFICER OR COUNTY ADMINISTRATOR DETERMINES THAT **SUCH** PERSON OR ENTITY HAS MADE FALSE CERTIFICATION.

_____
[Signature]

STATE OF _____
COUNTY OF _____

Sworn to and subscribed before me this _____ day of _____, 20_____ by
_____

Who is personally known / has produced _____ as identification
[Type of identification]

My commission expires _____

_____
Notary Public Signature

_____
[Print, type or stamp Commissioned name of Notary Public]

Signatory Requirement - In the case of a business entity other than a partnership or a corporation, this affidavit shall be executed by an authorized agent of the entity. In the case of a partnership, this affidavit shall be executed by the general partner(s). In the case of a corporation, this affidavit shall be executed by the corporate president.

APPENDIX C
FLORIDA TRENCH SAFETY ACT
IFBC No. 19-TA002934OV

Bidder must fully complete and return this form with its Bid. This form must be singed in the presence of a notary public or by an officer authorized to administer oaths.

1. This Sworn Statement is submitted with **IFBC NO. 19-TA002934OV**
2. This Sworn Statement is submitted by_____ whose business address is_____ and, if applicable, its Federal Employer Identification Number (FEIN) is_____. If the entity has no FEIN, include the Social Security Number of the individual signing this sworn statement _____.
3. Name of individual signing this Sworn Statement is: _____,
   Whose relationship to the above entity is: _____.
4. The Trench Safety Standards that will be in effect during the construction of this project shall include, but are not limited to: Laws of Florida, Chapters 90-96, TRENCH SAFETY ACT, and OSHA RULES AND REGULATIONS 29 CFR 1926.650 Subpart P, effective October 1, 1990.
5. The undersigned assures that the entity will comply with the applicable Trench Safety Standards and agrees to indemnify and hold harmless the County and Engineer of Record, and any of their agents or employees from any claims arising from the failure to comply with said standard.
6. The undersigned has appropriated the following costs for compliance with the applicable standards:

Trench Safety Measure (Description)	Units of MeasureUnit (LF, SY)	Quantity	Unit Cost	Extended Cost
a. _____	_____	_____	$_____	_____
b. _____	_____	_____	$_____	_____
c. _____	_____	_____	$_____	_____
d. _____	_____	_____	$_____	_____

7. The undersigned intends to comply with these standards by instituting the following procedures:
   _____
   _____
   _____

THE UNDERSIGNED, in submitting this bid, represents that they have reviewed and considered all available geotechnical information and made such other investigations and tests as they may deem necessary to adequately design the trench safety system(s) to be utilized on this project.

_____
(Authorized signature / Title)

SWORN to and subscribed before me this _____ day of _____, 20_____.
(Impress official seal)

Notary Public, State of Florida: _____

My commission expires: _____

Angelina M. Colonneso

CLERK OF THE CIRCUIT COURT AND COMPTROLLER OF MANATEE COUNTY

1115 Manatee Avenue West, Bradenton, Florida 34205 - Phone (941) 749-1800 Fax (941) 741-4082, P.O. Box 25400, Bradenton, Florida 34206 - www.manateeclerk.com

Bidder must fully complete and return this form with its Bid.

APPENDIX D: ePAYABLES APPLICATION

IFBC No. 19-TA0029340V

Company name_____

Contact person_____

Phone number_____

Email Address_____

FINANCE USE ONLY

Open orders: YES or NO

PEID _____

CREATE DATE _____

CONFIRMED WITH

_____

Name and phone number

IFAS _____

BANK _____

INITIALS_____

Return completed form to:
Via email to:
lori.bryan@manateeclerk.com
Via fax to: (941) 741-4011
Via mail:
PO Box 1000
Bradenton, Fl 34206

Revised: September 30, 2015

"Pride in Service with a Vision to the Future"
Clerk of the Circuit Court – Clerk of Board of County Commissioners – County Comptroller – Auditor and Recorder

APPENDIX E
Scrutinized Company Certification
IFBC No. 19-TA002934OV

This certification is required pursuant to Florida State Statute Section 287.135.

As of July 1, 2011, a company that, at the time of bidding or submitting a proposal for a new contract or renewal of an existing contract, is on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List is ineligible for, and may not bid on, submit a proposal for, or enter into or renew a contract with an agency or local governmental entity for goods or services of $1 million or more.

Bidder must fully complete and return this form with its Bid.

Company _____ FID or EIN No. _____

Address _____

City _____ State _____ Zip _____

I, _____, as a representative of _____ certify and affirm that this company is not on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List.

_____ _____
Signature Title

_____ _____
Printed Name Date

APPENDIX F
MANATEE COUNTY, A POLITICAL SUBDIVISION OF THE STATE OF FLORIDA
INDEMNITY AND HOLD HARMLESS
IFBC No. 19-TA002934OV

Bidder must fully complete and return this form with its Bid.

Bidder shall defend, indemnify and hold harmless the County and all of the County's officers, agents, employees, and volunteers from and against all claims, liability, loss and expense, including reasonable costs, collection expenses, attorneys' fees, and court costs which may arise because of the negligence (whether active or passive), misconduct, or other fault, in whole or in part (whether joint, concurrent, or contributing), of Respondent, its officers, employees, representatives and agents in performance or non-performance of its obligations under the Contract/Agreement. Bidder recognizes the broad nature of this indemnification and hold harmless clause, as well as the provision of a legal defense to the County when necessary, and voluntarily makes this covenant and expressly acknowledges the receipt of such good and valuable consideration provided by the County in support of these indemnification, legal defense and hold harmless contractual obligations in accordance with the laws of the State of Florida. This clause shall survive the termination of this Contract/Agreement. Compliance with any insurance requirements required elsewhere within this Contract/Agreement shall not relieve Bidder of its liability and obligation to defend, hold harmless and indemnify the County as set forth in this article of the Contract/Agreement.

Nothing herein shall be construed to extend the County's liability beyond that provided in section 768.28, Florida Statutes.

PROJECT NUMBER AND/OR NAME	
INSURANCE AGENT	
RESPONDENT SIGNATURE	**DATE**

Acknowledgement:

STATE OF _____ COUNTY OF _____

The foregoing instrument was acknowledged before me this _____ day of _____, 20____ by _____ [FULL LEGAL NAME], who is personally known to me / has produced _____ as identification.

Notary Signature _____

Print Name _____

APPENDIX G

MINIMUM QUALIFICATIONS

IFBC No. 19-TA002934OV

Bidders must submit the information and documentation requested in this Attachment that confirms Bidder meets the following minimum qualification requirement(s):

1. Must have been registered with the State of Florida, Division of Corporations to do business in Florida for the past three years, since October 1, 2013.

   No documentation is required. The County will verify registration.

2. Bidder, or its representative(s), has made an inspection of the construction site for work specified in this IFBC on or after the date of advertisement of this IFBC and prior to the Due Date and Time.

   Bidder must submit a statement on company letterhead and signed by an authorized official of Bidder that Bidder, or its representative(s), has made an inspection of the construction site, listing the date of the inspection and the individuals, by name, who conducted the inspection.>

3. Must have possessed a General Contractor's license issued by the Florida Department of Business and Professional Regulation for a period of at least five (5) consecutive years since October 1, 2013 . License must be current and valid through the Due Date for submission of bids for this IFBC.

   Provide a copy of Bidder's General Contractor's license issued by the Florida Department of Business and Professional Regulation and documentation confirming Bidder has been licensed and/or certified for the period of five years October 1, 2013 through the date of submission of the Bid.

4. Bidder has provided construction services for at least five (5) clients since October 1, 2018 that included a minimum of three (3) of the following components: such as concrete sidewalks, concrete parking area, stormwater improvement, landscaping, irrigation, sodding, signage, striping .

   Provide the following information for the five (5) qualifying clients.

   a) Name of client
   b) Location (City/State)
   c) Client contact name
   d) Contact phone
   e) Contact email
   f) Service dates (Start/End)

5. Bidder, on the day the bid is submitted, has a certified or registered Qualifying Agent, as required by Section 489.119, Florida Statutes, and that Qualifying Agent has been the same Qualifying Agent of Bidder for a period of at least five consecutive years, since November 1, 2013.

   Submit a copy of Bidder's Qualifying Agent's registration or certification along with supporting documentation confirming Qualifying Agent has been the Qualifying Agent for Bidder for five years, since November 1, 2013.

6. If Bidder is submitting as a joint venture must file the required documents with the Florida Department of Business and Professional Regulation as required by Florida Statute Section 489.119, prior to the Due Date and Time.

   If Bidder is a joint venture, provide a copy of Bidder's approved filing with the Florida Department of Business and Professional Regulation. If Bidder is not a joint venture, provide a statement to that effect.

7. Bidder has no reported conflict of interests in relation to this IFBC.

   Submit a fully completed copy of Appendix K. If applicable, on a separate page disclose the name of any officer, director or agent who is also an employee of the County. Disclose the name of any County employee who owns, directly or indirectly, any interest in the Bidder's firm or any of its branches. If no conflicts of interests are present, Bidder must submit a statement to that affect.

APPENDIX H
INSURANCE STATEMENT
IFBC No. 19-TA002934OV

Bidder must fully complete and return this form with its Bid.

THE UNDERSIGNED has read and understands the insurance requirements of this IFBC applicable to any contract resulting from this solicitation and shall provide the insurances required by this Attachment within ten (10) days from the date of Notice of Intent to Award.

Bidder Name: _____ Date: _____

Signature (Authorized Official): _____

Printed Name/Title: _____

Insurance Agency: _____

Agent Name: _____ Agent Phone: _____

APPENDIX I
ACKNOWLEDGMENT OF ADDENDA

IFBC No. 19-TA002934OV

The undersigned acknowledges receipt of the following addenda:

Addendum No. _____	Date Received:
Addendum No. _____	Date Received:
Addendum No. _____	Date Received:
Addendum No. _____	Date Received:
Addendum No. _____	Date Received:
Addendum No. _____	Date Received:
Addendum No. _____	Date Received:
Addendum No. _____	Date Received:
Addendum No. _____	Date Received:

Print or type Bidder's information below:

_____ _____
Name of Bidder Telephone Number

_____
Street Address City/State/Zip

_____
Email Address

_____ _____
Print Name & Title of Authorized Officer Signature of Authorized Official Date

APPENDIX J
BID PRICING FORM

APPENDIX J, BID PRICING FORM

IFBC No. 19-TA002934OV

Warner's Bayou Boat Ramp South Parking Lot Improvements

SUMMARY

Total Base Bid Offer for Bid "A": $_____
Based on a completion time of 45 calendar days.

Optional Bid Items for Bid "A": $_____
Based on a completion time of 45 calendar days:

Total Base Bid Offer for Bid "B": $_____
Based on a completion time of 70 calendar days.

Optional Items for Bid "B": $_____
Based on a completion time of 70 calendar days:

We, the undersigned, hereby declare that we have carefully reviewed the IFB Documents in their entirety and with full knowledge and understanding of the Bid information and all its requirements, submit this Bid, which is complete in meeting each specification, term, and condition contained therein.

As Bidder, we understand that the IFBC documents, including but not limited to, all specifications, terms, and conditions shall be made a part of any resulting Agreement between County and the successful Bidder. Failure by successful Bidder to comply with such specifications, terms and conditions shall result in Agreement default, whereupon, the defaulting successful Bidder shall be required to pay for all re-procurement costs, damages, and attorney fees as incurred by County, and agrees to forfeit its bid bond.

Authorized Signature(s): _____

Name and Title of Above Signer(s): _____

Date: _____

BID FORM - APPENDIX "J"

IFBC No. 19-TA002934OV

Warner's Bayou Boat Ramp South Parking Lot Improvements

BID "A" - BASED ON A COMPLETION TIME OF 45 CALENDAR DAYS

Bid Item No.	Description	Estimated Quantity	Unit	Unit Price	Total
2.01	MOBILIZATION	1	LS	$	$
2.02	MAINTENANCE OF TRAFFIC	1	LS	$	$
2.03	SURVEY AND CONTROL LAYOUT BY CONTRACTOR	1	LS	$	$
2.04	AS-BUILT SURVEY	1	LS	$	$
2.05	PREVENTION, CONTROL, AND ABATEMENT OF EROSION AND WATER POLLUTION	1	LS	$	$
2.06	REMOVE AND DISPOSE OF EXISTING SITE ITEMS	1	LS	$	$
2.07	REMOVE AND DISPOSE OF EXISTING TREES (8 Inch and Greater)	2	EA	$	$
2.08	CLEARING AND GRUBBING	1	LS	$	$
2.09	GRADING AND FILL	1	LS	$	$
2.10	STORM WATER POND OUTFALL	1	LS	$	$
2.11	PAVEMENT CEMENT CONCRETE AND BASE (5-inch Thick Min., 3000 PSI), including WWR and 12" BASE	2,400	SY	$	$
2.12	PAVEMENT CEMENT CONCRETE AND BASE (6-inch Thick Min., 3000 PSI), including WWR AND 12" BASE	175	SY	$	$

BIDDER:_____

AUTHORIZED SIGNATURE:_____

BID FORM - APPENDIX "J"

IFBC No. 19-TA002934OV

Warner's Bayou Boat Ramp South Parking Lot Improvements

BID "A" - BASED ON A COMPLETION TIME OF 45 CALENDAR DAYS

2.13	CONCRETE SIDEWALK OFFSITE (FDOT INDEX 310)	56	SY	$	$
2.14	FDOT TYPE C INLET	2	EA	$	$
2.15	12" STORM PIPE	87	LF	$	$
2.16	CONCRETE FLUME	1	EA	$	$
2.17	TYPE F CURB AND GUTTER	120	LF	$	$
2.18	TYPE D VERTICAL CURB	385	LF	$	$
2.19	WOODEN POST	32	EA	$	$
2.20	POST / ROPE	225	LF	$	$
2.21	WHEEL STOPS	24	EA	$	$
2.22	BOLLARD (GALVANIZED STEEL, PAINTED)	1	EA	$	$
2.23	BOLLARD (REMOVABLE)	1	EA	$	$
2.24	SIGNAGE	1	LS	$	$
2.25	DETECTABLE WARNING MATS	30	SF	$	$
2.26	TRAFFIC STRIPES AND MARKINGS	1	LS	$	$
2.27	BIKE RACK	1	EA	$	$
2.28	CONDUIT FOR FUTURE WATER SERVICE	120	LF	$	$
2.29	CONDUIT TO FUTURE LIGHT POLE	150	LF	$	$

BIDDER:_____

AUTHORIZED SIGNATURE:_____

BID FORM - APPENDIX "J"

IFBC No. 19-TA002934OV

Warner's Bayou Boat Ramp South Parking Lot Improvements

BID "A" - BASED ON A COMPLETION TIME OF 45 CALENDAR DAYS

2.30	IRRIGATION	1	LS	$	$
2.31	TREE PROTECTION	1	EA	$	$
2.32	TREES, GREEN BUTTONWOOD	18	EA	$	$
2.33	TREES, CABBAGE PALMS	6	EA	$	$
2.34	SHRUBS, SILVER BUTTONWOOD	161	EA	$	$
2.35	SHRUBS, INDIAN HAWTHORN	48	EA	$	$
2.36	GROUNDCOVER, SEA OXEYE DAISY	427	EA	$	$
2.37	GROUNDCOVER, SAND CORDGRASS	239	EA	$	$
2.38	GROUNDCOVER, MUHLY GRASS	452	EA	$	$
2.39	SOD, SEASHORE PASPALUM	1000	SY	$	$
3.01	**ALLOWANCE (TESTING) As Stipulated in Specifications Section 01120)**				$10,000.00
	TOTAL BASE BID, Bid "A" Based on a Completion time of 45 Calendar Days				$
3.02	**CONTRACT CONTINGENCY (Used only with County Approval (10%)**	**10% of TOTAL BASE BID**			$
	TOTAL BASE BID OFFER WITH CONTRACT CONTINGENCY (BASED ON 45 CALENDAR DAY COMPLETION)				$

BIDDER:_____

AUTHORIZED SIGNATURE:_____

BID FORM - APPENDIX "J"

IFBC No. 19-TA002934OV

Warner's Bayou Boat Ramp South Parking Lot Improvements

BID "A" - BASED ON A COMPLETION TIME OF 45 CALENDAR DAYS

The following prices are for optional items for the Warner's Bayou Boat Ramp South Parking Lot Improvements and may be awarded as additional bid items. Should the County choose to award any or all of the optional bid items for the Warner's Bayou Boat Ramp South Park Lot Improvements, the award shall be made to the responsive and responsible bidder having the lowest total offer including any optional bid items chosen.

4.00	**OPTIONAL BID ITEMS FOR WARNER'S BAYOU BOAT RAMP SOUTH PARKING LOT IMPROVEMENTS**				
4.01	KAYAK LAUNCH (FLEXIPAVE AND RIBBON CURB)	1	LS	$	$
4.02	NEW LIGHT POLE, FIXTURE, SERVICE	1	LS	$	$
4.03	NEW FIXTURE	1	LS	$	$
4.04	BROADCAST SHELL	2631	SY	$	$
	TOTAL BID OPTIONS, BID "A" (BASED ON 45 CALENDAR DAY COMPLETION)				$

BIDDER:_____

AUTHORIZED SIGNATURE:_____

BID FORM - APPENDIX "J"

IFBC No. 19-TA002934OV

Warner's Bayou Boat Ramp South Parking Lot Improvements

BID "B" - BASED ON A COMPLETION TIME OF 70 CALENDAR DAYS

Bid Item No.	Description	Estimated Quantity	Unit	Unit Price	Total
2.01	MOBILIZATION	1	LS	$	$
2.02	MAINTENANCE OF TRAFFIC	1	LS	$	$
2.03	SURVEY AND CONTROL LAYOUT BY CONTRACTOR	1	LS	$	$
2.04	AS-BUILT SURVEY	1	LS	$	$
2.05	PREVENTION, CONTROL, AND ABATEMENT OF EROSION AND WATER POLLUTION	1	LS	$	$
2.06	REMOVE AND DISPOSE OF EXISTING SITE ITEMS	1	LS	$	$
2.07	REMOVE AND DISPOSE OF EXISTING TREES (8 Inch and Greater)	2	EA	$	$
2.08	CLEARING AND GRUBBING	1	LS	$	$
2.09	GRADING AND FILL	1	LS	$	$
2.10	STORM WATER POND OUTFALL	1	LS	$	$
2.11	PAVEMENT CEMENT CONCRETE AND BASE (5-inch Thick Min., 3000 PSI), including WWR and 12" BASE	2,400	SY	$	$
2.12	PAVEMENT CEMENT CONCRETE AND BASE (6-inch Thick Min., 3000 PSI), including WWR AND 12" BASE	175	SY	$	$

BIDDER:_____

AUTHORIZED SIGNATURE:_____

BID FORM - APPENDIX "J"

IFBC No. 19-TA002934OV

Warner's Bayou Boat Ramp South Parking Lot Improvements

BID "B" - BASED ON A COMPLETION TIME OF 70 CALENDAR DAYS

2.13	CONCRETE SIDEWALK OFFSITE (FDOT INDEX 310)	56	SY	$	$
2.14	FDOT TYPE C INLET	2	EA	$	$
2.15	12" STORM PIPE	87	LF	$	$
2.16	CONCRETE FLUME	1	EA	$	$
2.17	TYPE F CURB AND GUTTER	120	LF	$	$
2.18	TYPE D VERTICAL CURB	385	LF	$	$
2.19	WOODEN POST	32	EA	$	$
2.20	POST / ROPE	225	LF	$	$
2.21	WHEEL STOPS	24	EA	$	$
2.22	BOLLARD (GALVANIZED STEEL, PAINTED)	1	EA	$	$
2.23	BOLLARD (REMOVABLE)	1	EA	$	$
2.24	SIGNAGE	1	LS	$	$
2.25	DETECTABLE WARNING MATS	30	SF	$	$
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2.27	BIKE RACK	1	EA	$	$
2.28	CONDUIT FOR FUTURE WATER SERVICE	120	LF	$	$
2.29	CONDUIT TO FUTURE LIGHT POLE	150	LF	$	$

BIDDER:_____

AUTHORIZED SIGNATURE:_____

BID FORM - APPENDIX "J"

IFBC No. 19-TA002934OV

Warner's Bayou Boat Ramp South Parking Lot Improvements

BID "B" - BASED ON A COMPLETION TIME OF 70 CALENDAR DAYS

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2.33	TREES, CABBAGE PALMS	6	EA	$	$
2.34	SHRUBS, SILVER BUTTONWOOD	161	EA	$	$
2.35	SHRUBS, INDIAN HAWTHORN	48	EA	$	$
2.36	GROUNDCOVER, SEA OXEYE DAISY	427	EA	$	$
2.37	GROUNDCOVER, SAND CORDGRASS	239	EA	$	$
2.38	GROUNDCOVER, MUHLY GRASS	452	EA	$	$
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3.01	**ALLOWANCE (TESTING) As Stipulated in Specifications Section 01120)**				$10,000.00
	TOTAL BASE BID, Bid "B" Based on a Completion time of 70 Calendar Days				$
3.02	**CONTRACT CONTINGENCY (Used only with County Approval (10%)**	**10% of TOTAL BASE BID**			$
	TOTAL BASE BID OFFER WITH CONTRACT CONTINGENCY (BASED ON 70 CALENDAR DAY COMPLETION)				$

BIDDER:_____

AUTHORIZED SIGNATURE:_____

BID FORM - APPENDIX "J"

IFBC No. 19-TA002934OV

Warner's Bayou Boat Ramp South Parking Lot Improvements

BID "B" - BASED ON A COMPLETION TIME OF 70 CALENDAR DAYS

The following prices are for optional items for the Warner's Bayou Boat Ramp South Parking Lot Improvements and may be awarded as additional bid items. Should the County choose to award any or all of the optional bid items for the Warner's Bayou Boat Ramp South Park Lot Improvements, the award shall be made to the responsive and responsible bidder having the lowest total offer including any optional bid items chosen.

4.00	**OPTIONAL BID ITEMS FOR WARNER'S BAYOU BOAT RAMP SOUTH PARKING LOT IMPROVEMENTS**				
4.01	KAYAK LAUNCH (FLEXIPAVE AND RIBBON CURB)	1	LS	$	$
4.02	NEW LIGHT POLE, FIXTURE, SERVICE	1	LS	$	$
4.03	NEW FIXTURE	1	LS	$	$
4.04	BROADCAST SHELL	2631	SY	$	$
	TOTAL BID OPTIONS, BID "B" (BASED ON 70 CALENDAR DAY COMPLETION)				$

BIDDER:_____

AUTHORIZED SIGNATURE:_____

APPENDIX "K"
AFFIDAVIT OF NO CONFLICT
IFBC No. 19-TA002934OV

COUNTY OF _____
STATE OF _____

BEFORE ME, the undersigned authority, this _____ day of _____, 20____ personally appeared, _____, a principal with full authority to bind _____ (hereinafter the "Affiant"), who being first duly sworn, deposes and says:

(a) is not currently engaged or will not become engaged in any obligations, undertakings or contracts that will require the Affiant to maintain an adversarial role against the County or that will impair or influence the advice, recommendations or quality of work provided to the County; and

(b) has provided full disclosure of all potentially conflicting contractual relationships and full disclosure of contractual relationships deemed to raise a question of conflict(s); and

(c) has provided full disclosure of prior work history and qualifications that may be deemed to raise possible question of conflict(s).

Affiant makes this affidavit for the purpose of inducing Manatee County, a political subdivision of the State of Florida, to enter into an Agreement for .

If applicable, on a separate page Bidder shall disclose the name of any officer, director or agent of Bidder who is also an employee of the County and the name of any County employee who owns, directly or indirectly, any interest in the Bidder's firm or any of its branches. If no conflicts of interest are present, submit a statement to that affect.

_____
Signature

_____
Print Name

SUBSCRIBED to and sworn before me this ____ day of _____, 20__.

[Notary Seal]

Notary Public

My commission expires: _____

_____
Notary Signature

_____
Print Name

Personally known OR produced identification. Type of identification produced _____
_____.

SECTION C

SAMPLE
CONSTRUCTION AGREEMENT

for

STIPULATED SUM

between

MANATEE COUNTY (AS OWNER)

and

_____ (AS CONTRACTOR)

CONSTRUCTION AGREEMENT FOR
STIPULATED SUM
[PROJECT NAME]

THIS AGREEMENT ("Agreement") is made and entered into by and between Manatee County, a political subdivision of the State of Florida, referred to herein as "Owner", and the firm of _____, incorporated in the State of _____ and registered and licensed to do business in the State of Florida (license #_____), referred to herein as "Contractor."

WHEREAS, the Owner intends to construct **[PROJECT DESCRIPTION]**, the aforementioned improvements being hereinafter referred to and defined as the "Project"; and

WHEREAS, in response to Owner's Invitation for Bid No. _____ (the "IFB"), Contractor has submitted its Bid (the "Contractor's Bid") to provide the aforementioned construction services.

NOW THEREFORE, the Owner and the Contractor, in consideration of the mutual covenants hereinafter set forth, the sufficiency of which is hereby acknowledged, agree as follows:

1. Contract Documents. The Contract Documents consist of this Agreement and attached Exhibits, the attached General Conditions of the Construction Agreement, Supplementary Conditions (if any), Special Conditions (if any), Drawings (the titles of which are attached hereto as Exhibit A), Specifications (the titles of which are attached hereto as Exhibit B), Addenda issued prior to execution of this Agreement, the Invitation for Bid (including any Instructions to Bidders, Scope of Work, Bid Summary, Supplements, and Technical Specifications), any interpretations issued pursuant to the Invitation for Bid, the Contractor's Bid, permits, notice of intent to award, Notice to Proceed, purchase order(s), any other documents listed in this Agreement, and Modifications [to include written Amendment(s), Change Order(s), Work Directive Change(s) and Field Directive(s)] issued after execution of this Agreement. These form the Agreement, and are as fully a part of the Agreement as if attached or repeated herein. This Agreement represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations or agreements, either written or oral. No other documents shall be considered Contract Documents.

2. Work. The Contractor shall fully execute the Work described in the Contract Documents, except to the extent specifically indicated in the Contract Documents to be the responsibility of others.

3. Date of Commencement and Substantial Completion.

A. Date of Commencement. The date of commencement of the Work shall be the date fixed in a Notice to Proceed issued by the Owner.

B. Contract Time. The Contract Time shall be measured from the date of commencement.

C. Substantial Completion. The Contractor shall achieve Substantial Completion of the entire Work not later than ___ days from the date of commencement, or as follows:

Portion of Work **Substantial Completion Date**

subject to adjustments of this Contract Time as provided in the Contract Documents.

Time is of the essence in the Contract Documents and all obligations thereunder. If the Contractor fails to achieve Substantial Completion of the Work within the Contract Time and as otherwise required by the Contract Documents (to include not only the entire Work but any portion of the Work as set forth above), the Owner shall be entitled to retain or recover from the Contractor, as liquidated damages and not as a penalty, the sum of $_____ per calendar day, commencing upon the first day following expiration of the Contract Time and continuing until the actual date of Substantial Completion. Such liquidated damages are hereby agreed to be a reasonable estimate of damages the Owner will incur because of delayed completion of the Work. The Owner may deduct liquidated damages as described in this paragraph from any unpaid amounts then or thereafter due the Contractor under this Agreement. Any liquidated damages not so deducted from any unpaid amounts due the Contractor shall be payable to the Owner at the demand of the Owner, together with interest from the date of the demand at the maximum allowable rate.

4. Contract Sum.

A. Payment. The Owner shall pay the Contractor the Contract Sum in current funds for the Contractor's performance of the Contract. The Contract Sum shall be _____ Dollars and Zero Cents ($_____), subject to additions and deductions as provided in the Contract Documents.

B. Alternates. The Contract Sum is based upon the following alternates, if any, which are described in the Contract Documents and are hereby accepted by the Owner. *(State the numbers or other identification of accepted alternates. If decisions on other alternates are to be made by the Owner subsequent to the execution of this Agreement, attach a schedule of such other alternates showing the amount for each and the date when that amount expires.)*

C. Unit Prices. Unit prices, if any, are reflected in the Contractor's Bid.

5. Payments.

A. Progress Payments.

(1) Based upon Applications for Payment submitted to the Architect/Engineer by the Contractor and Certificates for Payment issued by the Architect/Engineer, the Owner shall make progress payments on account of the Contract Sum to the Contractor as provided below and elsewhere in the Contract Documents.

(2) The period covered by each Application for Payment shall be one calendar month ending on the last day of the month.

(3) Payments shall be made by Owner in accordance with the requirements of Section 218.735, Florida Statutes.

(4) Each Application for Payment shall be based on the most recent schedule of values submitted by the Contractor in accordance with the Contract Documents. The schedule of values shall allocate the entire Contract Sum among the various portions of the Work. The schedule of values shall be prepared in such form and supported by such data to substantiate its accuracy as the Architect/Engineer may require. This schedule, unless objected to by the Owner or Architect/Engineer, shall be used as a basis for reviewing the Contractor's Applications for Payment.

(5) Applications for Payment shall indicate the percentage of completion of each portion of the Work as of the end of the period covered by the Application for Payment.

(6) Subject to other provisions of the Contract Documents, the amount of each progress payment shall be computed as follows:

i. Take that portion of the Contract Sum properly allocable to completed Work as determined by multiplying the percentage completion of each portion of the Work by the share of the Contract Sum allocated to that portion of the Work in the schedule of values, less retainage of ten percent (10.00%). Pending final determination of cost to the Owner of changes in the Work, amounts not in dispute shall be included as provided in Section 3.3.B. of the General Conditions;

ii. Add that portion of the Contract Sum properly allocable to materials and equipment delivered and suitably stored at the site for subsequent incorporation in the completed construction (or, if approved in advance by the Owner, suitably stored off the site at a location agreed upon in writing), supported by paid receipts, less retainage of ten percent (10.00%);

iii. Subtract the aggregate of previous payments made by the Owner; and

iv. Subtract amounts, if any, for which the Architect/Engineer has withheld or nullified an Application for Payment, in whole or in part as provided in Section 3.3.C. of the General Conditions.

(7) The progress payment amount determined in accordance with Section 5.A(6) shall be further modified under the following circumstances:

i. Add, upon Substantial Completion of the Work, a sum sufficient to increase the total payments to the full amount of the Contract Sum, less such amounts as the Architect/Engineer shall determine for incomplete Work, retainage applicable to such work and unsettled claims.

ii. Add, if final completion of the Work is thereafter materially delayed through no fault of the Contractor, any additional amounts payable in accordance with Section 3.2.B. of the General Conditions.

(8) Reduction or limitation of retainage, if any, shall be as follows:

Notwithstanding the foregoing, upon completion of at least 50% of the Work, as determined by the Architect/Engineer and Owner, the Owner shall reduce to five percent (5%) the amount of retainage withheld from each subsequent progress payment.

(9) Except with the Owner's prior approval, the Contractor shall not make advance payments to suppliers for materials or equipment which have not been delivered and stored at the site.

B. Final Payment. Final Payment, constituting the entire unpaid balance of the Contract Sum, shall be made by the Owner to the Contractor when:

(1) The Contractor has fully performed the Work except for the Contractor's responsibility to correct Work as provided in Section 2.4.C. of the General Conditions, and to satisfy other requirements, if any, which extend beyond final payment; and

(2) A final Application for Payment has been approved by the Architect/Engineer.

6. Termination or Suspension.

A. Termination. The Agreement may be terminated by the Owner or the Contractor as provided in Article XIV of the General Conditions.

B. Suspension by Owner. The Work may be suspended by the Owner as provided in Article XIV of the General Conditions.

7. Other Provisions.

A. Substantial Completion Defined. Substantial Completion shall be defined as provided in Article I of the General Conditions. In the event a temporary certificate of occupancy or completion is issued establishing Substantial Completion, the Contractor shall diligently pursue the issuance of a permanent certificate of occupancy or completion.

B. Project Meetings. There shall be a project meeting, at the jobsite or other location acceptable to the parties, on a regularly scheduled basis. The meeting will be attended by a representative of the Contractor, Architect/Engineer and Owner. These representatives shall be authorized to make decisions that are not otherwise contrary to the requirements of this Agreement.

C. Weather. Any rainfall, temperatures below 32 degrees Fahrenheit or winds greater than 25 m.p.h. which actually prevents Work on a given day, shall be considered lost time and an additional day added to the Contract Time, provided no work could be done on site, and provided written notice has been submitted to the Owner by the Contractor documenting same.

D. Shop Drawings; Critical Submittals. In consideration of the impact of timely review of submittals and shop drawings on the overall progress of the Work, it is hereby agreed that the Owner shall cause his agents and design professionals to accomplish the review of any particular "critical" submittals

and/or shop drawings and return same to the Contractor within fourteen (14) days.

E. Applications for Payment. Applications for Payment shall be submitted once monthly at regular intervals and shall include detailed documentation of all costs incurred.

F. Punch List. Within 30 days after obtainment of Substantial Completion, the Owner shall generate a "punch list" of all work items requiring remedial attention by the Contractor. Within 5 days thereafter the Architect/Engineer shall assign a fair value to the punch list items, which sum shall be deducted from the next scheduled progress payment to the Contractor. Upon satisfactory completion of the punch list items, as certified by the Architect/Engineer, the previously deducted sum shall be paid to the Contractor.

G. Closeout documentation. Within 30 days after obtainment of Substantial Completion and before final payment, Contractor shall gather and deliver to Owner all warranty documentation, all manufacturer's product and warranty literature, all manuals (including parts and technical manuals), all schematics and handbooks, and all as-built drawings.

H. Governing Provisions; Conflicts. In the event of a conflict between this Agreement and the Specifications or as between the General Conditions and the Specifications, the Specifications shall govern.

I. E-Verify. The Contractor's employment of unauthorized aliens is a violation of Section 274(e) of the Federal Immigration and Employment Act. The Contractor shall utilize the U.S. Department of Homeland Security E-Verify system to verify the employment eligibility of all new employees hired during the term of this Agreement, and shall require the same verification procedure of all Subcontractors.

8. Insurance and Bonding. If and to the extent required by the Invitation for Bid documents, the Contractor shall furnish insurance coverage for (but not necessarily limited to) workers' compensation, commercial general liability, auto liability, excess liability, and builder's risk. The Contractor shall furnish to the Owner all appropriate policies and Certificate(s) of Insurance. The Contractor shall also post a Payment and Performance Bond for the Contract Sum, within ten (__) days following notification of intent to award, and otherwise in accordance with the Invitation for Bid documents.

9. Independent Contractor. The Contractor acknowledges that it is functioning as an independent contractor in performing under the terms of this Agreement, and it is not acting as an employee of the Owner.

10. Entire Agreement. This Agreement (inclusive of the Contract Documents incorporated herein by reference) represents the full agreement of the parties.

11. Amendments; Waivers; Assignment.

A. Amendments. This Agreement may be amended only pursuant to an instrument in writing that has been jointly executed by authorized representatives of the parties hereto.

B. Waivers. Neither this Agreement nor any portion of it may be modified or waived orally. However, each party (through its governing body or properly authorized officer) shall have the right, but not the obligation, to waive, on a case-by-case basis, any right or condition herein reserved or intended for the benefit or protection of such party without being deemed or considered to have waived such right or

condition for any other case, situation, or circumstance and without being deemed or considered to have waived any other right or condition. No such waiver shall be effective unless made in writing with an express and specific statement of the intent of such governing body or officer to provide such waiver.

C. Assignment. The rights and obligations of either party to this Agreement may be assigned to a third party only pursuant to a written amendment hereto.

12. Validity. Each of the Owner and Contractor represents and warrants to the other its respective authority to enter into this Agreement.

13. Covenant To Defend. Neither the validity of this Agreement nor the validity of any portion hereof may be challenged by any party hereto, and each party hereto hereby waives any right to initiate any such challenge. Furthermore, if this Agreement or any portion hereof is challenged by a third party in any judicial, administrative, or appellate proceeding (each party hereby covenanting with the other party not to initiate, encourage, foster, promote, cooperate with, or acquiesce to such challenge), the parties hereto collectively and individually agree, at their individual sole cost and expense, to defend in good faith its validity through a final judicial determination or other resolution, unless all parties mutually agree in writing not to defend such challenge or not to appeal any decision invalidating this Agreement or any portion thereof.

14. Disclaimer of Third-Party Beneficiaries; Successors and Assigns. This Agreement is solely for the benefit of the parties hereto, and no right, privilege, or cause of action shall by reason hereof accrue upon, to, or for the benefit of any third party. Nothing in this Agreement is intended or shall be construed to confer upon or give any person, corporation, partnership, trust, private entity, agency, or other governmental entity any right, privilege, remedy, or claim under or by reason of this Agreement or any provisions or conditions hereof. This Agreement shall be binding upon, and its benefits and advantages shall inure to, the successors and assigns of the parties hereto.

15. Construction.

A. Headings and Captions. The headings and captions of articles, sections, and paragraphs used in this Agreement are for convenience of reference only and are not intended to define or limit their contents, nor are they to affect the construction of or be taken into consideration in interpreting this Agreement.

B. Legal References. All references to statutory sections or chapters shall be construed to include subsequent amendments to such provisions, and to refer to the successor provision of any such provision. References to "applicable law" and "general law" shall be construed to include provisions of local, state and federal law, whether established by legislative action, administrative rule or regulation, or judicial decision.

16. Severability. The provisions of this Agreement are declared by the parties hereto to be severable. In the event any term or provision of this Agreement shall be held invalid by a court of competent jurisdiction, such invalid term or provision should not affect the validity of any other term or provision hereof; and all such terms and provisions hereof shall be enforceable to the fullest extent permitted by law as if such invalid term or provision had never been part of this Agreement; provided, however, if any term or provision of this Agreement is held to be invalid due to the scope or extent thereof, then, to the extent permitted by law, such term or provision shall be automatically deemed modified in order that it may be

enforced to the maximum scope and extent permitted by law.

17. Governing Law; Venue. This Agreement shall be governed by the laws of the State of Florida. Venue for any petition for writ of certiorari or other court action allowed by this Agreement shall be in the Circuit Court of the Twelfth Judicial Circuit in and for Manatee County, Florida.

18. Attorney's Fees and Costs. In any claim dispute procedure or litigation arising from this Agreement, each party hereto shall be solely responsible for paying its attorney's fees and costs.

19. Notices. All notices, comments, consents, objections, approvals, waivers, and elections under this Agreement shall be in writing and shall be given only by hand delivery for which a receipt is obtained, or certified mail, prepaid with confirmation of delivery requested, or by electronic mail with delivery confirmation. All such communications shall be addressed to the applicable addressees set forth below or as any party may otherwise designate in the manner prescribed herein.

To the Owner:

_____
_____
_____
_____
Email: _____

To the Contractor:

_____
_____
_____
_____
Email: _____

Notices, comments, consents, objections, approvals, waivers, and elections shall be deemed given when received by the party for whom such communication is intended at such party's address herein specified, or such other physical address or email address as such party may have substituted by notice to the other.

20. Public Records Law. The Contractor shall comply with the Florida Public Records Act (Chapter 119, Florida Statutes), and shall:

A. Keep and maintain public records required by the Owner to perform the services called for in this Agreement.
B. Upon request from the Owner's custodian of public records, provide the Owner 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, Florida Statutes or as otherwise provided by law.
C. 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 this Agreement and following completion of this Agreement if the Contractor does not transfer the records to the Owner.

D. Upon completion of this Agreement, transfer, at no cost, to the Owner all public records in possession of the Contractor or keep and maintain such public records. If the Contractor transfers all public records to the Owner upon completion of the Agreement, 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 Agreement, the Contractor shall meet all applicable requirements for retaining public records. All records stored electronically must be provided to the Owner, upon request from the Owner's custodian of public records, in a format that is compatible with the information technology systems of the Owner.

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 AGREEMENT, CONTACT THE OWNER'S CUSTODIAN OF PUBLIC RECORDS AT 941-748-4501, EXT. 5845; DEBBIE.SCACCIANOCE@MYMANATEE.ORG; POST OFFICE BOX 1000, BRADENTON, FLORIDA 34206.

21. Exhibits. Exhibits to this Agreement are as follows:

Exhibit A—Title(s) of Drawings

Exhibit B—Title(s) of Specifications

Exhibit C—Affidavit of No Conflict

Exhibit D—Certificate(s) of Insurance

Exhibit E—Payment and Performance Bond

Exhibit F—Standard Forms
1—Application for Payment
2—Certificate of Substantial Completion
3—Final Reconciliation / Warranty / Affidavit
4—Change Order

WHEREFORE, the parties hereto have executed this Agreement as of the date last executed below.

_____
Name of Contractor

By: _____

Printed Name: _____

Title: _____

Date: _____

MANATEE COUNTY, a political subdivision
of the State of Florida

By: _____

Printed Name: _____

Title: _____

Date: _____

Construction Agreement

Exhibits & Standard Forms

A. Exhibit A — Drawings

B. Exhibit B — Specifications

C. Exhibit C — Affidavit of No Conflict

D. Exhibit D — Contractor's Certificate(s) of Insurance

E. Exhibit E — Contractor's Payment and Performance Bond

F. Exhibit F — Standard Forms

i. Application for Payment

ii. Contract Change Order

iii. Administrative Contract Adjustment (ACA)

iv. Certificate of Substantial Completion

v. Final Reconciliation Warranty Period Declaration and Contractor's Affidavit

vi. Public Construction Bond

Construction Agreement
Exhibit A
Title(s) of Drawings
(To be inserted prior to final execution)

Warner's Bayou Boat Ramp South Parking Lot Improvements
Project No. 6071402

1 – 15 pages

(Signed and Sealed October 26, 2018)

Construction Agreement
Exhibit B
Title(s) of Specifications
(To be inserted prior to final execution)

Contract Documents / Specifications
For

Warner's Bayou Boat Ramp South Parking Lot Improvements
Project No. 6071402

(Dated October 25, 2018– 257 pages)

Construction Agreement
Exhibit C
Affidavit of No Conflict

COUNTY OF _____,
STATE OF _____,

BEFORE ME, the undersigned authority, this day personally appeared, _____, a principal with full authority to bind _____hereinafter the "Lessee"), who being first duly sworn, deposes and says:

(a) is not currently engaged or will not become engaged in any obligations, undertakings or contracts that will require the Lessee to maintain an adversarial role against the County or that will impair or influence the advice, recommendations or quality of work provided to the County; and

(b) has provided full disclosure of all potentially conflicting contractual relationships and full disclosure of contractual relationships deemed to raise a question of conflict(ś); and

(c) has provided full disclosure of prior work history and qualifications that may be deemed to raise possible question of conflict(s).

Affiant makes this affidavit for the purpose of inducing Manatee County, a political subdivision of the State of Florida, to enter into this Agreement for

_____
Signature

_____
Print Name

SUBSCRIBED to and sworn before me this ____ day of _____, 20__.

[Notary Seal]

Notary Public

My commission expires: _____

_____
Notary Signature

_____
Print Name

_____ is Personally Known
OR Produced Identification in the form of _____(Type of Identification Produced)

Construction Agreement
Exhibit D
Contractor's Certificate(s) of Insurance

(to be inserted prior to final execution)

Construction Agreement
Exhibit E
Contractor's Payment and Performance Bond

(To be inserted prior to final execution)

Public Construction Bond

MANATEE COUNTY GOVERNMENT
PUBLIC CONSTRUCTION BOND

BY THIS BOND, We _____, located at _____, as
(Name of Contractor) (Address)
Principal and _____ a corporation, whose address is
(Name of Surety)
_____

Are bound to Manatee County, a political subdivision of the State of Florida, herein called County, 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 Principal:

1. Performs Contract No. 19-TA002934OV, between Principal and County for construction of Warner's Bayou Boat Ramp South Parking Lot Improvements,
(Title of Project)
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 County all losses, damages, expenses, costs, and attorney's fees, including appellate proceedings, that County 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 of Section 255.05(2), Florida Statutes.

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

DATED ON _____

CONTRACTOR AS PRINCIPAL		SURETY	
Contractor Name		Surety Name	
Signature		Signature	
Print Name	Title	Print Name	Title
(Corporate Seal)		(Corporate Seal)	

AGENT OR BROKER	Licensed Florida Insurance Agent? ___Yes ___ No
Company Name	License #:
Address	State of
City/State/Zip	County of
Telephone	City of

Exhibit F

Standard Forms

Application for Payment

APPLICATION FOR PAYMENT

Request No.: ___ Project No.: _____

Purchase Order No.: _____

Project: _____ County Bid No.: _____

From: _____ To: _____ Consultant: _____

CONTRACT PAYMENT SUMMARY

Original Contract Amount:	$ -
Change Order(s):	$ -

Change order summary:

Number	Date Approved	Additive	Deductive
SUBTOTALS:		$ -	$ -

Net change order subtotal (Additive less Deductive):	$ -
Current Contract Amount (CCA): (Original Amount + Change Order(s))	$ -

	Previous Status	Total WIP
Value of the Work in Place (WIP)	$ -	$ -
Value of Stored Materials	$ -	$ -
Total Earned ($ and % of CCA)	$ -	$ -
Retainage ($ and % of CCA)	$ -	$ -

Net Earned (Total earned minus retainage)	$ -
TOTAL PREVIOUS PAYMENTS	$ -
AMOUNT DUE THIS PAYMENT (Net Earned minus Previous Payments)	$ -

CONTRACTOR'S AFFIDAVIT OF NOTICE

CERTIFICATE: The undersigned CONTRACTOR certifies that all items and amounts shown on this Application for Payment are

the Amount Due this Payment shown is now due.

NOTARY:

State of Florida, County of _____

Sworn to (or affirmed) and subscribed before me

this _____ day of _____ by

_____

(Name of person giving notice)

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

Personally Known ____ or Produced Identification ____
Type of Identification Produced: _____

CONTRACTOR:

_____
Name of person authorized to sign Affidavit of Notice

_____
TITLE

Contractor name, address and telephone no.:

_____
_____
_____
_____
_____

VERIFICATION, RECOMMENDATION, CONCURRENCES AND APPROVALS

	(Signatures)	(Date)
Quantities verified by:	_____	_____
Consultant/Engineer:	_____	_____
Project Management:	_____	_____
Department Head:	_____	_____
Payment approved by the Board of County Commissioners:	_____	_____
Attested to by the Clerk of Circuit Court:	_____	_____

MANATEE COUNTY PROJECT MANAGEMENT FORM PMD-1 REV OCTOBER 2011

Contract Change Order

CONTRACT CHANGE ORDER (for Total Contract Adjusted Amount Greater than $1,000,000) PROJECT:		Change Order No.: Contract Amount (Present Value) Project Number:	
NO. OF ITEM	**DESCRIPTION OF ITEM AND CHANGE**	**DECREASE**	**INCREASE**
	BY EXECUTION OF THIS CHANGE ORDER THE CONTRACTOR AGREES THAT ALL CLAIMS FOR ADDITIONAL CONTRACT TIME AND FEES FOR THE ITEMS IN THIS CHANGE ORDER HAVE BEEN SATISFIED.		
		TOTAL DECREASE:	**TOTAL INCREASE:**
Contractor: _____ **Address:** _____ **City / State:** _____		THE NET CHANGE OF $ ADJUSTS THE CURRENT CONTRACT AMOUNT FROM TO	
Contractor **Signature:** _____ **Date:**		_____ CALENDAR DAYS ARE ADDED TO THE SCHEDULE WHICH CHANGES THE FINAL COMPLETION DATE TO [ENTER MONTH DAY, YEAR]	
RECOMMENDATION, CONCURRENCES AND APPROVALS			

	SIGNATURES	DATE
Consultant / Engineer:		
Project Manager:		
Division Manager:		
	Project Management Div. Mgr	
Manatee County Purchasing:		
	Purchasing Official	

Authority to execute this contract per Manatee County Code, Chapter 2-26, and per the delegation by the County Administrator effective January 26, 2009

JUSTIFICATION FOR CHANGE	**Change Order No:** **Project Number:**

1. NECESSITY FOR CHANGE:

2. Is change an alternate bid? (If yes, explain)

3. Does change substantially alter the physical size of the project? (If yes, explain)

4 Effect of this change on other 'prime' contractors?

5 Has the Surety and insurance company been notified, if applicable? CONTRACTOR RESPONSIBILITY

Attachment 8, Administrative Contract Adjustment

ADMINISTRATIVE CONTRACT ADJUSTMENT

Contract Adjustment No.: _____

Contract Amount: _____

Project Name: _____

Project Number: _____

ITEM	DESCRIPTION OF ITEM AND CHANGE	DECREASE	INCREASE
	BY EXECUTION OF THIS ADMINISTRATIVE CONTRACT ADJUSTMENT, THE CONTRACTOR AGREES THAT ALL CLAIMS FOR ADDITIONAL CONTRACT TIME AND FEES FOR THE ITEMS IN THIS ADMINISTRATIVE CONTRACT ADJUSTMENT HAVE BEEN SATISFIED.		
		TOTAL DECREASE:	**TOTAL INCREASE:**

Contractor: _____

Address: _____

City/State: _____

Contractor Signature: _____

THE NET CHANGE OF

ADJUSTS THE CURRENT CONTRACT AMOUNT FROM_____ TO _____

_____ CALENDAR DAYS ARE ADDED TO THE SCHEDULE WHICH CHANGES THE FINAL COMPLETION DATE FROM _____ TO _____ _____

RECOMMENDATION, CONCURRENCES AND APPROVALS		
	SIGNATURES	**DATE**
Consultant / Engineer:		
Project Manager:		
Division Manager:	Project Management Div. Mgr	
Department Director / Deputy Director	Deputy Director, Engineering Services	

MANATEE COUNTY PROJECT MANAGEMENT DIVISION FORM PMD-14 **JANUARY 2011**

JUSTIFICATION FOR CHANGE	Change Order No: Project Number:

1. **NECESSITY FOR CHANGE:**

2. Does this change alter the scope of work? (If yes, explain)

3. It is the Contractor's responsibility to notify the bonding agency. Has the bonding agency been notified?

CERTIFICATE OF SUBSTANTIAL COMPLETION (S.C.)	CHECK ONE: Partial	Total
Project Title:	Date Submitted:	
Contractor Data: Name: Address: City/State/Zip:	Project No: S. C. Date (Proposed)	

If the "Partial" completion box above is checked, the following description applies to the work for which substantial completion is being sought. Otherwise, the work described in the Contract including approved changes, if any, is certified to be substantially complete:
(Description of the portion of work substantially completed):

(USE CONTINUATION SHEETS IF NECESSARY)

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 does not alter the Contractor's responsibility to
complete all of the contract work in accordance with the Contract Documents. The items in
the tentative list shall be completed or corrected by the Contractor within _____ days of substantial completion. The approved substantial completion date
is: _____

Contractor Signature	Date	Engineer's Approval	Date
Printed Name and Title		Printed Name and Title	

The Contractor shall be responsible for security, operation, safety, maintenance, HVAC, insurance and warranties in accordance with the Contract. The County will assume the responsibility for paying the cost of electrical power from midnight of the date of Engineer's approval as indicated above.

ATTACH THE INSPECTOR'S FINAL WALKTHROUGH LIST OF DEFICIENCIES.

Final Reconciliation Warranty Period

FINAL RECONCILIATION, WARRANTY PERIOD DECLARATION AND CONTRACTOR'S AFFIDAVIT

Project Title:	Date Submitted:
Contractor Data: Name: Address: City/State/Zip:	Project No: Warranty (months):

This Final Reconciliation is for the work performed for Manatee County by the above named contractor, hereinafter called CONTRACTOR, pursuant to the contract dated _____ as amended, and acts as an addendum thereto.

It is agreed that all quantities and prices in the attached Final Pay Estimate No. _____ are correct and that the amount of $_____ including retainage is due to the CONTRACTOR, that no claims are outstanding as between the parties, and that the above stated sum represents the entirety of monies owed the CONTRACTOR.

It is further agreed that the warranty period for CONTRACTOR'S work pursuant to the Contract is from _____ to _____

As (title) _____ for CONTRACTOR, I have authority to bind said CONTRACTOR, and as such make this final reconciliation, declaration and affidavit for the purpose of inducing Manatee County to make final payment to CONTRACTOR for work done at/upon _____
under said contract:

CONTRACTOR has paid all social security and withholding taxes accrued in connection with the construction project.

CONTRACTOR has paid all workers' compensation and other insurance premiums incurred in connection with this construction project.

CONTRACTOR has paid for all required permits in connection with this construction project.

All laborers, material, men, suppliers, subcontractors and service professionals who worked for and/or supplied materials, equipment and/or services to the CONTRACTOR under this construction contract have been paid in full.

_____
(Affiant Signature)

NOTARY:
State of Florida, County of _____ , Sworn to (or affirmed) and subscribed before me this _____ day of _____ , 20__, by _____ (person giving notice).

Signature of Notary Public - State of Florida: _____
Print, Type or Stamp Commissioned Name of Notary Public:

Personally Known ☐ or Produced Identification ☐
Type of Identification Produced _____

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REVISED JAN 2010
(Previous versions are obsolete)

GENERAL CONDITIONS

of the

CONSTRUCTION AGREEMENT

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GENERAL CONDITIONS
ARTICLE I
DEFINITIONS

1.1 Definitions. For purposes of the Contract Documents, the following terms shall have the following meanings.

A. Acceptance: The acceptance of the Project into the Owner's operating public infrastructure.

B. Application for Payment: The form approved and accepted by the Owner, which is to be used by Contractor in requesting progress payments or final payment and which is to include such supporting documentation as is required by the Contract Documents.

C. Architect/Engineer: _____, a _____ corporation, registered and licensed to do business in the State of Florida.

D. Change Order: A written order signed by the Owner, the Architect/Engineer and the Contractor authorizing a change in the Project Plans and/or Specifications and, if necessary, a corresponding adjustment in the Contract Sum and/or Contract Time, pursuant to Article V.

E. Compensable Delay: Any delay beyond the control and without the fault or negligence of the Contractor resulting from Owner-caused changes in the Work, differing site conditions, suspensions of the Work, or termination for convenience by Owner.

F. Contractor's Personnel: The Contractor's key personnel designated by Contractor.

G. Construction Services: The Construction Services to be provided by Contractor pursuant to Section 2.4, in accordance with the terms and provisions of the Contract Documents..

H. Construction Team: The working team established pursuant to Section 2.1.B.

I. Contract Sum: The total compensation to be paid to the Contractor for Construction Services rendered pursuant to the Contract Documents, as set forth in Contractor's Bid (or Guaranteed Maximum Price Addendum), unless adjusted in accordance with the terms of the Contract Documents

J. Contract Time: The time period during which all Construction Services are to be completed pursuant to the Contract Documents, to be set forth in the Project Schedule.

K. Days: Calendar days except when specified differently. When 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 legal holiday, such day will be omitted from the computation.

L. Defective: When modifying the term "Work", referring to Work that is unsatisfactory, faulty or deficient, or does not conform to the Contract Documents, or that does not meet the requirements of any inspection, reference standard, test or approval referred to in the Contract Documents, or that has been damaged prior to Owner's approval of final payment (unless responsibility for the protection thereof has been assumed by Owner).

M. Excusable Delay: Any delay beyond the control and without the negligence of the Contractor, the Owner, or any other contractor caused by events or circumstances such as, but not limited to, acts of God or of a public enemy, fires, floods, freight embargoes, acts of government other than Owner or epidemics. Labor disputes and above average rainfall shall give rise only to excusable delays.

N. Field Directive: A written order issued by Owner which orders minor changes in the Work not involving a change in Contract Time, to be paid from the Owner's contingency funds.

O. Final Completion Date: The date upon which the Project is fully constructed and all Work required on the Project and Project Site is fully performed as verified in writing by the Owner.

P. Float or Slack Time: The time available in the Project Schedule during which an unexpected activity can be completed without delaying substantial completion of the Work.

Q. Force Majeure: Those conditions constituting excuse from performance as described in and subject to the conditions described in Article XII.

R. Inexcusable Delay: Any delay caused by events or circumstances within the control of the Contractor, such as inadequate crewing, slow submittals, etc., which might have been avoided by the exercise of care, prudence, foresight or diligence on the part of the Contractor.

S. Non-prejudicial Delay: Any delay impacting a portion of the Work within the available total Float or Slack Time and not necessarily preventing Substantial Completion of the Work within the Contract Time.

T. Notice to Proceed: Written notice by Owner (after execution of Contract) to Contractor fixing the date on which the Contract Time will commence to run and on which Contractor shall start to perform the Work.

U. Owner: Manatee County, a political subdivision of the State of Florida.

V. Owner's Project Representative: The individual designated by Owner to perform those functions set forth in Section 7.8.

W. Payment and Performance Bond: The Payment and Performance Bond security posted pursuant to Section 2.4.Y to guarantee payment and performance by the Contractor of its obligations hereunder.

X. Permitting Authority: Any applicable governmental authority acting in its governmental and regulatory capacity which is required to issue or grant any permit, certificate, license or other approval which is required as a condition precedent to the commencement or approved of the Work, or any part thereof, including the building permit.

Y. Prejudicial Delay: Any excusable or compensable delay impacting the Work and exceeding the total float available in the Project Schedule, thus preventing completion of the Work within the Contract Time unless the Work is accelerated.

Z. Pre-operation Testing: All field inspections, installation checks, water tests, performance tests and necessary corrections required of Contractor to demonstrate that individual components of the Work have been properly constructed and do operate in accordance with the Contract Documents for their intended purposes.

AA. Procurement Ordinance: The Manatee County Procurement Code, Chapter 2-26 of the Manatee County Code of Laws, as amended from time to time.

BB. Progress Report: A report to Owner that includes all information required pursuant to the Contract Documents and submitted in accordance with Section 2.4.EE, hereof.

CC. Project: The total construction of which the Work performed under the Contract Documents may be the whole or a part and which may include construction by Owner and by separate contractors. For the purposes of the Contract Documents, the term Project shall include all areas of proposed improvements and all areas which may reasonably be judged to have an impact on the Project.

DD. Project Costs: The costs incurred by the Contractor to plan, construct and equip the Project and included within, and paid as a component of, the Contract Sum.

EE. Project Manager: Subject to the prior written consent of Owner, the individual designated to receive notices on behalf of the Contractor, or such other individual designated by the Contractor, from time to time, pursuant to written notice in accordance with the Contract Documents.

FF. Project Plans and Specifications: The one hundred percent (100%) construction drawings and specifications prepared by the Architect/Engineer, and any changes, supplements, amendments or additions thereto approved by the Owner, which shall also include any construction drawings and final specifications required for the repair or construction of the Project, as provided herein.

GG. Project Schedule: The schedule and sequence of events for the commencement, progression and completion of the Project, developed pursuant to Section 2.3., as such schedule may be amended as provided herein.

HH. Project Site: The site depicted in the Project Plans and Specifications, inclusive of all rights of way, temporary construction easements or licensed or leased sovereign lands.

II. Punch List Completion Date: The date upon which all previously incomplete or unsatisfactory items, as identified by the Contractor, the Architect/Engineer and/or the Owner are completed in a competent and workmanlike manner, consistent with standards for Work of this type and with good building practices in the State of Florida.

JJ. Subcontractor: Any individual (other than a direct employee of the Contractor) or organization retained by Contractor to plan, construct or equip the Project pursuant to Article IV.

KK. Substantial Completion and Substantially Complete: The stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use; provided, however, that as a condition precedent to Substantial Completion, the Owner has received all certificates of occupancy or completion and other permits, approvals, licenses, and other documents from any governmental authority which are necessary for the beneficial occupancy of the Project or any designated portion thereof.

LL. Substantial Completion Date: The date on which the Project or designated portion thereof is deemed to be Substantially Complete, as evidenced by receipt of (i) the Architect/Engineer's certificate of Substantial Completion, (ii) written Acceptance of the Project by the Owner, and (iii) approvals of any other authority as may be necessary or otherwise required.

MM. Substitute: Materials or equipment offered by the Contractor as an alternative to that set forth in the Project Plans and Specifications, where (i) the Project Plans and Specifications do not authorize an "approved equal", or (ii) the Owner, in its reasonable discretion, determines that a pre-authorized "approved equal" will result in a substantial change to the Work because of cost, quality or other difference in comparison to the materials or equipment specified.

NN. Unit Price Work: Work to be paid for on the basis of unit prices.

OO. Work: The term "Work" means the construction and services required by the Contract Documents, whether completed or partially completed, and includes all labor, materials, equipment and services provided or to be provided by the Contractor to fulfill the Contractor's obligations. The Work may constitute the whole or a part of the Project.

PP. Work Directive Change: A written directive to Contractor, issued on or after the effective date of the Agreement pursuant to Section 5.8 and signed by Owner's Project Representative, ordering an addition, deletion or revision in the Work, or responding to differing or unforeseen physical conditions under which the Work is to be performed or responding to emergencies.

ARTICLE II
RELATIONSHIP AND RESPONSIBILITIES

2.1 Relationship between Contractor and Owner. The Contractor accepts the relationship of trust and confidence established with Owner pursuant to the Contract Documents. The Contractor shall furnish its best skill and judgment and cooperate with Owner and Owner's Project Representative in furthering the interests of the Owner. The Contractor agrees to provide the professional services required to complete the Project consistent with the Owner's direction and the terms of the Contract Documents. All services provided hereunder by Contractor, either directly or through Subcontractors, shall be provided in accordance with sound construction practices and applicable professional construction standards.

A. Purpose. The purpose of the Contract Documents is to provide for the provision of construction services for the Project on the Project Site by the Contractor, and construction of the Project by the Contractor in accordance with the Project Plans and Specifications. The further purpose of the Contract Documents is to define and delineate the responsibilities and obligations of the parties to the Contract Documents and to express the desire of all such parties to cooperate to accomplish the purposes and expectations of the Contract Documents.

B. Construction Team. The Contractor, Owner and Architect/Engineer shall be called the "Construction Team" and shall work together as a team commencing upon full execution of the Contract Documents through Substantial Completion. As provided in Section 2.2, the Contractor and Architect/Engineer shall work jointly through completion and shall be available thereafter should additional services be required. The Contractor shall provide leadership to the Construction Team on all matters relating to construction. The Contractor understands, acknowledges and agrees that the Architect/Engineer shall provide leadership to the Construction Team on all matters relating to design.

C. Owner's Reliance on Bid (or Guaranteed Maximum Price Addendum). The Contractor acknowledges that the representations, statements, information and pricing contained in its Bid (or Guaranteed Maximum Price Addendum) have been relied upon by the Owner and have resulted in the award of this Project to the Contractor.

2.2 General Contractor Responsibilities. In addition to the other responsibilities set forth herein, the Contractor shall have the following responsibilities pursuant to the Contract Documents:

A. Personnel. The Contractor represents that it has secured, or shall secure, all personnel necessary to perform the Work, none of whom shall be employees of the Owner. Primary liaison between the Contractor and the Owner shall be through the Owner's Project Representative and Contractor's Project Manager. All of the services required herein shall be performed by the Contractor or under the Contractor's supervision, and all personnel engaged in the Work shall be fully qualified and shall be authorized or permitted under law to perform such services.

B. Cooperation with Architect/Engineer. The Contractor's services shall be provided in conjunction with the services of the Architect/Engineer. In the performance of professional services, the Contractor acknowledges that time is critical for Project delivery. The Contractor acknowledges that timely construction utilizing the services of an Architect/Engineer and a Contractor requires maximum cooperation between all parties.

C. Timely Performance. The Contractor shall perform all services as expeditiously as is consistent with professional skill and care and the orderly progress of the Work, in accordance with the Project Schedule. Verification of estimated Project Schedule goals will be made as requested by the Owner.

D. Duty to Defend Work. In the event of any dispute between the Owner and any Permitting Authority that relates to the quality, completeness or professional workmanship of the Contractor's services or Work, the Contractor shall, at its sole cost and expense, cooperate with the Owner to defend the quality and workmanship of the Contractor's services and Work.

E. Trade and Industry Terminology. 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 Work, materials or equipment that may reasonably be inferred from the Contract Documents as being required to produce the intended result will be supplied whether or not specifically called for. When words which have a well-known technical or trade meaning are used to describe Work, materials, or equipment, such words shall be interpreted in accordance with that meaning. Reference to standard specifications, manuals or codes of any technical society, organization or association, or to the laws or regulations of any governmental authority, whether such reference be specific or by implication, shall mean the latest standard specification, manual, code or laws or regulations in effect at the time of opening of Bids (or at the time of execution of the Guaranteed Maximum Price Addendum), except as may be otherwise specifically stated. However, no provision of any referenced standard specification, manual or code (whether or not specifically incorporated by reference in the

Contract Documents) shall be effective to change the duties and responsibilities of Owner or Contractor, or any of their agents or employees from those set forth in the Contract Documents. Computed dimensions shall govern over scaled dimensions.

2.3 Project Schedule. The Contractor, within ten (10) days after being awarded the Agreement, shall prepare and submit for the Owner's and Architect/Engineer's information a Contractor's construction schedule for the Work. The schedule shall not exceed time limits current under the Contract Documents, shall be revised at appropriate intervals as required by the conditions of the Work and Project, shall be related to the entire Project to the extent required by the Contract Documents, and shall provide for expeditious and practicable execution of Work.

A. The Project Schedule shall show a breakdown of all tasks to be performed, and their relationship in achieving the completion of each phase of Work, subject to review of Owner and Architect/Engineer and approval or rejection by Owner. The Project Schedule shall show, at a minimum, the approximate dates on which each segment of the Work is expected to be started and finished, the proposed traffic flows during each month, the anticipated earnings by the Contractor for each month and the approximate number of crews and equipment to be used. The Project Schedule shall include all phases of procurement, approval of shop drawings, proposed Change Orders in progress, schedules for Change Orders, and performance testing requirements. The Project Schedule shall include a construction commencement date and Project Substantial Completion Date, which dates shall accommodate known or reasonably anticipated geographic, atmospheric and weather conditions.

B. The Project Schedule shall serve as the framework for the subsequent development of all detailed schedules. The Project Schedule shall be used to verify Contractor performance and to allow the Owner's Project Representative to monitor the Contractor's efforts.

C. The Project Schedule may be adjusted by the Contractor pursuant to Article V. The Owner shall have the right to reschedule Work provided such rescheduling is in accord with the remainder of terms of the Contract Documents.

D. The Contractor shall prepare a submittal schedule, promptly after being awarded the Agreement and thereafter as necessary to maintain a current submittal schedule, and shall submit the schedule(s) for the Architect/Engineer's approval. The Architect/Engineer's approval shall not be unreasonably delayed or withheld. The submittal schedule shall (1) be coordinated with the Contractor's construction schedule, and (2) allow the Architect/Engineer reasonable time to review submittals. If the Contractor fails to submit a submittal schedule, the Contractor shall not be entitled to any increase in Contract Sum or extension of Contract Time based on the time required for review of submittals.

E. The Contractor shall perform the Work in general accordance with the most recent schedules submitted to the Owner and Architect/Engineer.

2.4 Construction Services. The Contractor shall provide the following Construction Services:

A. Construction of Project. The Contractor shall work from the receipt of a Notice to Proceed through the Substantial Completion of the Project in accordance with the terms of the Contract Documents to manage the construction of the Project. The Construction Services provided by the Contractor to construct the Project shall include without limitation (1) all services necessary and commensurate with established construction standards, and (2) all services described in the Invitation for Bid (or Request for Proposal) and the Bid (or Guaranteed Maximum Price Addendum).

B. Notice to Proceed. A Notice to Proceed may be given at any time within thirty (30) days after the effective date of the Agreement. Contractor shall start to perform the Work on the date specified in the Notice to Proceed, but no Work shall be done at the site prior to the issuance of the Notice to Proceed.

C. Quality of Work. If at any time the labor used or to be used appears to the Owner as insufficient or improper for securing the quality of Work required or the required rate of progress, the Owner may order the Contractor to increase its efficiency or to improve the character of its Work, and the Contractor shall conform to such an order. Any such order shall not entitle Contractor to any additional compensation or any increase in Contract Time. The failure of the Owner to demand any increase of such efficiency or any improvement shall not release the Contractor from its obligation to secure the quality of Work or the rate of progress necessary to complete the Work within the limits imposed by the Contract Documents. The Owner may require the Contractor to remove such personnel as the Owner deems incompetent, careless, insubordinate or otherwise objectionable, or whose continued employment on the Project is deemed to be contrary to the Owner's interest. The Contractor shall provide good quality workmanship and shall promptly correct construction defects without additional compensation. Acceptance of the Work by the Owner shall not relieve the Contractor of the responsibility for subsequent correction of any construction defects.

D. Materials. All materials and equipment shall be of good quality and new, except as otherwise provided in the Contract Documents. If required by Architect/Engineer, Contractor shall furnish satisfactory evidence (including reports of required tests) as to the kind and quality of materials and equipment. All materials and equipment shall be applied, installed, connected, erected, used, cleaned and conditioned in accordance with the instruction of the applicable supplier except as otherwise provided in the Contract Documents.

E. Accountability for Work. The Contractor shall be solely accountable for its Work, including plans review and complete submittals. The Contractor shall be solely responsible for means, methods, techniques, sequences and procedures of construction. If a specific means, method, technique, sequence or procedure of construction is required by the Contract Documents, the Contractor may utilize an alternative means, method, technique, sequence or procedure acceptable to the Architect/Engineer if the Contractor submits sufficient information to allow the Architect/Engineer to determine that the alternative is equivalent to that required by the Contract Documents.

F. Contract Sum. The Contractor shall construct the Project so that the Project can be built for a cost not to exceed the Contract Sum.

G. Governing Specifications. The Project shall be constructed in accordance with applicable Owner design standards and guidelines. In the absence of specified Owner design standards or guidelines, the Architect/Engineer shall use, and the Contractor shall comply with, the most recent version of the applicable FDOT or AASHTO design standards. In general, the Project shall be constructed by the Contractor in accordance with applicable industry standards. The Contractor shall be responsible for utilizing and maintaining current knowledge of any laws, ordinances, codes, rules, regulations, standards, guidelines, special conditions, specifications or other mandates relevant to the Project or the

services to be performed.

H. Adherence to Project Schedule. The development and equipping of the Project shall be undertaken and completed in accordance with the Project Schedule, and within the Contract Time described therein.

I. Superintendent. The Contractor shall employ a competent superintendent and necessary assistants who shall be in attendance at the Project Site during performance of the Work. The superintendent shall represent the Contractor, and communications given to the superintendent shall be as binding as if given to the Contractor.

(1) The Contractor, as soon as practicable after award of the Agreement, shall furnish in writing to the Owner through the Architect/Engineer the name and qualifications of the proposed superintendent. The Architect/Engineer may reply within 14 days to the Contractor in writing stating (1) whether the Owner or the Architect/Engineer has reasonable objection to the proposed superintendent or (2) that the Architect/Engineer requires additional time to review. Failure of the Architect/Engineer to reply within 14 days shall constitute notice of no reasonable objection.

(2) The Contractor shall not employ a proposed superintendent to whom the Owner or Architect/Engineer has made reasonable and timely objection. The Contractor shall not change the superintendent without the Owner's consent, which shall not be unreasonably withheld or delayed.

J. Work Hours. Contractor shall provide competent, suitable qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. Contractor shall at all times maintain good discipline and order at the site. Except in connection with the safety or protection of persons or the Work or property at the site or adjacent thereto and except as otherwise indicated in the Contract Documents, all Work at the site shall be performed during regular working hours, and Contractor shall not permit overtime work or the performance of Work on a Saturday, Sunday or legal holiday without Owner's written consent given after prior notice to Architect/Engineer (at least seventy-two (72) hours in advance).

K. Overtime-Related Costs. Contractor shall pay for all additional Architect/Engineering charges, inspection costs and Owner staff time for any overtime work which may be authorized. Such additional charges shall be a subsidiary obligation of Contractor and no extra payment shall be made by Owner because such overtime work. At Owner's option, such overtime costs may be deducted from Contractor's monthly payment request or Contractor's retainage prior to release of final payment.

L. Insurance, Overhead and Utilities. Unless otherwise specified, Contractor shall furnish and assume full responsibility for all bonds, insurance, 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 furnishing, performance, testing, start-up and completion of the Work.

M. Cleanliness. The Contractor shall keep the premises and surrounding area free from accumulation of waste materials or rubbish caused by operations under the Contract. At completion of the Work, the Contractor shall remove waste materials, rubbish, the Contractor's tools, construction equipment, machinery and surplus materials from and about the Project Site. Contractor shall restore to original conditions all property not designated for alteration by the Contract Documents If the Contractor fails to clean up as provided in the Contract Documents, the Owner may do so and Owner shall be entitled to reimbursement from Contractor.

N. Loading. 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.

O. Safety and Protection. Contractor shall comply with the Florida Department of Commerce Safety Regulations and any local safety regulations. Contractor shall be 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 employees on the Work and other persons and organizations who may be affected thereby;

(2) All the Work and materials and equipment to be incorporated therein, whether in storage on or off the Project Site; and

(3) Other property at the Project Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities and underground facilities not designated for removal, relocation or replacement during construction.

Contractor shall comply with all applicable laws and regulations of any public body having jurisdiction for the safety of persons or property or to protect them from damage, injury or loss, and shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall provide and maintain all passageways, guard fences, lights and other facilities for the protection required by public authority or local conditions. Contractor shall provide reasonable maintenance of traffic for the public and preservation of the Owner's business, taking into full consideration all local conditions. Contractor's duties and responsibilities for safety and protection with regard to the Work shall continue until such time as all the Work is completed.

P. Emergencies. In emergencies affecting the safety or protection of persons or the Work or property at the Project Site or adjacent thereto, Contractor, without special instruction or authorization from Architect/Engineer or Owner, shall act to prevent threatened damage, injury or loss. Contractor shall give Owner prompt written notice if Contractor believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby. If Owner determines that a change in the Project is required because of the action taken in response to an emergency, a Work Directive Change or Change Order will be issued to document the consequences of the changes or variation.

Q. Substitutes. For Substitutes not included with the Bid (or Guaranteed Maximum Price Addendum), but submitted after the effective date of the Agreement (or Guaranteed Maximum Price Addendum), Contractor shall make written application to Architect/Engineer for acceptance thereof, certifying that the proposed Substitute will perform adequately the functions and achieve the results called for by the general design, be similar and of equal substance to that specified and be suited to the same use as that specified. The application will also contain an itemized estimate of all costs and delays or schedule impacts that will result directly or indirectly from review, acceptance and provision of such Substitute, including costs of redesign and claims of other contractors affected by the resulting change, all of which will be considered by the Architect/Engineer in evaluating the proposed Substitute. Architect/Engineer may require Contractor to furnish at Contractor's expense, additional data about the proposed Substitute. In rendering a decision, Owner, Architect/Engineer and Contractor shall have access

to any available Float Time in the Project Schedule. If Substitute materials or equipment not included as part of the Bid (or Guaranteed Maximum Price Addendum), but proposed after the effective date of the Agreement, are accepted and are less costly than the originally specified materials or equipment, then the net difference in cost shall be credited to the Owner and an appropriate Change Order executed to adjust the Contract Sum.

(1) Architect/Engineer will be allowed a reasonable time within which to evaluate each proposed Substitute. Architect/Engineer will be the sole judge of acceptability and no Substitute will be ordered, installed or utilized without Architect/Engineer's prior written acceptance which will be evidenced by either a Change Order or an approved shop drawing. Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any Substitute.

(2) Contractor shall reimburse Owner for the charges of Architect/Engineer and Architect/Engineer's Consultants for evaluating each proposed Substitute submitted after the effective date of the Agreement and all costs resulting from any delays in the Work while the Substitute was undergoing review.

R. Surveys and Stakes. The Contractor shall furnish, free of charge, all labor, stakes, surveys, batter boards for structures, grade lines and other materials and supplies and shall set construction stakes and batter boards for establishing lines, position of structures, slopes and other controlling points necessary for the proper prosecution of the Work. Where rights-of-way, easements, property lines or any other conditions which make the lay-out of the Project or parts of the Project critical are involved, the Contractor shall employ a competent surveyor who is registered in the State of Florida for lay-out and staking. These stakes and marks shall constitute the field control by and in accord with which the Contractor shall govern and execute the Work. The Contractor shall be held responsible for the preservation of all stakes and marks and if for any reason any of the stakes or marks or batter boards become destroyed or disturbed, they shall be immediately and accurately replaced by the Contractor.

S. Suitability of Project Site. The Contractor has, by careful examination, satisfied itself as to the nature and location of the Work and all other matters which can in any way affect the Work, including, but not limited to details pertaining to borings, as shown on the drawings. Such boring information is not guaranteed to be more than a general indication of the materials likely to be found adjacent to holes bored at the Project Site, approximately at the locations indicated. The Contractor has examined boring data, where available, made its own interpretation of the subsurface conditions and other preliminary data, and has based its Bid (or Guaranteed Maximum Price Addendum) on its own opinion of the conditions likely to be encountered. Except as specifically provided in Sections 2.4.U., 5.4 and 5.5, no extra compensation or extension of time will be considered for any Project Site conditions that existed at the time of bidding (or at the time of execution of the Guaranteed Maximum Price Addendum). No verbal agreement or conversation with any officer, agent or employee of the Owner, before or after the execution of the Agreement, shall affect or modify any of the terms or obligations herein contained.

T. Project Specification Errors. If the Contractor, during the Work, finds that the drawings, specifications or other Contract Documents cannot be followed, the Contractor shall immediately inform the Owner in writing, and the Owner shall promptly check the accuracy of the information. Any Work done after such discovery, until any necessary changes are authorized, will be done at the Contractor's sole risk of non-payment and delay.

U. Remediation of Contamination: Owner and Contractor recognize that

remediation of subsurface conditions may be necessary due to potential hazardous materials contamination. Because the presence or extent of any contamination is not known, Contractor shall include no cost in the Contract Sum, and no time in the Project Schedule, for cost or delays that might result from any necessary remediation. The Project Schedule will provide a period of time between demolition activities and the start of the next activity to commence any remediation if needed. Contractor shall use all reasonable efforts in scheduling the Project to minimize the likelihood that remediation delays construction. Any hazardous materials remediation Work which Contractor agrees to perform shall be done pursuant to a Change Order or amendment consistent with the following:

(1) The dates of Substantial Completion shall be equitably adjusted based on delays, if any, incurred in connection with remediation efforts.

(2) Contractor, and any Subcontractors which have mobilized on the Project Site, shall be paid for demonstrated costs of overhead operations at the Project Site during any period of delay of more than seven (7) days, except to the extent that Work proceeds concurrently with remediation. The categories of costs to be reimbursed are limited to those reasonably incurred at the jobsite during the delay period (such as trailers or offices, telephones, faxes, and the like); equipment dedicated to the Project and located at the Project Site; salaries and associated costs of personnel dedicated to the Project to the extent that they do not perform work on other projects; and other jobsite costs that are reasonable and which are incurred during the delay period. Subcontractors and suppliers which have not mobilized are limited to the costs set forth in Section 2.4.U(3).

(3) Contractor and any Subcontractor or supplier on the Project who is eligible for compensation shall be paid any demonstrated costs of escalation in materials or labor, and reasonable costs of off-site storage of materials identified to the Project, arising because of any delay of more than seven (7) days. Such Contractor, Subcontractors and suppliers are obligated to take all reasonable steps to mitigate escalation costs, such as through early purchase of materials.

(4) Contractor, for itself and all Subcontractors and suppliers on the Project, hereby agrees that the extension of time for delays under Section 2.4.U(1), and payment of the costs identified in Sections 2.4.U(2) and/or Section 2.4.U(3), are the sole remedies for costs and delays described in this Section, and waives all claims and demands for extended home office overhead (including, but not limited to, "Eichleay" claims), lost profit or lost opportunities, and any special, indirect, or consequential damages arising as a result of delays described in this Section. The Contract Sum shall be adjusted to reflect payment of allowable costs.

(5) If any delay described in this section causes the time or cost for the Project to exceed the Contract Time or the Contact Sum, then the Owner may terminate the Agreement pursuant to Section 14.2.

(6) Contractor and any Subcontractor or supplier seeking additional costs under this Section 2.4.U. shall promptly submit estimates or any costs as requested by Owner, and detailed back-up for all costs when payment is sought or whenever reasonably requested by Owner. All costs are auditable, at Owner's discretion. Bid, estimate and pricing information reasonably related to any request for additional compensation will be provided promptly upon request.

(7) Contractor shall include provisions in its subcontracts and purchase orders consistent with this Section.

V. Interfacing.

(1) The Contractor shall take such measures as are necessary to ensure proper construction and delivery of the Project, including but not limited to providing that all procurement of long-lead items, the separate construction Subcontractors, and the general conditions items are performed without duplication or overlap to maintain completion of all Work on schedule. Particular attention shall be given to provide that each Subcontractor bid package clearly identifies the Work included in that particular separate subcontract, its scheduling for start and completion, and its relationship to other separate contractors.

(2) Without assuming any design responsibilities of the Architect/Engineer, the Contractor shall include in the Progress Reports required under this Section 2.4 comments on overlap with any other separate subcontracts, omissions, lack of correlation between drawings, and any other deficiencies noted, in order that the Architect/Engineer may arrange for necessary corrections.

W. Job Site Facilities. The Contractor shall arrange for all job site facilities required and necessary to enable the Contractor and Architect/Engineer to perform their respective duties and to accommodate any representatives of the Owner which the Owner may choose to have present on the Project Site.

X. Weather Protection. The Contractor shall provide temporary enclosures of building areas to assure orderly progress of the Work during periods when extreme weather conditions are likely to be experienced. The Contractor shall also be responsible for providing weather protection for Work in progress and for materials stored on the Project Site. A contingency plan shall be prepared upon request of the Owner for weather conditions that may affect the construction.

Y. Payment and Performance Bond. Prior to the construction commencement date, the Contractor shall obtain, for the benefit of and directed to the Owner, a Payment and Performance Bond satisfying the requirements of Section 255.05, Florida Statutes, covering the faithful performance by the Contractor of its obligations under the Contract Documents, including but not limited to the construction of the Project on the Project Site and the payment of all obligations arising thereunder, including all payments to Subcontractors, laborers, and materialmen. The surety selected by the Contractor to provide the Payment and Performance Bond shall be approved by the Owner prior to the issuance of such Bond, which approval shall not be unreasonably withheld or delayed provided that the surety is rated A or better by Best's Key Guide, latest edition. For Changes in the Work that result in an increase in the Contract Sum, Owner reserves the right to require the Contractor to secure and deliver additive riders to the Payment and Performance Bond.

Z. Construction Phase; Building Permit; Code Inspections. Unless otherwise provided, 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.

(1) Building Permit. The Owner and Architect/Engineer shall provide such information to any Permitting Authority as is necessary to obtain approval from

the Permitting Authority to commence construction prior to beginning construction. The Contractor shall pull any required building permit, and shall be responsible for delivering and posting the building permit at the Project Site prior to the commencement of construction. The cost of the building permit is included in the Contract Sum. The Owner and Architect/Engineer shall fully cooperate with the Contractor when and where necessary.

(2) Code Inspections. The Project requires detailed code compliance inspection during construction in disciplines determined by any Permitting Authority. These disciplines normally include, but are not necessarily limited to, structural, mechanical, electrical, plumbing, general building and fire. The Contractor shall notify the appropriate inspector(s) and the Architect/Engineer, no less than 24 hours in advance, when the Work is ready for inspection and before the Work is covered up. All inspections shall be made for conformance with the applicable ordinances and building codes. Costs for all re-inspections of Work found defective and subsequently repaired shall not be included as Project Costs and shall be borne by the Contractor or as provided in the contract between Contractor and Subcontractor.

(3) Contractor's Personnel. The Contractor shall maintain sufficient off-site support staff and competent full-time staff at the Project Site authorized to act on behalf of the Contractor to coordinate, inspect, and provide general direction of the Work and progress of the Subcontractors. At all times during the performance of the Work, the Owner shall have the right to demand replacement of Contractor Personnel to whom the Owner has reasonable objection, without liability to the Contractor.

(4) Lines of Authority. To provide general direction of the Work, the Contractor shall establish and maintain lines of authority for its personnel and shall provide this information to the Owner and all other affected parties, such as the code inspectors of any Permitting Authority, the Subcontractors, and the Architect/Engineer. The Owner and Architect/Engineer may attend meetings between the Contractor and his Subcontractors; however, such attendance is optional and shall not diminish either the authority or responsibility of the Contractor to administer the subcontracts.

AA. Quality Control. The Contractor shall develop and maintain a program, acceptable to the Owner and Architect/Engineer, to assure quality control of the construction. The Contractor shall be responsible for and supervise the Work of all Subcontractors, providing instructions to each when their Work does not conform to the requirements of the Project Plans and Specifications, and the Contractor shall continue to coordinate the Work of each Subcontractor to ensure that corrections are made in a timely manner so as to not affect the efficient progress of the Work. Should a disagreement occur between the Contractor and the Architect/Engineer over the acceptability of the Work, the Owner, at its sole discretion and in addition to any other remedies provided herein, shall have the right to determine the acceptability, provided that such determination is consistent with standards for construction projects of this type and generally accepted industry standards for workmanship in the State of Florida.

BB. Management of Subcontractors. All Subcontractors shall be compensated in accordance with Article IV. The Contractor shall solely control the Subcontractors. The Contractor shall negotiate all Change Orders and Field Orders with all affected Subcontractors and shall review the costs

and advise the Owner and Architect/Engineer of their validity and reasonableness, acting in the Owner's best interest. When there is an imminent threat to health and safety, and Owner's Project Representative concurrence is impractical, the Contractor shall act immediately to remove the threats to health and safety and shall subsequently fully inform Owner of all such action taken. The Contractor shall also carefully review all shop drawings and then forward the same to the Architect/Engineer for review and actions. The Architect/Engineer will transmit them back to the Contractor, who will then issue the shop drawings to the affected Subcontractor for fabrication or revision. The Contractor shall maintain a suspense control system to promote expeditious handling. The Contractor shall request the Architect/Engineer to make interpretations of the drawings or specifications requested of him by the Subcontractors and shall maintain a business system to promote timely response. The Contractor shall inform the Architect/Engineer which shop drawings or requests for clarification have the greatest urgency, to enable the Architect/Engineer to prioritize requests coming from the Contractor. The Contractor shall advise the Owner and Architect/Engineer when timely response is not occurring on any of the above.

CC. Job Requirements.

(1) The Contractor shall provide each of the following as a part of its services hereunder:

(a) Maintain a log of daily activities, including manpower records, equipment on site, weather, delays, major decisions, etc;

(b) Maintain a roster of companies on the Project with names and telephone numbers of key personnel;

(c) Establish and enforce job rules governing parking, clean-up, use of facilities, and worker discipline;

(d) Provide labor relations management and equal opportunity employment for a harmonious, productive Project;

(e) Provide and administer a safety program for the Project and monitor for subcontractor compliance without relieving them of responsibilities to perform Work in accordance with best acceptable practice;

(f) Provide a quality control program as provided under Section 2.4.C above;

(g) Provide miscellaneous office supplies that support the construction efforts which are consumed by its own forces;

(h) Provide for travel to and from its home office to the Project Site and to those other places within Manatee County as required by the Project;

(i) Verify that tests, equipment, and system start-ups and operating and maintenance instructions are conducted as required and in the presence of the required personnel and provide adequate records of same to the Architect/Engineer;

(j) Maintain at the job site orderly files for correspondence, reports of job conferences, shop drawings and sample submissions, reproductions of

original Contract Documents including all addenda, change orders, field orders, additional drawings issued after execution of the Agreement, Owner/Architect/Engineer's clarifications and interpretations of the Contract Documents, progress reports, as-built drawings, and other project related documents;

(k) Keep a diary or log book, recording hours on the job site, weather conditions, data relative to questions of extras or deductions; list of visiting officials and representatives or manufacturers, fabricators, suppliers and distributors; daily activities, decisions, observations in general and specific observations in more detail as in the case of observing test procedures, and provide copies of same to Owner/Architect/Engineer;

(l) Record names, addresses and telephone numbers of all Contractors, Subcontractors and major suppliers of materials and equipment;

(m) Furnish Owner/Architect/Engineer periodic reports, as required, of progress of the Work and Contractor's compliance with the approved progress schedule and schedule of shop drawing submissions;

(n) Consult with Owner/Architect/Engineer in advance of scheduling major tests, inspections or start of important phases of the Work;

(o) Verify, during the course of the Work, that certificates, maintenance and operations manuals and other data required to be assembled and furnished are applicable to the items actually installed, and deliver same to Owner/Architect/Engineer for review prior to final Acceptance of the Work; and

(p) Cooperate with Owner in the administration of grants.

(2) The Contractor shall provide personnel and equipment, or shall arrange for separate Subcontractors to provide each of the following as a Project Cost:

(a) Services of independent testing laboratories, and provide the necessary testing of materials to ensure conformance to contract requirements; and

(b) Printing and distribution of all required bidding documents and shop drawings, including the sets required by Permitting Authority inspectors.

DD. As-Built Drawings. The Contractor shall continuously review as-built drawings and mark up progress prints to provide as much accuracy as possible. Prior to, and as a requirement for authorizing final payment to the Contractor due hereunder, the Contractor shall provide to the Owner an original set of marked-up, as-built Project Plans and Specifications and an electronic format of those records showing the location and dimensions of the Project as constructed, which documents shall be certified as being correct by the Contractor and the Architect/Engineer. Final as-built drawings shall be signed and sealed by a registered Florida surveyor.

EE. Progress Reports. The Contractor shall forward to the Owner, as soon as practicable after the first day of each month, a summary report of the progress of the various parts of the Work, to include those parts of the Work in fabrication and in the field, stating the existing status, estimated time of completion and cause of delay, if any. Together with the summary report, the Contractor shall submit any necessary revisions to the original schedule for the Owner's review and approval. In addition, more detailed schedules may be required by the Owner for daily traffic control.

FF. Contractor's Warranty. The Contractor warrants to the Owner and Architect/Engineer that materials and equipment furnished under the Contract will be of good quality and new unless the Contract Documents require or permit otherwise. The Contractor further warrants that the Work will conform to the requirements of the Contract Documents and will be free from defects, except for those inherent in the quality of the Work the Contract Documents require or permit. Work, materials, or equipment not conforming to these requirements will be considered defective. The Contractor's warranty excludes remedy for damage or defect caused by abuse, alterations to the Work not executed by the Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear and normal usage. If required by the Architect/Engineer, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

(1) Contractor shall use its best efforts and due diligence to ensure that during the warranty period, those entities or individuals who have provided direct warranties to the Owner as required by the Contract Documents perform all required warranty Work in a timely manner and at the sole cost and expense of such warranty providers. Any such cost or expense not paid by the warranty providers shall be paid by the Contractor, to include any costs and attorney's fees incurred in warranty-related litigation between Contractor and any Subcontractors.

(2) The Contractor shall secure guarantees and warranties of Subcontractors, equipment suppliers and materialmen, and assemble and deliver same to the Owner in a manner that will facilitate their maximum enforcement and assure their meaningful implementation. The Contractor shall collect and deliver to the Owner any specific written guaranties or warranties given by others as required by subcontracts.

(3) At the Owner's request, the Contractor shall conduct, jointly with the Owner and the Architect/Engineer, no more than two (2) warranty inspections within three (3) years after the Substantial Completion Date.

GG. Apprentices. If Contractor employs apprentices, their performance of Work shall be governed by and shall comply with the provisions of Chapter 446, Florida Statutes.

HH. Schedule of Values. Unit prices shall be established for this Agreement by the submission of a schedule of values within ten (10) days of receipt of the Notice to Proceed. The schedule shall include quantities and prices of items equaling the Contract Sum and will subdivide the Work into components in sufficient detail to serve as the basis for progress payments during construction. Such prices shall include an appropriate amount of overhead and profit applicable to each item of Work. Upon request of the County, the Contractor shall support the values with data which will substantiate their correctness.

II. Other Contracts. The Owner reserves the right to let other contracts in connection with this Work. The Contractor shall afford other contractors reasonable opportunity for

the introduction and storage of their materials and execution of their work, and promptly connect and coordinate the Work with theirs.

ARTICLE III
COMPENSATION

3.1 Compensation. The Contract Sum constitutes the total compensation (subject to authorized adjustments) payable to Contractor for performing the Work. All duties, responsibilities and obligations assigned to or undertaken by Contractor shall be at Contractor's expense without change in the Contract Sum.

A. Adjustments. The Contract Sum may only be changed by Change Order or by a written amendment. Any claim for an increase or decrease in the Contract Sum shall be based on written notice delivered by the party making the claim to the other party. Notice of the amount of the claim with supporting data shall be delivered within fifteen (15) days from the beginning of such occurrence and shall be accompanied by claimant's written statement that the amount claimed covers all amounts to which the claimant is entitled as a result of the occurrence of said event. Failure to deliver a claim within the requisite 15-day period shall constitute a waiver of the right to pursue said claim.

B. Valuation. The value of any Work covered by a Change Order or of any claim for an increase or decrease in the Contract Sum shall be determined in one of the following ways (at Owner's discretion):

(1) In the case of Unit Price Work, in accordance with Section 3.1.C, below; or

(2) By mutual acceptance of a lump sum; or

(3) On the basis of the cost of the Work, plus a negotiated Contractor's fee for overhead and profit. Contractor shall submit an itemized cost breakdown together with supporting data.

C. Unit Price Work. The unit price of an item of Unit Price Work shall be subject to re-evaluation and adjustment pursuant to a requested Change Order under the following conditions:

(1) If the total cost of a particular item of Unit Price Work amounts to 5% or more of the Contract Sum and the variation in the quantity of the particular item of Unit Price Work performed by Contractor differs by more than 15% from the estimated quantity of such item indicated in the Agreement; and

(2) If there is no corresponding adjustment with respect to any other item of Work; and

(i) If Contractor believes that it has incurred additional expense as a result thereof; or

(ii) If Owner believes that the quantity variation entitles it to an adjustment in the unit price; or

(iii) If the parties are unable to agree as to the effect of any such variations in the quantity of Unit Price Work performed.

3.2 Schedule of Compensation. All payments for services and material under the Contract Documents shall be made in accordance with the following provisions.

A. Periodic Payments for Services. The Contractor shall be entitled to receive payment for Construction Services rendered pursuant to Section 2.4 in periodic payments which shall reflect a fair apportionment of cost and schedule of values of services furnished prior to payment, subject to the provisions of this Section.

B. Payment for Materials and Equipment. In addition to the periodic payments authorized hereunder, payments may be made for material and equipment not incorporated in the Work but delivered and suitably stored at the Project Site, or another location, subject to prior approval and acceptance by the Owner on each occasion.

C. Credit toward Contract Sum. All payments for Construction Services made hereunder shall be credited toward the payment of the Contract Sum as Contractor's sole compensation for the construction of the Project.

3.3 Invoice and Payment. All payments for services and materials under the Contract Documents shall be invoiced and paid in accordance with the following provisions.

A. Invoices. The Contractor shall submit to the Owner periodic invoices for payment, in a form acceptable to the Owner, which shall include a sworn statement certifying that, to the best of the Contractor's knowledge, information and belief, the construction has progressed to the point indicated, the quality and the Work covered by the invoice is in accord with the Project Plans and Specifications, and the Contractor is entitled to payment in the amount requested, along with the cost reports required pursuant to Article II, showing in detail all monies paid out, Project Costs accumulated, or Project Cost incurred during the previous period. This data shall be attached to the invoice.

B. Additional Information; Processing of Invoices. Should an invoiced amount appear to exceed the Work effort believed to be completed, the Owner may, prior to processing of the invoice for payment, require the Contractor to submit satisfactory evidence to support the invoice. All progress reports and invoices shall be delivered to the attention of the Owner's Project Representative. Invoices not properly prepared (mathematical errors, billing not reflecting actual Work done, no signature, etc.) shall be returned to the Contractor for correction.

C. Architect/Engineer's Approval. Payment for Work completed shall be subject to the Architect/Engineer approving the payment requested by the Contractor and certifying the amount thereof that has been properly incurred and is then due and payable to the Contractor, and identifying with specificity any amount that has not been properly incurred and that should not be paid.

D. Warrants of Contractor with Respect to Payments. The Contractor warrants that (1) upon payment of any retainage, materials and equipment covered by a partial payment request will pass to Owner either by incorporation in construction or upon receipt of payment by the Contractor, whichever occurs first; (2) Work, materials and equipment covered by previous partial payment requests shall be free and clear of liens, claims, security interests, or encumbrances; and (3) no Work, materials or equipment covered by a partial payment request which has been acquired by the Contractor or any other person performing Work at the Project Site, or furnishing materials or equipment for the Project, shall be subject to an agreement under which an interest therein or an encumbrance thereon is retained by the seller or otherwise imposed by the Contractor or any other person.

E. All Compensation Included. Contractor's compensation includes full payment for services set forth in the Contract Documents, including but not limited to overhead, profit, salaries or other compensation of Contractor's officers, partners and/or employees, general operating expenses incurred by Contractor and relating to this Project, including the cost of management, supervision and data processing staff, job office equipment and supplies, and other similar items.

ARTICLE IV
SUBCONTRACTORS

4.1 Subcontracts. At the Owner's request, the Contractor shall provide Owner's Project Representative with copies of all proposed and final subcontracts, including the general and supplementary conditions thereof.

A. Subcontracts Generally. All subcontracts shall: (1) require each Subcontractor to be bound to Contractor to the same extent Contractor is bound to Owner by the terms of the Contract Documents, as those terms may apply to the portion of the Work to be performed by the Subcontractor, (2) provide for the assignment of the subcontracts from Contractor to Owner at the election of Owner, upon termination of Contractor, (3) provide that Owner will be an additional indemnified party of the subcontract, (4) provide that Owner will be an additional insured on all insurance policies required to be provided by the Subcontractor, except workers' compensation, (5) assign all warranties directly to Owner, and (6) identify Owner as an intended third-party beneficiary of the subcontract.

(1) A Subcontractor is a person or entity who has a direct contract with Contractor to perform a portion of the Work at the site. The term "Subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Subcontractor or an authorized representative of the Subcontractor. The term "Subcontractor" does not include a separate contractor or subcontractors of a separate contractor.

(2) A Sub-subcontractor is a person or entity who has a direct or indirect contract with a Subcontractor to perform a portion of the Work at the site. The term "Sub-subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Sub-subcontractor or an authorized representative of the Sub-subcontractor.

B. No Damages for Delay. Except when otherwise expressly agreed to by Owner in writing, all subcontracts shall provide:

> "LIMITATION OF REMEDIES – NO DAMAGES FOR DELAY. The Subcontractor's exclusive remedy for delays in the performance of the contract caused by events beyond its control, including delays claimed to be caused by the Owner or Architect/Engineer or attributable to the Owner or Architect/Engineer and including claims based on breach of contract or negligence, shall be an extension of its contract time and shall in no way involve any monetary claim."

Each subcontract shall require that any claims by the Subcontractor for delay must be submitted to the Contractor within the time and in the manner in which the Contractor must submit such claims to the Owner, and that failure to comply with the conditions for giving notice and submitting claims shall result in the waiver of such claims.

C. Subcontractual Relations. The Contractor shall require each Subcontractor to assume all the obligations and responsibilities which the Contractor owes the Owner pursuant to the Contract Documents, by the parties to the extent of the Work to be performed by the Subcontractor. Said obligations shall be made in writing and shall preserve and protect the rights of the Owner and Architect/Engineer, with respect to the Work to be performed by the Subcontractor, so that the subcontracting thereof will not prejudice such rights. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with its sub-subcontractors.

D. Insurance; Acts and Omissions. Insurance requirements for Subcontractors shall be no more stringent than those requirements imposed on the Contractor by the Owner. The Contractor shall be responsible to the Owner for the acts and omissions of its employees, agents, Subcontractors, their agents and employees, and all other persons performing any of the Work or supplying materials under a contract to the Contractor.

4.2 Relationship and Responsibilities. Except as specifically set forth herein with respect to direct materials acquisitions by Owner, nothing contained in the Contract Documents or in any Contract Document does or shall create any contractual relation between the Owner or Architect/Engineer and any Subcontractor. Specifically, the Contractor is not acting as an agent of the Owner with respect to any Subcontractor. The utilization of any Subcontractor shall not relieve Contractor from any liability or responsibility to Owner, or obligate Owner to the payment of any compensation to the Subcontractor or additional compensation to the Contractor.

4.3 Payments to Subcontractors; Monthly Statements. The Contractor shall be responsible for paying all Subcontractors from the payments made by the Owner to Contractor pursuant to Article III, subject to the following provisions:

A. Payment. The Contractor shall, no later than ten (10) days after receipt of payment from the Owner, out of the amount paid to the Contractor on account of such Subcontractor's Work, pay to each Subcontractor the amount to which the Subcontractor is entitled in accordance with the terms of the Contractor's contract with such Subcontractor. The Contractor shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payments to sub-Subcontractors in a similar manner. After receipt of payment from Owner, if the need should arise to withhold payments to Subcontractors for any reason, as solely determined by Contractor, the Contractor shall promptly restore such monies to the Owner, adjusting subsequent pay requests and Project bookkeeping as required.

B. Final Payment of Subcontractors. The final payment of retainage to Subcontractors shall not be made until the Project has been inspected by the Architect/Engineer or other person designated by the Owner for that purpose, and until both the Architect/Engineer and the Contractor have issued a written certificate that the Project has been constructed in accordance with the Project Plans and Specifications and approved Change Orders. Before issuance of final payment to any Subcontractor without any retainage, the Subcontractor shall submit satisfactory evidence that all payrolls, material bills, and other indebtedness connected with the Project have been paid or otherwise satisfied, warranty information is complete, as-built markups have been submitted, and instruction for the Owner's operating and maintenance personnel is complete. Final payment may be made to certain select Subcontractors whose Work is satisfactorily completed prior to the completion of the Project, but only upon approval of the Owner's Project Representative.

4.4 Responsibility for Subcontractors. As provided in Section 2.4.BB, Contractor shall be fully responsible to Owner for all acts and omissions of the Subcontractors, suppliers and other persons and organizations performing or furnishing any of the Work under a direct or indirect Contract with Contractor

just as Contractor is responsible for Contractor's own acts and omissions.

4.5 Contingent Assignment of Subcontracts. Each subcontract agreement for a portion of the Work is assigned by the Contractor to the Owner, provided that:

(1) assignment is effective only after termination of the Contract by the Owner for cause pursuant to Article XIV and only for those subcontract agreements that the Owner accepts by notifying the Subcontractor and Contractor in writing; and

(2) assignment is subject to the prior rights of the surety, if any, obligated under bond relating to the Agreement.

When the Owner accepts the assignment of a subcontract agreement, the Owner assumes the Contractor's rights and obligations under the subcontract. Upon such assignment, if the Work has been suspended for more than thirty (30) days, the Subcontractor's compensation shall be equitably adjusted for increases in cost resulting from the suspension. Upon such assignment to the Owner, the Owner may further assign the subcontract to a successor contractor or other entity. If the Owner assigns the subcontract to a successor contractor or other entity, the Owner shall nevertheless remain legally responsible for all of the successor contractor's obligations under the subcontract.

ARTICLE V
CHANGES IN WORK

5.1 General. Changes in the Work may be accomplished after execution of the Agreement, and without invalidating the Agreement, by Change Order, Work Directive Change or order for a minor change in the Work, subject to the limitations stated in this Article V and elsewhere in the Contract Documents. A Change Order shall be based upon agreement among the Owner, Contractor and Architect/Engineer; a Work Directive Change requires agreement by the Owner and Architect/Engineer and may or may not be agreed to by the Contractor; an order for a minor change in the Work may be issued by the Architect/Engineer alone. Changes in the Work shall be performed under applicable provisions of the Contract Documents, and the Contractor shall proceed promptly, unless otherwise provided in the Change Order, Work Directive Change or order for a minor change in the Work.

5.2 Minor Changes in the Work. The Owner or Architect/Engineer shall have authority to order minor changes in the Work not involving adjustment in the Contract Sum or extension of the Contract Time and not inconsistent with the intent of the Contract Documents. Such change will be effected by written order signed by the Architect/Engineer and shall be binding on the Owner and Contractor. The Contractor shall abide by and perform such minor changes. Such changes shall be effected by a Field Directive or a Work Directive Change. Documentation of changes shall be determined by the Construction Team, and displayed monthly in the Progress Reports. Because such changes shall not affect the Contract Sum to be paid to the Contractor, they shall not require a Change Order pursuant to Section 5.6.

5.3 Emergencies. In any emergency affecting the safety of persons or property, the Contractor shall act at its discretion to prevent threatened damage, injury, or loss. Any increase in the Contract Sum or extension of time claimed by the Contractor because of emergency Work shall be determined as provided in Section 5.6. However, whenever practicable, the Contractor shall obtain verbal concurrence of the Owner's Project Representative and Architect/Engineer where the act will or may affect the Contract Sum or Contract Time.

5.4 Concealed Conditions. If the Contractor encounters conditions at the site that are (1) subsurface or otherwise concealed physical conditions that differ materially from those indicated in the Contract Documents or (2) unknown physical conditions of an unusual nature, that differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, the Contractor shall promptly provide notice to the Owner and the Architect/Engineer before conditions are disturbed and in no event later than ten (10) days after first observance of the conditions. The Architect/Engineer will promptly investigate such conditions and, if the Architect/Engineer determines that they differ materially and cause an increase or decrease in the Contractor's cost of, or time required for, performance of any part of the Work, will recommend an equitable adjustment in the Contract Sum or Contract Time, or both. If the Architect/Engineer determines that the conditions at the site are not materially different from those indicated in the Contract Documents and that no change in the terms of the Contract is justified, the Architect/Engineer shall promptly notify the Owner and Contractor in writing, stating the reasons. If the Contractor disputes the Architect/Engineer's determination or recommendation, the Contractor may proceed as provided in Article VIII. If the Owner disputes the Architect/Engineer's determination or recommendation, the Owner may appeal directly to the Purchasing Official and shall thereafter follow the process set forth in Section 8.5.

5.5 Hazardous Materials. In the event the Contractor encounters on the Project Site material reasonably believed to be hazardous, petroleum or petroleum related products, or other hazardous or toxic substances, except as provided in Section 2.4.U, the Contractor shall immediately stop Work in the area affected and report the condition to the Owner and the Architect/Engineer in writing. The Work in the affected area shall not thereafter be resumed except by Change Order or written amendment, if in fact the material or substance has not been rendered harmless. The Work in the affected area shall be resumed when the Project Site has been rendered harmless, in accordance with the final determination by the Architect/Engineer or other appropriate professional employed by Owner. The Contractor shall not be required to perform without its consent any Work relating to hazardous materials, petroleum or petroleum related products, or other hazardous or toxic substances. In the event the Contractor encounters on the Project Site materials believed in good faith to be hazardous or contaminated material, and the presence of such hazardous or contaminated material was not known and planned for at the time the Contractor submitted its Bid (or Guaranteed Maximum Price proposal), and it is necessary for the Contractor to stop Work in the area affected and delays Work for more than a seven (7) day period, adjustments to the Contract Sum and/or Contract Time shall be made in accordance with this Article V.

5.6 Change Orders; Adjustments to Contract Sum.

A. Change Orders Generally. The increase or decrease in the Contract Sum resulting from a change authorized pursuant to the Contract Documents shall be determined:

(1) By mutual acceptance of a lump sum amount properly itemized and supported by sufficient substantiating data, to permit evaluation by the Architect/Engineer and Owner; or

(2) By unit prices stated in the Agreement or subsequently agreed upon; or

(3) By any other method mutually agreeable to Owner and Contractor.

If Owner and Contractor are unable to agree upon increases or decreases in the Contract Sum and the Architect/Engineer certifies that the work needs to be commenced prior to any such agreement, the Contractor, provided it receives a written Change Order signed by or on behalf of the Owner, shall promptly proceed with the Work involved. The cost of such Work shall then be determined on the basis

of the reasonable expenditures of those performing the Work attributed to the change. However, in the event a Change Order is issued under these conditions, the Owner, through the Architect/Engineer, will establish an estimated cost of the Work and the Contractor shall not perform any Work whose cost exceeds that estimated without prior written approval by the Owner. In such case, the Contractor shall keep and present in such form as the Owner may prescribe an itemized accounting, together with appropriate supporting data of the increase in overall costs of the Project. The amount of any decrease in the Contract Sum to be allowed by the Contractor to the Owner for any deletion or change which results in a net decrease in costs will be the amount of the actual net decrease.

5.7 Owner-Initiated Changes. Without invalidating the Agreement and without notice to any Surety, Owner may, at any time, order additions, deletions or revisions in the Work. These will be authorized by a written amendment, a Field Directive, a Change Order, or a Work Directive Change, as the case may be. 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). A Work Directive Change may not change the Contract Sum or the Contract Time; but is evidence that the parties expect that the change directed or documented by a Work Directive Change will be incorporated in a subsequently issued Change Order following negotiations by the parties as to its effect, if any, on the Contract Sum or Contract Time.

5.8 Unauthorized Work. Contractor shall not be entitled to an increase in the Contract Sum or an extension of the Contract Time with respect to any Work performed that is not required by the Contract Documents.

5.9 Defective Work. Owner and Contractor shall execute appropriate Change Orders (or written amendments) covering changes in the Work which are ordered by Owner, or which may be required because of acceptance of defective Work, without adjustment to the Contract Sum.

5.10 Estimates for Changes. At any time Architect/Engineer may request a quotation from Contractor for a proposed change in the Work. Within twenty-one (21) calendar days after receipt, Contractor shall submit a written and detailed proposal for an increase or decrease in the Contract Sum or Contract Time for the proposed change. Architect/Engineer shall have twenty-one (21) calendar days after receipt of the detailed proposal to respond in writing. The proposal shall include an itemized estimate of all costs and time for performance that will result directly or indirectly from the proposed change. Unless otherwise directed, itemized estimates shall be in sufficient detail to reasonably permit an analysis by Architect/Engineer of all material, labor, equipment, subcontracts, overhead costs and fees, and shall cover all Work involved in the change, whether such Work was deleted, added, changed or impacted. Notwithstanding the request for quotation, Contractor shall carry on the Work and maintain the progress schedule. Delays in the submittal of the written and detailed proposal will be considered non-prejudicial.

5.11 Form of Proposed Changes. The form of all submittals, notices, Change Orders and other documents permitted or required to be used or transmitted under the Contract Documents shall be determined by the Owner. Standard Owner forms shall be utilized.

5.12 Changes to Contract Time. The Contract Time may only be changed pursuant to a Change Order or a written amendment to the Contract Documents. Any claim for an extension or shortening of the Contract Time shall be based on written notice delivered by the party making the claim to the other party. Notice of the extent of the claim with supporting data shall be delivered within fifteen (15) days from detection or beginning of such occurrence and shall be accompanied by the claimant's written statement that the adjustment claimed is the entire adjustment to which the claimant has reason to believe it is entitled to because of the occurrence of said event. The Contract time will be extended in an

amount equal to time lost due to delays beyond the control of Contractor. Such delays shall include, but not be limited to, acts or neglect by Owner or others performing additional Work; or to fires, floods, epidemics, abnormal weather conditions or acts of God. Failure to deliver a written notice of claim within the requisite 15-day period shall constitute a waiver of the right to pursue said claim.

ARTICLE VI
ROLE OF ARCHITECT/ENGINEER

6.1 General.

A. Retaining. The Owner shall retain an Architect/Engineer (whether an individual or an entity) lawfully licensed to practice in Florida. That person or entity is identified as the Architect/Engineer in the Agreement and is referred to throughout the Contract Documents as if singular in number.

B. Duties. Duties, responsibilities and limitations of authority of the Architect/Engineer as set forth in the Contract Documents shall not be restricted, modified or extended without written consent of the Owner and Architect/Engineer. Consent shall not be unreasonably withheld.

C. Termination. If the employment of the Architect/Engineer is terminated, the Owner shall employ a successor Architect/Engineer as to whom the Contractor has no reasonable objection and whose status under the Contract Documents shall be that of the Architect/Engineer.

6.2 Administration. The Architect/Engineer will provide administration of the Agreement as described in the Contract Documents and will be an Owner's representative during construction until the date the Architect/Engineer approves the final Application for Payment. The Architect/Engineer will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents.

A. Site Visits. The Architect/Engineer will visit the site at intervals appropriate to the stage of construction, or as otherwise agreed with the Owner, to become generally familiar with the progress and quality of the portion of the Work complete, and to determine in general if the Work observed is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents. Unless specifically instructed by Owner, the Architect/Engineer will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. The Architect/Engineer will not have control over, charge of, or responsibility for, the construction means, methods, techniques, sequences or procedures, or for the safety precautions and programs in connection with the Work, since these are solely the Contractor's rights and responsibilities under the Contract Documents.

B. Reporting. Based on the site visits, the Architect/Engineer will keep the Owner reasonably informed about the progress and quality of the portion of the Work completed, and report to the Owner (1) known deviations from the Contract Documents and from the most recent construction schedule submitted by the Contractor, and (2) defects and deficiencies observed in the Work. The Architect/Engineer will not be responsible for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents. The Architect/Engineer will not have control over or charge of and will not be responsible for acts or omissions of the Contractor, Subcontractors, or their agents or employees, or any other persons or entities performing portions of the Work.

6.3 Interpretation of Project Plans and Specifications. The Architect/Engineer will be the interpreter of the requirements of the Project Plans and Specifications. Upon receipt of comments or objections by Contractor or Owner, the Architect/Engineer will make decisions on all claims, disputes, or other matters pertaining to the interpretation of the Project Plans and Specifications.

6.4 Rejection of Non-Conforming Work. Upon consultation with Owner, the Architect/Engineer shall have the authority to reject Work which does not conform to the Project Plans and Specifications.

6.5 Correction of Work. The Contractor shall promptly correct all Work rejected by the Architect/Engineer for being defective or as failing to conform to the Project Plans and Specifications, whether observed before or after the Substantial Completion Date and whether or not fabricated, installed, or completed. The Contractor shall bear all costs of correcting such rejected Work, including compensation for Architect/Engineer's additional services made necessary thereby.

6.6 Timely Performance of Architect/Engineer. The Contractor shall identify which requests for information or response from the Architect/Engineer have the greatest urgency and those items which require prioritizing in response by the Architect/Engineer. The Contractor shall also identify the preferred time period for response and shall request a response time which is reasonably and demonstrably related to the needs of the Project and Contractor. If Architect/Engineer claims that Contractor's expectations for a response are unreasonable, Owner shall require Architect/Engineer to communicate such claim to Contractor in writing together with the specific time necessary to respond and the date upon which such response will be made. If Contractor believes that Architect/Engineer is not providing timely services or responses, Contractor shall notify Owner of same in writing not less than two (2) weeks before Contractor believes performance or response time from Architect/Engineer is required without risk of delaying the Project.

ARTICLE VII
OWNER'S RIGHTS AND RESPONSIBILITIES

7.1 Project Site; Title. The Owner shall provide the lands upon which the Work under the Contract Documents is to be done, except that the Contractor shall provide all necessary additional land required for the erection of temporary construction facilities and storage of his materials, together with right of access to same. The Owner hereby represents to the Contractor that it currently has and will maintain up through and including the Substantial Completion Date, good title to all of the real property constituting the Project Site. Owner agrees to resolve, at its expense, any disputes relating to the ownership and use of the Project Site which might arise during construction.

7.2 Project Plans and Specifications; Architect/Engineer. The parties hereto acknowledge and agree that Owner has previously entered into an agreement with Architect/Engineer. Pursuant to the terms of such agreement, the Architect/Engineer, as an agent and representative of Owner, is responsible for the preparation of Project Plans and Specifications which consist of drawings, specifications, and other documents setting forth in detail the requirements for the construction of the Project. All such Project Plans and Specifications shall be provided either by Owner or the Architect/Engineer, and Contractor shall be under no obligation to provide same and shall be entitled to rely upon the accuracy and completeness of the Project Plans and Specifications provided by the Architect/Engineer and all preliminary drawings prepared in connection therewith. The Contractor will be furnished a reproducible set of all drawings and specifications reasonably necessary for the performance of Contractor's services hereunder and otherwise ready for printing. The Contractor shall be notified of any written modification in the agreement between Owner and Architect/Engineer.

7.3 Surveys; Soil Tests and Other Project Site Information. Owner shall be responsible for providing a legal description and certified land survey of the Project Site in a form and content and with such specificity as may be required by the Architect/Engineer and Contractor to perform their services. To the extent deemed necessary by Owner and Architect/Engineer, and solely at Owner's expense, Owner may engage the services of a geotechnical consultant to perform test borings and other underground soils testing as may be deemed necessary by the Architect/Engineer or the Contractor. Contractor shall not be obligated to provide such surveys or soil tests and shall be entitled to rely upon the accuracy and completeness of the information provided; subject, however, to the provisions of Section 2.4.S hereof. Owner shall provide Contractor, as soon as reasonably possible following the execution of the Contract Documents, all surveys or other survey information in its possession describing the physical characteristics of the Project Site, together with soils reports, subsurface investigations, utility locations, deed restrictions, easements, and legal descriptions then in its possession or control. Upon receipt of all surveys, soils tests, and other Project Site information, Contractor shall promptly advise Owner of any inadequacies in such information and of the need for any additional surveys, soils or subsoil tests. In performing this Work, Contractor shall use the standard of care of experienced contractors and will use its best efforts timely to identify all problems or omissions. Owner shall not be responsible for any delay or damages to the Contractor for any visible or disclosed site conditions or disclosed deficiencies in the Project Site which should have been identified by Contractor and corrected by Owner prior to the execution of the Contract Documents.

7.4 Information; Communication; Coordination. The Owner's Project Representative shall examine any documents or requests for information submitted by the Contractor and shall advise Contractor of Owner's decisions pertaining thereto within a reasonable period of time to avoid unreasonable delay in the progress of the Contractor's services. Contractor shall indicate if any such documents or requests warrant priority consideration. However, decisions pertaining to approval of the Project Schedule as it relates to the date of Substantial Completion, the Project Cost, Contractor's compensation, approving or changing the Contract Sum shall only be effective when approved by Owner in the form of a written Change Order or amendment to the Contract Documents. Owner reserves the right to designate a different Owner's Project Representative provided Contractor is notified in writing of any such change. Owner and Architect/Engineer may communicate with Subcontractors, materialmen, laborers, or suppliers engaged to perform services on the Project, but only for informational purposes. Neither the Owner nor the Architect/Engineer shall attempt to direct the Work of or otherwise interfere with any Subcontractor, materialman, laborer, or supplier, or otherwise interfere with the Work of the Contractor. Owner shall furnish the data required of Owner under the Contract Documents promptly.

7.5 Governmental Body. The Contractor recognizes that the Owner is a governmental body with certain procedural requirements to be satisfied. The Contractor has and will make reasonable allowance in its performance of services for such additional time as may be required for approvals and decisions by the Owner and any other necessary government agency.

7.6 Pre-Completion Acceptance. The Owner shall have the right to take possession of and use any completed portions of the Work, although the time for completing the entire Work or such portions may not have expired, but such taking possession and use shall not be deemed an acceptance of any Work not completed in accordance with the Contract Documents.

7.7 Ownership and Use of Drawings, Specifications and Other Instruments of Service.

(1) The Architect/Engineer and the Architect/Engineer's consultants shall be deemed the authors and owners of their respective instruments of service, including the Project Plans and Specifications, and will retain all common law, statutory and

other reserved rights, including copyrights. The Contractor, Subcontractors, Sub-subcontractors, and material or equipment suppliers shall not own or claim a copyright in the instruments of service. Submittal or distribution to meet official regulatory requirements or for other purposes in connection with this Project is not to be constructed as publication in derogation of the Architect/Engineer's or Architect/Engineer's consultants' reserved rights.

(2) The Contractor, Subcontractors, Sub-subcontractors and material or equipment suppliers are authorized to use and reproduce the drawings and specifications provided to them solely and exclusively for execution of the Work. All copies made under this authorization shall bear the copyright notice, if any, shown on the Project Plans and Specifications or other instruments of service. The Contractor, Subcontractors, Sub-subcontractors, and material or equipment suppliers may not use the drawings or specifications on other projects or for additions to this Project outside the scope of the Work without the specific written consent of the Owner, Architect/Engineer and the Architect/Engineer's consultants.

7.8 Owner's Project Representative. Owner's Project Representative is Owner's Agent, who will act as directed by and under the supervision of the Owner, and who will confer with Owner/Architect/Engineer regarding his actions. The Owner's Project Representative's dealings in matters pertaining to the on-site Work shall, in general, be only with the Owner/Architect/Engineer and Contractor and dealings with Subcontractors shall only be through or with the full knowledge of Contractor.

A. Responsibilities. Except as otherwise instructed in writing by Owner, the Owner's Project Representative will:

(1) Attend preconstruction conferences; arrange a schedule of progress meetings and other job conferences as required in consultation with Owner/Architect/Engineer and notify those expected to attend in advance; and attend meetings and maintain and circulate copies of minutes thereof;

(2) Serve as Owner/Architect/Engineer's liaison with Contractor, working principally through Contractor's superintendent, to assist in understanding the intent of the Contract Documents. As requested by Owner/Architect/Engineer, assist in obtaining additional details or information when required at the job site for proper execution of the Work;

(3) Report to Owner/Architect/Engineer whenever he believes that any Work is unsatisfactory, faulty or defective or does not conform to the Contract Documents;

(4) Accompany visiting inspectors representing public or other agencies having jurisdiction over the project; record the outcome of these inspections and report to Owner/Architect/Engineer;

(5) Review applications for payment with Contractor for compliance with the established procedure for their submission and forward them with recommendations to Owner/Architect/Engineer; and

(6) Perform those duties as set forth elsewhere within the Contract Documents.

B. Limitations. Except upon written instructions of Owner, Owner's Project Representative shall not:

(1) Authorize any deviation from the Contract Documents or approve any substitute materials or equipment;

(2) Exceed limitations on Owner/Architect/Engineer's authority as set forth in the Contract Documents;

(3) Undertake any of the responsibilities of Contractor, Subcontractors or Contractor's superintendent, or expedite the Work;

(4) Advise on or issue directions relative to any aspect of the means, methods, techniques, sequences or procedures of construction unless such is specifically called for in the Contract Documents;

(5) Advise on or issue directions as to safety precautions and programs in connection with the Work;

(6) Authorize Owner to occupy the project in whole or in part; or

(7) Participate in specialized field or laboratory tests.

ARTICLE VIII
RESOLUTION OF DISAGREEMENTS; CLAIMS FOR COMPENSATION

8.1 Owner to Decide Disputes. The Owner shall reasonably decide all questions and disputes (with the exception of matters pertaining to the interpretation of the Project Plans and Specifications which shall be resolved by the Architect/Engineer pursuant to Section 6.3) that may arise in the execution and fulfillment of the services provided for under the Contract Documents, in accordance with the Procurement Ordinance.

8.2 Finality. The decision of the Owner upon all claims, questions, disputes and conflicts shall be final and conclusive, and shall be binding upon all parties to the Contract Documents, subject to judicial review as provided in Section 8.5 below.

8.3 No Damages for Delay. If at any time Contractor is delayed in the performance of Contractor's responsibilities under the Contract Documents as the result of a default or failure to perform in a timely manner by Owner or Owner's agents or employees, Contractor shall not be entitled to any damages except for compensation specifically authorized in Article III. Contractor's sole remedy will be a right to extend the time for performance. Nothing herein shall preclude Contractor from any available remedy against any responsible party other than Owner. Contractor shall be responsible for liquidated damages for delay if otherwise provided for in the Contract Documents.

8.4 Permitted Claims Procedure. Where authorized or permitted under the Contract Documents, all claims for additional compensation by Contractor, extensions of time affecting the Substantial Completion Date, for payment by the Owner of costs, damages or losses due to casualty,

Force Majeure, Project Site conditions or otherwise, shall be governed by the following:

(1) All claims must be submitted as a request for Change Order in the manner as provided in Article V.

(2) The Contractor must submit a notice of claim to Owner's Project Representative and to the Architect/Engineer within fifteen (15) days of when the Contractor was or should have been aware of the fact that an occurrence was likely to cause delay or increased costs. Failure to submit a claim within the requisite 15-day period shall constitute a waiver of the right to pursue said claim.

(3) Within twenty (20) days of submitting its notice of claim, the Contractor shall submit to the Owner's Project Representative its request for Change Order, which shall include a written statement of all details of the claim, including a description of the Work affected.

(4) After receipt of a request for Change Order, the Owner's Project Representative, in consultation with the Architect/Engineer, shall deliver to the Contractor, within twenty (20) days after receipt of request, its written response to the claim.

(5) In the event the Owner and Contractor are unable to agree on the terms of a Change Order, the Owner shall have the option to instruct the Contractor to proceed with the Work. In that event, the Owner shall pay for those parts of the Work, the scope and price of which are not in dispute. The balance of the disputed items in the order to proceed will be resolved after completion of the Work, based upon completed actual cost.

(6) The rendering of a decision by Owner with respect to any such claim, dispute or other matter (except any which have been waived by the making or acceptance of final payment) will be a condition precedent to any exercise by Owner or Contractor of such right 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.

8.5 Contract Claims and Disputes. After completion of the process set forth in Section 8.4 above, any unresolved dispute under this Agreement shall be decided by the Purchasing Official in accordance with Section 2-26-63 of the Manatee County Code of Laws, subject to an administrative hearing process as provided in Section 2-26-64. The decision of the Board of County Commissioners in accordance with Section 2-26-64 of the Manatee County Code of Laws shall be the final and conclusive County decision subject to exclusive judicial review in circuit court by a petition for certiorari.

8.6 Claims for Consequential Damages. The Contractor and Owner waive claims against each other for consequential damages arising out of or relating to this Agreement. This mutual waiver includes:

(1) damages incurred by the Owner for rental expenses, for losses of use, income, profit, financing, business and reputation, and for loss of management or employee productivity or of the services of such persons; and

(2) damages incurred by the Contractor for principal office expenses including the compensation of personnel stationed there, for losses of financing, business and

reputation, and for loss of profit except anticipated profit arising directly from the Work.

This mutual waiver is applicable, without limitation, to all consequential damages due to either party's termination in accordance with Article XIV. Nothing contained in this Section 8.6 shall be deemed to preclude assessment of liquidated direct damages, when applicable, in accordance with the requirements of the Contract Documents.

ARTICLE IX
INDEMNITY

9.1 Indemnity.

A. Indemnification Generally. To the fullest extent permitted by law, the Contractor shall indemnify and hold harmless the Owner, Architect/Engineer, Architect/Engineer's consultants, and agents and employees of any of them from and against claims, damages, losses and expenses, including but not limited to attorney's fees, arising out of or resulting from performance of the Work, provided that such claim, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), but only to the extent caused by the negligent acts or omissions of the Contractor, a Subcontractor or anyone directly or indirectly employed by them or anyone for whose acts they may be liable, regardless of whether such claim, damage, loss or expense is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity which would otherwise exist as to a party or person described in this Section 9.1.

B. Claims by Employees. In claims against any person or entity indemnified under this Section 9.1 by an employee of the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, the indemnification obligation under Section 9.1.A. shall not be limited by a limitation on amount or type of damages, compensation or benefits payable by or for the Contractor or a Subcontractor under workers' compensation acts, disability benefit acts or other employee benefit acts.

9.2 Duty to Defend. The Contractor shall defend the Owner in any action, lawsuit mediation or arbitration arising from the alleged negligence, recklessness or intentionally wrongful conduct of the Contractor and other persons employed or utilized by the Contractor in the performance of the Work. So long as Contractor, through its own counsel, performs its obligation to defend the Owner pursuant to this Section, Contractor shall not be required to pay the Owner's costs associated with the Owner's participation in the defense.

ARTICLE X
ACCOUNTING RECORDS; OWNERSHIP OF DOCUMENTS

10.1 Accounting Records. Records of expenses pertaining to all services performed shall be kept in accordance with generally accepted accounting principles and procedures.

10.2 Inspection and Audit. The Contractor's records shall be open to inspection and subject to examination, audit, and/or reproduction during normal working hours by the Owner's agent or authorized representative to the extent necessary to adequately permit evaluation and verification of

any invoices, payments or claims submitted by the Contractor or any of its payees during the performance of the Work. These records shall include, but not be limited to, accounting records, written policies and procedures, Subcontractor files (including proposals of successful and unsuccessful bidders), original estimates, estimating worksheets, correspondence, Change Order files (including documentation covering negotiated settlements), and any other supporting evidence necessary to substantiate charges related to the Contract Documents. They shall also include, but not be limited to, those records necessary to evaluate and verify direct and indirect costs (including overhead allocations) as they may apply to costs associated with the Contract Documents. For such audits, inspections, examinations and evaluations, the Owner's agent or authorized representative shall have access to said records from the effective date of the Contract Documents, for the duration of Work, and until three (3) years after the date of final payment by the Owner to the Contractor pursuant to the Contract Documents.

10.3 Access. The Owner's agent or authorized representative shall have access to the Contractor's facilities and all necessary records to conduct audits in compliance with this Article. The Owner's agent or authorized representative shall give the Contractor reasonable advance notice of intended inspections, examinations, and/or audits.

10.4 Ownership of Documents. Upon obtainment of Substantial Completion or termination of the Agreement, all records, documents, tracings, plans, specifications, maps, evaluations, reports, transcripts and other technical data, other than working papers, prepared or developed by the Contractor shall be delivered to and become the property of the Owner. The Contractor at its own expense may retain copies for its files and internal use.

ARTICLE XI
PUBLIC CONTRACT LAWS

11.1 Equal Opportunity Employment.

A. Employment. The Contractor shall not discriminate against any employee or applicant for employment because of race, creed, sex, color, national origin, disability or age, and will take affirmative action to ensure that all employees and applicants are afforded equal employment opportunities without discrimination because of race, creed, sex, color, national origin, disability or age. Such action will be taken with reference to, but shall not be limited to, recruitment, employment, job assignment, promotion, upgrading, demotion, transfer, layoff or termination, rates of training or retraining, including apprenticeship and on-the-job training.

B. Participation. No person shall, on the grounds of race, creed, sex, color, national origin, disability or age, be excluded from participation in, be denied the proceeds of, or be subject to discrimination in the performance of the Agreement.

11.2 Immigration Reform and Control Act of 1986. Contractor acknowledges that it is responsible for complying with the provisions of the Immigration Reform and Control Act of 1986, located at 8 U.S.C. Section 1324, et seq., and regulations relating thereto. Failure to comply with the above statutory provisions shall be considered a material breach and shall be grounds for immediate termination of this Agreement.

11.3 No Conflict of Interest. The Contractor warrants that it has not employed or retained any company or person, other than a bona fide employee working solely for the Contractor to solicit or secure this Agreement, and that it has not paid or agreed to pay any person, company, corporation, individual, or firm other than a bona fide employee working solely for the Contractor, any fee, commission,

percentage, gift or any other consideration, contingent upon or resulting from the award or making of this Agreement.

A. No Interest in Business Activity. By accepting award of this Agreement, the Contractor, which shall include its directors, officers and employees, represents that it presently has no interest in and shall acquire no interest in any business or activity which would conflict in any manner with the performance of services required hereunder, including without limitation as described in the Contractor's own professional ethical requirements. An interest in a business or activity which shall be deemed a conflict includes but is not limited to direct financial interest in any of the material and equipment manufacturers, suppliers, distributors, or contractors who will be eligible to supply material and equipment for the Project for which the Contractor is furnishing its services required hereunder.

B. No Appearance of Conflict. The Contractor shall not knowingly engage in any contractual or professional obligations that create an appearance of a conflict of interest with respect to the services provided pursuant to the Agreement. The Contractor has provided the Affidavit of No Conflict, incorporated into the Contract Documents as Exhibit "C", as a material inducement for Owner entering the Agreement. If, in the sole discretion of the County Administrator or designee, a conflict of interest is deemed to exist or arise during the term of this Agreement, the County Administrator or designee may cancel this Agreement, effective upon the date so stated in a written notice of cancellation, without penalty to the Owner.

11.4 Truth in Negotiations. By execution of the Contract Documents, the Contractor certifies to truth-in-negotiations and that wage rates and other factual unit costs supporting the compensation are accurate, complete and current at the time of contracting. Further, the original Contract Sum and any additions thereto shall be adjusted to exclude any significant sums where the Owner determines the Contract Sum was increased due to inaccurate, incomplete or non-current wage rates and other factual unit costs. Such adjustments must be made within one (1) year after final payment to the Contractor.

11.5 Public Entity Crimes. The Contractor is directed to the Florida Public Entity Crimes Act, Section 287.133, Florida Statutes, specifically section 2(a), and the Owner's requirement that the Contractor comply with it in all respects prior to and during the term of the Agreement.

ARTICLE XII
FORCE MAJEURE, FIRE OR OTHER CASUALTY

12.1 Force Majeure.

A. Unavoidable Delays. Delays in any performance by any party contemplated or required hereunder due to fire, flood, sinkhole, earthquake or hurricane, acts of God, unavailability of materials, equipment or fuel, war, declaration of hostilities, revolt, civil strife, altercation or commotion, strike, labor dispute, or epidemic, archaeological excavation, lack of or failure of transportation facilities, or any law, order, proclamation, regulation, or ordinance of any government or any subdivision thereof, or for any other similar cause to those enumerated, beyond the reasonable control and which with due diligence could not have been reasonably anticipated, shall be deemed to be events of Force Majeure and any such delays shall be excused. In the event such party is delayed in the performance of any Work or obligation pursuant to the Contract Documents for any of the events of Force Majeure stated in this Section 12.1, the date for performance required or contemplated by the Contract Documents shall be extended by the number of calendar days such party is actually delayed.

B. Concurrent Contractor Delays. If a delay is caused for any reason provided in 12.1.A. or because of an extension of time provided by Change Order, and during the same time period a delay is caused by Contractor, the date for performance shall be extended as provided in 12.1.A. but only to the extent the time is or was concurrent.

C. Notice; Mitigation. The party seeking excuse for nonperformance based on Force Majeure shall give written notice to the Owner, if with respect to the Contractor, or to the Contractor if with respect to the Owner, specifying its actual or anticipated duration. Each party seeking excuse from nonperformance based on Force Majeure shall use its best efforts to rectify any condition causing a delay and will cooperate with the other party, except that neither party shall be obligated to incur any unreasonable additional costs and expenses to overcome any loss of time that has resulted.

12.2 Casualty; Actions by Owner and Contractor. During the construction period, if the Project or any part thereof shall have been damaged or destroyed, in whole or in part, the Contractor shall promptly make proof of loss; and Owner and Contractor shall proceed promptly to collect, or cause to be collected, all valid claims which may have arisen against insurers or others based upon such damage or destruction. The Contractor shall diligently assess the damages or destruction and shall prepare an estimate of the cost, expenses, and other charges, including normal and ordinary compensation to the Contractor, necessary for reconstruction of the Project substantially in accordance with the Project Plans and Specifications. Within fifteen (15) days following satisfaction of the express conditions described in subsections (1), (2) and (3) below, the Contractor covenants and agrees diligently to commence reconstruction and to complete the reconstruction or repair of any loss or damage by fire or other casualty to the Project to substantially the same size, floor area, cubic content, and general appearance as prior to such loss or damage:

(1) Receipt by the Owner or the trustee of the proceeds derived from collection of all valid claims against insurers or others based upon such damage or destruction, and receipt of other sums from any source such that the funds necessary to pay the Project Cost and any additions to the Project Cost necessitated for repair or reconstruction are available;

(2) Written agreement executed by the Contractor and the Owner, by amendment to the Contract Documents or otherwise, authorizing and approving the repair or reconstruction and any additions to the Project Cost necessitated thereby, including any required adjustment to the Contract Sum; and

(3) Final approval by the Owner of the Project Plans and Specifications for such repair or reconstruction and issuance of any required building permit.

12.3 Approval of Plans and Specifications. The Owner agrees to approve the plans and specifications for such reconstruction or repair if the reconstruction or repair contemplated by such plans and specifications is economically feasible, and will restore the Project, or the damaged portion thereof, to substantially the same condition as prior to such loss or damage, and such plans and specifications conform to the applicable laws, ordinances, codes, and regulations. The Owner agrees that all proceeds of any applicable insurance or other proceeds received by the Owner or the Contractor as a result of such loss or damage shall be used for payment of the costs, expenses, and other charges of the reconstruction or repair of the Project.

12.4 Notice of Loss or Damage. The Contractor shall promptly give the Owner written notice of any significant damage or destruction to the Project, defined as loss or damage which it is contemplated

by Contractor will increase the Contract Sum or extend the Substantial Completion Date, stating the date on which such damage or destruction occurred, the then expectations of Contractor as to the effect of such damage or destruction on the use of the Project, and the then proposed schedule, if any, for repair or reconstruction of the Project. Loss or damage which the Contractor determines will not affect the Contract Sum or Substantial Completion Date will be reported to Owner and Architect/Engineer immediately, and associated corrective actions will be undertaken without delay.

ARTICLE XIII
REPRESENTATIONS, WARRANTIES AND COVENANTS

13.1 Representations and Warranties of Contractor. The Contractor represents and warrants to the Owner each of the following.

A. The Contractor is a construction company, organized under the laws of the State of _____, authorized to transact business in the State of Florida, with _____ as the primary qualifying agent. Contractor has all requisite power and authority to carry on its business as now conducted, to own or hold its properties, and to enter into and perform its obligations hereunder and under each instrument to which it is or will be a party, and is in good standing in the State of Florida.

B. Each Contract Document to which the Contractor is or will be a party constitutes, or when entered into will constitute, a legal, valid, and binding obligation of the Contractor enforceable against the Contractor in accordance with the terms thereof, except as such enforceability may be limited by applicable bankruptcy, insolvency, or similar laws from time to time in effect which affect creditors' rights generally and subject to usual equitable principles in the event that equitable remedies are involved.

C. There are no pending or, to the knowledge of the Contractor, threatened actions or proceedings before any court or administrative agency, within or without the State of Florida, against the Contractor or any partner, officer, or agent of the Contractor which question the validity of any document contemplated hereunder, or which are likely in any case, or in the aggregate, to materially adversely affect the consummation of the transactions contemplated hereunder, or materially adversely affect the financial condition of the Contractor.

D. The Contractor has filed or caused to be filed all federal, state, local, or foreign tax returns, if any, which were required to be filed by the Contractor, and has paid, or caused to be paid, all taxes shown to be due and payable on such returns or on any assessments levied against the Contractor.

E. Neither Contractor nor any agent or person employed or retained by Contractor has acted fraudulently or in bad faith or in violation of any statute or law in the procurement of this Agreement.

F. The Contractor shall timely fulfill or cause to be fulfilled all of the terms and conditions expressed herein which are within the control of the Contractor or which are the responsibility of the Contractor to fulfill. The Contractor shall be solely responsible for the means and methods of construction.

G. It is recognized that neither the Architect/Engineer, the Contractor, nor the Owner has control over the cost of labor, materials, or equipment, over a Subcontractor's methods of determining bid prices, or over competitive bidding, market, or negotiating conditions.

H. During the term of the Contract Documents, and the period of time that the obligations of the Contractor under the Contract Documents shall be in effect, the Contractor shall cause to occur and to continue to be in effect those instruments, documents, certificates, and events contemplated by the Contract Documents that are applicable to, and the responsibility of, the Contractor.

I. The Contractor shall assist and cooperate with the Owner and shall accomplish the construction of the Project in accordance with the Contract Documents and the Project Plans and Specifications, and will not knowingly violate any laws, ordinances, rules, regulations, or orders that are or will be applicable thereto.

J. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective, and that Owner, representatives of Owner, governmental agencies with jurisdictional interests will have access to the Work at reasonable time for their observation, inspecting and testing. Contractor shall give Architect/Engineer timely notice of readiness of the Work for all required approvals and shall assume full responsibility, including costs, in obtaining required tests, inspections, and approval certifications and/or acceptance, unless otherwise stated by Owner.

K. If any Work (including Work of others) that is to be inspected, tested, or approved is covered without written concurrence of Architect/Engineer, it must, if requested by Architect/Engineer, be uncovered for observation. Such uncovering shall be at Contractor's expense unless Contractor has given Architect/Engineer timely notice of Contractor's intention to cover the same and Architect/Engineer has not acted with reasonable promptness in response to such notice. Neither observations by Architect/Engineer nor inspections, tests, or approvals by others shall relieve Contractor from Contractor's obligations to perform the Work in accordance with the Contract Documents.

L. If the Work is defective, or Contractor fails to supply sufficient skilled workers, or suitable materials or equipment, or fails to furnish or 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 and terminate payments to the Contractor until the cause for such order has been eliminated. Contractor shall bear all direct, indirect and consequential costs for satisfactory reconstruction or removal and replacement with non-defective Work, including, but not limited to fees and charges of Architect/Engineers, attorneys and other professionals and any additional expenses experienced by Owner due to delays to other Contractors performing additional Work and an appropriate deductive change order shall be issued. Contractor shall further bear the responsibility for maintaining the schedule and shall not be entitled to an extension of the Contract Time or the recovery of delay damages due to correcting or removing defective Work.

M. If Contractor fails within seven (7) days after written notice to correct defective Work, or fails to perform the Work in accordance with the Contract Documents, or fails to comply with any other provision of the Contract Documents, Owner may correct and remedy any such deficiency to the extent necessary to complete corrective and remedial action. Owner may exclude Contractor from all or part of the site, take possession of all or part of the Work, Contractor's tools, construction equipment and machinery at the site or for which Owner has paid Contractor but which are stored elsewhere. All direct and indirect costs of Owner in exercising such rights and remedies will be charged against Contractor in an amount approved as to reasonableness by Architect/Engineer and a Change Order will be issued incorporating the necessary revisions.

N. If within three (3) years after the Substantial Completion Date 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, any Work is found to be defective, Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions, either correct such defective Work or if it has been rejected by Owner, remove it from the site and replace it with non-defective Work. If Contractor does not promptly comply with the terms of such instruction, Owner may have the defective Work corrected/removed and all direct, indirect and consequential costs of such removal and replacement will be paid by Contractor. Failing payment by the Contractor and notwithstanding any other provisions of the Contract Documents to the contrary, Owner shall have the right to bring a direct action in the Circuit Court to recover such costs.

13.2 Representations of the Owner. To the extent permitted by law, the Owner represents to the Contractor that each of the following statements is presently true and accurate:

A. The Owner is a validly existing political subdivision of the State of Florida.

B. The Owner has all requisite corporate or governmental power and authority to carry on its business as now conducted and to perform its obligations under the Contract Documents and each Contract Document contemplated hereunder to which it is or will be a party.

C. The Contract Documents and each Contract Document contemplated hereby to which the Owner is or will be a party has been duly authorized by all necessary action on the part of, and has been or will be duly executed and delivered by, the Owner, and neither the execution and delivery thereof nor compliance with the terms and provisions thereof or hereof: (a) requires the approval and consent of any other person or party, except such as have been duly obtained or as are specifically noted herein; (b) contravenes any existing law, judgment, governmental rule, regulation or order applicable to or binding on the Owner; or (c) contravenes or results in any breach of, default under, or result in the creation of any lien or encumbrance upon the Owner under any indenture, mortgage, deed of trust, bank loan, or credit agreement, the charter, ordinances, resolutions, or any other agreement or instrument to which the Owner is a party, specifically including any covenants of any bonds, notes, or other forms of indebtedness of the Owner outstanding on the date of the Contract Documents.

D. The Contract Documents and each document contemplated hereby to which the Owner is or will be a party constitutes, or when entered into will constitute, a legal, valid, and binding obligation of the Owner enforceable against the Owner in accordance with the terms thereof, except as such enforceability may be limited by applicable bankruptcy, insolvency, or similar laws from time to time in effect which affect creditors' rights generally, and subject to usual equitable principles in the event that equitable remedies are involved.

E. There are no pending or, to the knowledge of the Owner, threatened actions or proceedings before any court or administrative agency against the Owner which question the validity of the Contract Documents or any document contemplated hereunder, or which are likely in any case or in the aggregate to materially adversely affect the consummation of the transactions contemplated hereunder or the financial or corporate condition of the Owner.

F. The Owner shall use due diligence to timely fulfill or cause to be fulfilled all of the conditions expressed in the Contract Documents which are within the control of the Owner or which are the responsibility of the Owner to fulfill.

G. During the pendency of the Work and while the obligations of the Owner under the Contract Documents shall be in effect, the Owner shall cause to occur and to continue to be in effect

and take such action as may be necessary to enforce those instruments, documents, certificates and events contemplated by the Contract Documents that are applicable to and the responsibility of the Owner.

H. The Owner shall assist and cooperate with the Contractor in accomplishing the construction of the Project in accordance with the Contract Documents and the Project Plans and Specifications, and will not knowingly violate any laws, ordinances, rules, regulations, orders, contracts, or agreements that are or will be applicable thereto or, to the extent permitted by law, enact or adopt any resolution, rule, regulation, or order, or approve or enter into any contract or agreement, including issuing any bonds, notes, or other forms of indebtedness, that will result in the Contract Documents or any part thereof, or any other instrument contemplated by and material to the timely and effective performance of a party's obligations hereunder, to be in violation thereof.

ARTICLE XIV
TERMINATION AND SUSPENSION

14.1 Termination for Cause by Owner. This Agreement may be terminated by Owner upon written notice to the Contractor should Contractor fail substantially to perform a material obligation in accordance with the terms of the Contract Documents through no fault of the Owner. In the event Owner terminates for cause and it is later determined by a court of competent jurisdiction that such termination for cause was not justified, then in such event such termination for cause shall automatically be converted to a termination without cause pursuant to Section 14.2.

A. Nonperformance. If the Contractor fails to timely perform any of its obligations under the Contract Documents, including any obligation the Contractor assumes to perform Work with its own forces, or if it persistently or repeatedly refuses or fails, except in case for which extension of time is provided, to supply enough properly skilled workmen or proper materials, or fails, without being excused, to maintain an established schedule (failure to maintain schedule shall be defined as any activity that falls thirty (30) days or more behind schedule) which has been adopted by the Construction Team, or it fails to make prompt payment to Subcontractors for materials or labor, or disregards laws, rules, ordinances, regulations, or orders of any public authority having jurisdiction, or otherwise is guilty of substantial violations of the Agreement the Owner may, after seven (7) days written notice, during which period the Contractor fails to perform such obligation, make good such deficiencies and perform such actions. The Contract Sum shall be reduced by the cost to the Owner of making good such deficiencies, and the Contractor's compensation shall be reduced by an amount required to manage the making good of such deficiencies. Provided, however, nothing contained herein shall limit or preclude Owner from pursuing additional damages from Contractor because of its breach.

B. Insolvency. If the Contractor is adjudged bankrupt, or if it makes a general assignment for the benefit of its creditors, or if a receiver is appointed because its insolvency, then the Owner may, without prejudice to any other right or remedy, and after giving the Contractor and its surety, if any, fourteen (14) days written notice, and during which period the Contractor fails to cure the violation, terminate the Agreement. In such case, the Contractor shall not be entitled to receive any further payment. Owner shall be entitled to recover all costs and damages arising because of failure of Contractor to perform as provided in the Contract Documents, as well as reasonable termination expenses, and costs and damages incurred by the Owner may be deducted from any payments left owing the Contractor.

C. Illegality. Owner may terminate the Agreement if Contractor disregards laws or regulations of any public body having jurisdiction.

D. Rights of Owner. The Owner may, after giving Contractor (and the Surety, if there is one) seven (7) days written notice, terminate the services of Contractor for cause; exclude Contractor from the Project Site and take possession of the Work and of all Contractor's tools, construction equipment and machinery at the Project Site and use the same to the full extent they could be used (without liability to Contractor for trespass or conversion); incorporate in the Work all materials and equipment stored at the Project 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 beyond an amount equal to the value of material and equipment not incorporated in the Work, but delivered and suitably stored, less the aggregate of payments previously made. If the direct and indirect costs of completing the Work exceed the unpaid balance of the Contract Sum, Contractor shall pay the difference to Owner. Such costs incurred by Owner shall be verified by Owner in writing; but in finishing the Work, Owner shall not be required to obtain the lowest quote for the Work performed. Contractor's obligations to pay the difference between such costs and such unpaid balance shall survive termination of the Agreement. In such event and notwithstanding any other provisions of the Contract Documents to the contrary, Owner shall be entitled to bring a direct action in the Circuit Court to recover such costs.

14.2 Termination without Cause by Owner. The Owner, through its County Administrator or designee, shall have the right to terminate the Agreement, in whole or in part, without cause upon sixty (60) calendar days' written notice to the Contractor. In the event of such termination for convenience, the Owner shall compensate Contractor for payments due through the date of termination, and one subsequent payment to cover costs of Work performed through the date of termination, subject to the terms and conditions of Section 3.1. The Contractor shall not be entitled to any other further recovery against the Owner, including, but not limited to, anticipated fees or profit on Work not required to be performed, or consequential damages or costs resulting from such termination.

A. Release of Contractor. As a condition of Owner's termination rights provided for in this subsection, Contractor shall be released and discharged from all obligations arising by, through, or under the terms of the Contract Documents, and the Payment and Performance Bond shall be released. Owner shall assume and become responsible for the reasonable value of Work performed by Subcontractors prior to termination plus reasonable direct close-out costs, but in no event shall Subcontractors be entitled to unabsorbed overhead, anticipatory profits, or damages for early termination.

B. Waiver of Protest. Contractor hereby waives any right to protest the exercise by Owner of its rights under this Section that may apply under the Procurement Ordinance.

14.3 Suspension without Cause. Owner may, at any time and without cause, suspend the Work or any portion thereof for a period of not more than ninety (90) days by written notice to Contractor, which will fix the date on which Work will be resumed. Contractor shall be allowed an increase in the Contract Sum or an extension of the Contract Time, or both, directly attributable to any suspension if Contractor makes an approved claim therefor.

14.4 Termination Based Upon Abandonment, Casualty or Force Majeure. If, after the construction commencement date (i) Contractor abandons the Project (which for purposes of this paragraph shall mean the cessation of all construction and other activities relating to the Project, excluding those which are necessary to wind down or otherwise terminate all outstanding obligations with respect to the Project, and no recommencement of same within one hundred twenty (120) days following the date of cessation), or (ii) the Project is stopped for a period of thirty (30) consecutive days due to an instance of Force Majeure or the result of a casualty resulting in a loss that cannot be corrected or restored within one hundred twenty (120) days (excluding the time required to assess the damage and

complete the steps contemplated under Section 12.2), the Owner shall have the right to terminate the Agreement and pay the Contractor its compensation earned or accrued to date.

14.5 Vacation of Project Site; Delivery of Documents. Upon termination by Owner pursuant to Section 14.2 or 14.4, Contractor shall withdraw its employees and its equipment, if any, from the Project Site on the effective date of the termination as specified in the notice of termination (which effective date shall not be less than two (2) working days after the date of delivery of the notice), regardless of any claim the Contractor may or may not have against the Owner. Upon termination, the Contractor shall deliver to the Owner all original papers, records, documents, drawings, models and other material set forth and described in the Contract Documents.

14.6 Termination by the Contractor. If, through no act or fault of Contractor, the Work is suspended for a period of more than ninety (90) consecutive days by Owner or under an order of court or other public authority, or Owner fails to act on any Application for Payment or fails to pay Contractor any sum finally determined to be due; then Contractor may, upon fourteen (14) days written notice to Owner terminate the Agreement and recover from Owner payment for all Work executed, any expense sustained plus reasonable termination expenses. In lieu of terminating the Agreement, if Owner has failed to act on any Application for Payment or Owner has failed to make any payment as aforesaid, Contractor may upon fourteen (14) days written notice to Owner stop the Work until payment of all amounts then due.

END OF GENERAL CONDITIONS

ATTACHMENT 1
INSURANCE AND BOND REQUIREMENTS
SOLICITATION NO. IFBC 19-TA002934OV

Work under the resulting Agreement cannot commence until all insurance coverages indicated herein have been obtained. The cost for insurance coverages is the sole responsibility of successful Proposer. The Successful Proposer shall obtain and submit to the Procurement Division within ten (10) calendar days from the date of notice of intent to award, proof the following minimum amounts of insurance on a standard ACORD form (inclusive of any amounts provided by an umbrella or excess policy):

STANDARD INSURANCES	REQUIRED LIMITS
1. ☒ **Automobile Liability Insurance:**	Coverage must be afforded under a per occurrence policy form including coverage for all owned, hired and non-owned vehicles for bodily injury and property damage of not less than: • $ 1,000,000 Combined Single Limit; OR • $ 500,000 Bodily Injury and $ 500,000 Property Damage • $10,000 Personal Injury Protection (No Fault) • $ 500,000 Hired, Non-Owned Liability • $10,000 Medical Payments *This policy shall contain severability of interests' provisions.*
2. ☒ **Commercial General Liability Insurance:** ***(Per Occurrence form only; claims-made form is not acceptable)***	Coverage shall be afforded under a per occurrence policy form, policy shall be endorsed and name "Manatee County, a political subdivision of the State of Florida" as an Additional Insured, and include limits not less than: • $ 1,000,000 Single Limit Per Occurrence • $ 2,000,000 Aggregate • $ 1,000,000 Products/Completed Operations Aggregate • $ 1,000,000 Personal and Advertising Injury Liability • $ 50,000 Fire Damage Liability • $ 10,000 Medical Expense, and • $ 1,000,000, Third Party Property Damage • $ _____ Project Specific Aggregate (Required on projects valued at over $10,000,000) *This policy shall contain severability of interests' provisions.*
3. ☒ **Employer's Liability Insurance**	Coverage limits of not less than: • $100,000 Each Accident • $100,000 Disease Each Employee • $500,000 Disease Policy Limit
4. ☒ **Worker's Compensation Insurance** ☐ **US Longshoremen &**	Coverage limits of not less than: • Statutory workers' compensation coverage shall apply for all employees in compliance with the laws and statutes of the State of Florida and the federal government.

Harbor Workers Act Coverage ☐ **Jones Act Coverage**	• If any operations are to be undertaken on or about navigable waters, coverage must be included for the US Longshoremen & Harbor Workers Act and Jones Act. Should 'leased employees' be retained for any part of the project or service, the employee leasing agency shall provide evidence of Workers' Compensation coverage and Employer's Liability coverage for all personnel on the worksite and in compliance with the above Workers' Compensation requirements. NOTE: Workers' Compensation coverage is a firm requirement. Elective exemptions are considered on a case-by-case basis and are approved in a very limited number of instances.
OTHER INSURANCES	**REQUIRED LIMITS**
5. ☐ Aircraft Liability Insurance	Coverage shall be afforded under a per occurrence policy form, policy shall be endorsed and name "Manatee County, a political subdivision of the State of Florida" as an Additional Insured, and include limits not less than: • $ _____ Each Occurrence Property and Bodily Injury with no less than $100,000 per passenger each occurrence or a 'smooth' limit. • $ _____ General Aggregate
6. ☐ Unmanned Aircraft Liability Insurance (Drone)	Coverage shall be afforded under a per occurrence policy form, policy shall be endorsed and name "Manatee County, a political subdivision of the State of Florida" as an Additional Insured, and include limits not less than: • $ _____ Each Occurrence Property and Bodily Injury; Coverage shall specifically include operation of Unmanned Aircraft Systems (UAS), including liability and property damage. • $ _____ General Aggregate
7. ☐ Installation Floater Insurance	When the contract or agreement **does not** include construction of, or additions to, above ground building or structures, but does involve the installation of machinery or equipment, Installation Floater Insurance shall be afforded under a per occurrence policy form, policy shall be endorsed and name "Manatee County, a political subdivision of the State of Florida" as an Additional Insured, and include limits not less than: • 100% of the completed value of such addition(s), building(s), or structure(s)
8. ☐ Professional Liability and/or Errors and Omissions (E&O) Liability Insurances	Coverage shall be afforded under either an occurrence policy form or a claims-made policy form. If the coverage form is on a claims-made basis, then coverage must be maintained for a minimum of three years from termination of date of the contract. Limits must not be less than: • $ _____ Bodily Injury and Property Damage Each Occurrence • $ _____ General Aggregate

9. ☐ **Builder's Risk Insurance**	When the contract or agreement includes the construction of roadways and/or the addition of a permanent structure or building, including the installation of machinery and/or equipment, Builder's Risk Insurance shall be afforded under a per occurrence policy form, policy shall be endorsed and name "Manatee County, a political subdivision of the State of Florida" as an Additional Insured, and include limits not less than: • An amount equal to 100% of the completed value of the project, or the value of the equipment to be installed • The policy shall not carry a self-insured retention/deductible greater than $10,000 Coverage shall be for all risks and include, but not be limited to, storage and transport of materials, equipment, supplies of any kind whatsoever to be used on or incidental to the project, theft coverage, and Waiver of Occupancy Clause Endorsement, where applicable.
10. ☐ **Cyber Liability Insurance**	Coverage shall comply with Florida Statute 501.171, shall be afforded under a per occurrence policy form, policy shall be endorsed and name "Manatee County, a political subdivision of the State of Florida" as an Additional Insured, and include limits not less than: • $_____ Security Breach Liability • $_____ Security Breach Expense Each Occurrence • $_____ Security Breach Expense Aggregate • $_____ Replacement or Restoration of Electronic Data • $_____ Extortion Threats • $_____ Business Income and Extra Expense • $_____ Public Relations Expense NOTE: Policy must not carry a self-insured retention/deductible greater than $25,000.
11. ☐ **Hazardous Materials Insurance (As Noted)**	Hazardous materials include all materials and substances that are currently designated or defined as hazardous by the law or rules of regulation by the State of Florida or federal government. All coverage shall be afforded under either an occurrence policy form or a claims-made policy form, and the policy shall be endorsed and name "Manatee County, a political subdivision of the State of Florida" as an Additional Insured. If the coverage form is on a claims-made basis, then coverage must be maintained for a minimum of three years from termination of date of the contract. Limits must not be less than: ☐ ***Pollution Liability*** • Amount equal to the value of the contract, subject to a $1,000,000 minimum, for Bodily Injury and Property Damage to include sudden and gradual release, each claim and aggregate.

	☐ ***Asbestos Liability (If handling within scope of Contract)*** • Amount equal to the value of the contract, subject to a $1,000,000 minimum, for Bodily Injury and Property Damage to include sudden and gradual release, each claim and aggregate. ☐ ***Disposal*** When applicable, Successful Proposer shall designate the disposal site and furnish a Certificate of Insurance from the disposal facility for Environmental Impairment Liability Insurance covering liability. • Amount equal to the value of the contract, subject to a $1,000,000 minimum, for Liability for Sudden and Accidental Occurrences, each claim and an aggregate. • Amount equal to the value of the contract, subject to a $1,000,000 minimum, for Liability for Non-Sudden and Accidental Occurrences, each claim and an aggregate.
12. ☐ **Hazardous Waste Transportation Insurance**	Successful Proposer shall designate the hauler and have the hauler furnish a Certificate of Insurance for Automobile Liability insurance with Endorsement MCS-90 for liability arising out of the transportation of hazardous materials. EPA identification number shall be provided. All coverage shall be afforded under either an occurrence policy form or a claims-made policy form and the policy shall be endorsed and name "Manatee County, a political subdivision of the State of Florida" as an Additional Insured. If the coverage form is on a claims-made basis, then coverage must be maintained for a minimum of three years from termination of date of the contract. Limits must not be less than: • Amount equal to the value of the contract, subject to a $1,000,000 minimum, per accident.
13. ☐ **Liquor Liability Insurance**	Coverage shall be afforded under a per occurrence policy form, policy shall be endorsed and name "Manatee County, a political subdivision of the State of Florida" as an Additional Insured, and include limits not less than: • $1,000,000 Each Occurrence and Aggregate

14. ☐ Garage Keeper's Liability Insurance	Coverage shall be required if the maintenance, servicing, cleaning or repairing of any County motor vehicles is inherent or implied within the provision of the contract. Coverage shall be afforded under a per occurrence policy form, policy shall be endorsed and name "Manatee County, a political subdivision of the State of Florida" as an Additional Insured, and include limits not less than: • Property and asset coverage in the full replacement value of the lot or garage.
15. ☐ Bailee's Customer Liability Insurance	Coverage shall be required for damage and/or destruction when County property is temporarily under the care or custody of a person or organization, including property that is on, or in transit to and from the person or organization's premises. Perils covered should include fire, lightning, theft, burglary, robbery, explosion, collision, flood, earthquake and damage or destruction during transportation by a carrier. Coverage shall be afforded under a per occurrence policy form, policy shall be endorsed and name "Manatee County, a political subdivision of the State of Florida" as an Additional Insured, and include limits not less than: • Property and asset coverage in the full replacement value of the County asset(s) in the Successful Proposer's care, custody and control.
16. ☐ Hull and Watercraft Liability Insurance	Coverage shall be afforded under a per occurrence policy form, policy shall be endorsed and name "Manatee County, a political subdivision of the State of Florida" as an Additional Insured, and include limits not less than: • $ _____ Each Occurrence • $ _____ General Aggregate • $ Fire Damage Liability • $10,000 Medical Expense, and • $ _____ Third Party Property Damage • $ _____ Project Specific Aggregate (Required on projects valued at over $10,000,000)
17. ☐ Other (Please Specify)	

BOND REQUIREMENTS	
18. ☒ Bid Bond	A Bid Bond in the amount of 5% Bid bond shall be submitted with the sealed response and shall include project name, location, and / or address and project number. In lieu of the bond, the bidder may file an alternative form of security in the amount of $_____ or ____% of the total offer. in the form of a money order, a certified check, a cashier's check, or an irrevocable letter of credit issued to Manatee County. **NOTE: A construction project over $200,000 requires a Bid Bond in the amount of 5% of the total bid offer.**
19. ☒ Payment and Performance Bond	A Payment and Performance Bond shall be submitted by Successful Bidder for 100% of the award amount and shall be presented to Manatee County within ten (10) calendar days of issuance of the notice of intent to award. NOTE: A construction project over $200,000 requires a Payment and Performance Bond.

Approved by Risk: WLK Date: 11/20/2018

INSURANCE REQUIREMENTS

I. THE POLICIES BELOW ARE TO CONTAIN, OR BE ENDORSED TO CONTAIN, THE FOLLOWING PROVISIONS:

1. Commercial General Liability and Automobile Liability Coverages

a. **"Manatee County, a Political Subdivision of the State of Florida," is to be named as an Additional Insured in respect to:** Liability arising out of activities performed by or on behalf of the Successful Proposer, his agents, representatives, and employees; products and completed operations of the Successful Proposer; or automobiles owned, leased, hired or borrowed by the Successful Proposer. The coverage shall contain no special limitation(s) on the scope of protection afforded to the County, its officials, employees or volunteers.

In addition to furnishing a Certificate of Insurance, the Successful Proposer shall provide the endorsement that evidences Manatee County being listed as an Additional Insured. This can be done in one of two ways: (1) an endorsement can be issued that specifically lists "Manatee County, a Political Subdivision of the State of Florida," as Additional Insured; or, (2) an endorsement can be issued that states that all Certificate Holders are Additional Insured with respect to the policy.

b. The Successful Proposer's insurance coverage shall be primary insurance with respect to the County, its officials, employees and volunteers. Any insurance or self-insurance maintained by the County, its officials, employees or volunteers shall be excess of Successful Proposer's insurance and shall be non-contributory.

c. The insurance policies must be on an occurrence form, unless specifically noted otherwise.

2. Workers' Compensation and Employers' Liability Coverages

The insurer shall agree to waive all rights of subrogation against the County, its officials, employees and volunteers for losses arising from work performed by the Successful Proposer for the County.

II. GENERAL INSURANCE PROVISIONS APPLICABLE TO ALL POLICIES:

1. Prior to the execution of contract, or issuance of a Purchase Order, and then annually upon the anniversary date(s) of the insurance policy's renewal date(s) for as long as this contract remains in effect, Successful Proposer shall furnish the County with a Certificate(s) of Insurance (using an industry accepted certificate form, signed by the Issuer, with applicable endorsements, and containing the solicitation or contract number, and title or description) evidencing the coverage set forth above and naming "Manatee County, a Political Subdivision of the State of Florida" as an Additional Insured on the applicable coverage(s) set forth above. In addition, when requested in writing from the County, Successful Proposer will provide the County with a certified copy of all applicable insurance policies. The address where such certificates and certified policies shall be sent or delivered is as follows unless otherwise provided:

Manatee County, a Political Subdivision of the State of Florida
Attn: Purchasing Division - Procurement

2. The project's solicitation number and title shall be listed on each Certificate of Insurance or policy.
3. If the policy contains an aggregate limit, confirmation is needed in writing (letter, email, etc.) that the aggregate limit has not been eroded to procurement representative when supplying Certificate of Insurance.
4. Successful Proposer shall provide thirty (30) days written notice of any cancellation, non-renewal, termination, material change, or reduction in coverage of any insurance policies to procurement representative including solicitation number and title with all notices.
5. Successful Proposer agrees that should at any time Successful Proposer fail to meet or maintain the required insurance coverage(s) as set forth herein, the County may terminate this contract.
6. The Successful Proposer waives all subrogation rights against Manatee County, a Political Subdivision of the State of Florida, for all losses or damages which occur during the contract and for any events occurring during the contract period, whether the suit is brought during the contract period or not.
7. The Successful Proposer has sole responsibility for all insurance premiums and policy deductibles.
8. It is the Successful Proposer's responsibility to ensure that his agents, representatives and subcontractors comply with the insurance requirements set forth herein. Successful Proposer shall include his agents, representatives, and subcontractors working on the project or at the worksite as insured under its policies, or Successful Proposer shall furnish separate certificates and endorsements for each agent, representative, and subcontractor working on the project or at the worksite. All coverages for agents, representatives, and subcontractors shall be subject to all the requirements set forth to the procurement representative.
9. All required insurance policies must be written with a carrier having a minimum A.M. Best rating of A- FSC VII or better. In addition, the County has the right to review the Successful Proposer's deductible or self-insured retention and to require that it be reduced or eliminated.

II. Successful Proposer understands and agrees that the stipulated limits of coverage listed herein in this insurance section shall not be construed as a limitation of any potential liability to the County, or to others, and the County's failure to request evidence of this insurance coverage shall not be construed as a waiver of Successful Proposer's obligation to provide and maintain the insurance coverage specified.

III. Successful Proposer understands and agrees that the County does not waive its immunity and nothing herein shall be interpreted as a waiver of the County's rights, including the limitation of waiver of immunity, as set forth in Florida Statutes 768.28, or any other statutes, and the County expressly reserves these rights to the full extent allowed by law.

IV. The enclosed Hold Harmless Agreement shall be signed by the Successful Proposer and shall become a part of the contract.

V. No award shall be made until the Procurement Division has received the Certificate of Insurance and Hold Harmless Agreement in accordance with this section.

INSURANCE STATEMENT

THE UNDERSIGNED has read and understands the insurance requirements applicable to any contract resulting from this solicitation and shall provide the insurances required by this Attachment within ten (10) days from the date of Notice of Intent to Award.

Proposer Name: _____ Date: _____

Signature (Authorized Official): _____

Printed Name/Title: _____

Insurance Agency: _____

Agent Name: _____ Agent Phone: _____

Return this signed statement with your bid or proposal.

Bid Attachment 2

TECHNICAL SPECIFICATIONS

PROJECT MANUAL

WARNER'S BAYOU BOAT RAMP SOUTH PARKING LOT IMPROVEMENTS

MANATEE COUNTY

CPH Job No. M13104.2

October 25, 2018

Attachment 2

Engineers
Architects
Planners
Landscape Architects
Surveyors
Environmental Scientists
Construction Management
Design/Build

Certificate of Authorization No. 00003215

3277 A Fruitville Road, Suite 2
Sarasota, Florida 34237
Ph. 941.365.4771

BID FORM

(Submit in Triplicate)

10/25/2018

Section 00300

(IFB) #XX-XXXX-XX

WARNER'S BAYOU BOAT RAMP SOUTH PARKING LOT IMPROVEMENTS

ESTIMATED CONSTRUCTION TIME: 180 DAYS

ITEM NO.	DESCRIPTION	UNITS	QTY.	UNIT PRICE ($)	EXTENDED PRICE ($)
			CPH, Inc. Drawings and Section 01270 Specification		
2.01	**Mobilization**	LS	1		$ -
2.02	**Maintenance of Traffic**	LS	1		$ -
2.03	**Survey and Control Layout by Contractor**	LS	1		$ -
2.04	**As-Built Survey**	LS	1		$ -
2.05	**Prevention, Control, and Abatement of Erosion and Water Pollution**	LS	1		$ -
2.06	**Remove and Dispose of Exist. Site Items**	LS	1		$ -
2.07	**Remove and Dispose of, Exist. Trees (8-Inch and Greater)**	EA	2		$ -
2.08	**Clearing and Grubbing**	LS	1		$ -
2.09	**Grading and Fill**	LS	1		$ -
2.10	**Stormwater Pond Outall**	LS	1		$ -
2.11	**Pavement Cement Concrete and Base (5-Inch Thick Min., 3000 PSI), including WWR and 12" Base**	SY	2400		$ -
2.12	**Pavement Cement Concrete and Base (6-Inch Thick Min., 3000 PSI), including WWR and 12" Base**	SY	175		$ -
2.13	**Concrete Sidewalk offsite (FDOT index 310)**	SY	56		$ -
2.14	**FDOT Type C Inlet**	EA	2		$ -
2.15	**12" Storm Pipe**	LF	87		$ -
2.16	**Concrete Flume**	EA	1		$ -
2.17	**Type F Curb and Gutter**	LF	120		$ -
2.18	**Type D Vertical Curb**	LF	385		$ -
2.19	**Wooden Post**	EA	32		$ -
2.20	**Post / Rope**	LF	225		$ -
2.21	**Wheel Stops**	EA	24		$ -
2.22	**Bollard (Galvanized Steel, Painted)**	EA	1		$ -
2.23	**Bollard (Removable)**	EA	1		$ -
2.24	**Signage**	LS	1		$ -
2.25	**Detectable Warning Mats**	SF	30		$ -
2.26	**Traffic Stripes and Markings**	LS	1		$ -
2.27	**Bike Rack**	EA	1		$ -
2.28	**Conduit for future water service**	LF	120		$ -
2.29	**Conduit to future light pole**	LF	150		$ -
2.30	**Irrigation**	LS	1		$ -
2.31	**Tree Protection**	EA	1		$ -
2.32	**Trees, Green Buttonwood**	EA	18		$ -
2.33	**Trees, Cabbage Palm**	EA	6		$ -
2.34	**Shrubs, Silver Buttonwood**	EA	161		$ -
2.35	**Shrubs, Indian Hawhthorn**	EA	48		$ -
2.36	**Groundcover, Sea Oxeye Daisy**	EA	427		$ -
2.37	**Groundcover, Sand Cordgrass**	EA	239		$ -
2.38	**Groundcover, Muhly Grass**	EA	452		$ -
2.39	**Sod, Seashore Paspalum**	SY	1000		$ -
	Intentionally Left Blank				
	SUBTOTAL				**$ -**
	Intentionally Left Blank				
3.01	**Discretionary Funds (Testing)**	LS	1	$ 10,000.00	**$ 10,000.00**
3.02	**Discretionary Funds (10% Contingency)**	LS	1		**$ -**
	TOTAL				**$ 10,000.00**
4.00	**Bid As Alternative**				
4.01	**Kayak Launch (flexipave and ribbon curb)**	LS	1		$ -
4.02	**New Light Pole, Fixture, Service**	EA	1		$ -
4.03	**New Fixture**	EA	1		$ -
4.04	**Broadcast Shell**	SY	2631		$ -
	TOTAL				**$ 10,000.00**

BIDDER (FIRM NAME)_____

AUTHORIZED SIGNATURE:_____

PROJECT MANUAL INDEX

Warner's Bayou Boat Ramp South Parking Lot Improvements

Bidding Requirements, Contract Forms, and Conditions of the Contract

Division 1 - General Requirements

Division 2 - Site Construction

Division 3 - Concrete

Appendices

SECTION 01110

SUMMARY OF WORK

PART 1 GENERAL

1.01 Section Includes

Summary of work, other contracts, work sequence, operation of existing facilities, use of premises, Owner furnished products, coordination, cutting and patching

1.02 Summary of Work

A. The Project consists of the removal and disposal of existing gravel and concrete, removal of existing parking lot, and installation of the following: concrete parking area, stormwater improvements, cast-in-place concrete, concrete sidewalk, sodding, and striping.

B. Furnish all materials, equipment, tools, and labor which is reasonably and properly inferable and necessary for the proper completion of the Work, whether specifically indicated in the Contract Documents or not.

C. All fees and permits for the permanent construction that are required by controlling agencies or authorities, including fees for the review of Contract Documents prior to construction, will be procured by the Owner. Other licenses or permits for construction facilities of a temporary nature that are necessary for the prosecution of the work shall be secured and paid for by the Contractor.

D. Repair, replace, or otherwise settle with the Owner, if damage to property or existing facilities occurs, including damage to pavements, utilities, lawns, structures, etc.

E. Construct the Project under a single unit price contract.

1.03 Work Under Other Contracts – N/A

1.04 Work Sequence

The Contractor's sequence of work may be of his choosing in order to complete the work in the allowed time frame while accommodating other contractors on site.

1.05 Operation of Existing Facilities

The Owner shall be able to operate existing facilities 24 hours per day, 7 days per week.

1.06 Contractor Use of Premises

Confine operations at the site to areas permitted by applicable laws, ordinances, permits, and by the Contract Documents. Do not unreasonably encumber the site with materials or equipment. Do not load structures with weight that will endanger the structure. The Contractor shall assume full responsibility for protection and safekeeping of products stored on the job site.

1.07 Owner Furnished Products - N/A

1.08 Coordination

A. The Contractor shall be fully responsible for the coordination of his work and the work of his employees, subcontractors, and suppliers and to assure compliance with schedules.

B. The coordination requirements of this Section are in addition to the requirements of Section 00700, General Conditions, and 00800, Supplementary Conditions.

C. It is the Contractor's responsibility to coordinate with all the utilities regarding locates, testing, or relocations.

1.09 Cutting and Patching

A. The Contractor shall, at no additional expense to the Owner, perform cutting and patching necessary to the completion of the Project. Perform cutting and patching in a manner to prevent damage to the structure or previously completed work.

B. Refinish surfaces as necessary to provide an even finish.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF SECTION

SECTION 01120

ALLOWANCE

PART 1 GENERAL

1.01 REQUIREMENTS Included

Include in the Contract Sum the allowance stated in the Contract Documents.

1.02 RELATED REQUIREMENTS

Conditions of the Contract.

1.03 CONTINGENCY ALLOWANCE

Include in the Contract, limiting amount contingency allowances as follows:

Testing laboratory allowance:

Allow the limiting amount of: **$10,000.00**

General allowance.

Amount as defined by the County.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION

3.01 GENERAL

The Testing Lab Allowance is to be used as directed by the Engineer for first tests only.

Any re-testing due to failed first tests shall be at the Contractor's expense, and is not subject to compensation through the testing allowance. Monies in the Testing Laboratory Allowance will be used only on issuance of invoices for tests that were authorized by the Engineer and indicate results that conform to the specifications.

Upon award of the contract the Contractor shall, at the earliest possible date, obtain and submit proposals for testing services to the Engineer for approval. The General Allowance shall be used as necessary to pay for unforeseen utility conflict resolutions, utility repair work, or other work not within the original scope of work as bid, such work to be performed only at the direction, and with the authorization of, the Owner.

At the closeout of contract, monies remaining in the Contingency Allowance will be credited to the Owner.

END OF SECTION

SECTION 01153

CHANGE ORDER PROCEDURES

PART 1 GENERAL

1.01 DEFINITION

A. Change Order: A written order signed by the Owner, the Architect/Engineer and the Contractor authorizing a change in the Project Plans and/or Specifications and, if necessary, a corresponding adjustment in the Contract Sum and/or Contract Time, pursuant to Article V of the General Conditions of the Construction Agreement.

B. Administrative Change Adjustment: Minor change order under 10% of project cost or 20% time, does not have to be Board approved.

C. Field Directive: A written order issued by Owner which orders minor changes in the Work not involving a change in Contract Time, to be paid from the Owner's contingency funds.

D. Field Order: Minor change to contract work that does not require adjustment of contract sum or expected date of completion.

1.02 REQUIREMENTS INCLUDED

A. The Contractor shall promptly implement change order procedures:

1. Provide full written data required to evaluate changes.
2. Maintain detailed records of work done on a time-and-material/force account basis.
3. Provide full documentation to County on request.

B. The Contractor shall designate a member of the Contractor's organization who:

1. Is authorized to accept changes to the Work.
2. Is responsible for informing others in the Contractor's employ of the authorized changes into the Work.

1.03 PRELIMINARY PROCEDURES

A. Project Manager may initiate changes by submitting a Request to Contractor. Request will include:

1. Detailed description of the change, products, costs and location of the change in the Project.
2. Supplementary or revised Drawings and Specifications.
3. The projected time extension for making the change.

4. A specified period of time during which the requested price will be considered valid.
5. Such request is for information only and is not an instruction to execute the changes, nor to stop work in progress.

B. Contractor may initiate changes by submitting a written notice to the Project Manager, containing:

1. Description of the proposed changes.
2. Statement of the reason for making the changes.
3. Statement of the effect on the Contract Sum and the Contract Time.
4. Statement of the effect on the work of separate contractors.
5. Documentation supporting any change in Contract Sum or Contract Time, as appropriate.

1.04 FIELD ORDER CHANGE

A. In lieu of a Change Order, the Project Manager may issue a Field Directives for the Contractor to proceed with additional work within the original intent of the Project.

B. Field Directives will describe changes in the work, with attachments of backup information to define details of the change.

C. Contractor must sign and date the Field Directive to indicate agreement with the terms therein.

1.05 DOCUMENTATION OF PROPOSALS AND CLAIMS

A. Support each quotation for a lump sum proposal and for each unit price which has not previously been established, with sufficient substantiating data to allow the County to evaluate the quotation.

B. On request, provide additional data to support time and cost computations:

1. Labor required.
2. Equipment required.
3. Products required.
   a. Recommended source of purchase and unit cost.
   b. Quantities required.
4. Taxes, insurance and bonds.
5. Credit for work deleted from Contract, similarly documented.
6. Overhead and profit.
7. Justification for any change in Contract Time.

C. Support each claim for additional costs and for work done on a time-and-material/force account basis, with documentation as required for a lump-sum proposal.

1. Name of the County's authorized agent who ordered the work and date of the order.
2. Date and time work was performed and by whom.
3. Time record, summary of hours work and hourly rates paid.
4. Receipts and invoices for:
   a. Equipment used, listing dates and time of use.
   b. Products used, listing of quantities.
   c. Subcontracts.

1.06 PREPARATION OF CHANGE ORDERS

A. Contractor will prepare each Change Order.

B. Change Order will describe changes in the Work, both additions and deletions, with attachments as necessary to define details of the change.

C. Change Order will provide an accounting of the adjustment in the Contract Sum and in the Contract Time.

1.07 LUMP SUM/FIXED PRICE CHANGE ORDER

A. Contractor initiates the form, including a description of the changes involved and attachments based upon documents and proposals submitted by the Contractor, or requests from the County, or both.

B. Once the form has been completed, all copies should be sent to Project Manager for approval. After approval by Project Manager, the Contractor shall send copies to County for approval. The County will distribute executed copies after approval by the Board of County Commissioners.

1.08 UNIT PRICE CHANGE ORDER

A. Contents of Change Orders will be based on, either:

1. County's definition of the scope of the required changes.
2. Contractor's Proposal for a change, as approved by the County.
3. Survey of completed work.

B. The amounts of the unit prices to be:

1. Those stated in the Agreement.
2. Those mutually agreed upon between County and Contractor.

1.09 TIME AND MATERIAL/FORCE ACCOUNT CHANGE ORDER/CONSTRUCTION CHANGE AUTHORIZATION

A. Refer to Article V.5.6 of the General Conditions of the Construction Agreement.

1.10 CORRELATION WITH CONTRACTOR'S SUBMITTALS

A. Periodically revise Schedule of Values and Application for Payment forms to record each change as a separate item of work, and to record the adjusted Contract Sum.

B. Periodically revise the Construction Schedule to reflect each change in Contract Time. Revise sub schedules to show changes for other items of work affected by the changes.

C. Upon completion of work under a Change Order, enter pertinent changes in Record Documents.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01270

MEASUREMENT AND PAYMENT

PART 1 GENERAL

1.01 Description

A. Payment for all Work done in compliance with the Contract Documents, inclusive of furnishing all manpower, equipment, materials, and performance of all operations relative to construction of this project, will be made under Pay Items listed herein. Work for which there is not a Pay Item will be considered incidental to the Contract and no additional compensation will be allowed.

B. The Owner reserves the right to alter the Drawings, modify incidental work as may be necessary, and increase or decrease quantities of work to be performed to accord with such changes, including deduction or cancellation of any one or more of the Pay Items. Changes in the work shall not be considered as a waiver of any conditions of the Contract nor invalidate any provisions thereof. When changes result in changes in quantities of Work to be performed, the Contractor will accept payment according to Contract Unit Prices that appear in the original Contract.

C. Quantities necessary to complete the work as directed in the Drawings or as specified herein shall govern over those shown in the Proposal. The Contractor shall take no advantage of any apparent error or omission in the Drawings or Specifications, and the Engineer shall be permitted to make corrections and interpretations as may be deemed necessary for fulfillment of the intent of the Contract Documents.

D. The Engineer will make measurements and determinations as necessary to classify the work within pay items and determine the quantities for pay purposes; such decisions will be final after 3 days if the Contractor does not submit a written notice as defined in the following paragraph.

E. If the Contractor differs with the Engineer's classification of the Pay Items or determination of quantities of the Pay Items, he must notify the Engineer in writing within 3 days of the time that the Contractor is informed of the Engineer's decision. Otherwise the Owner will not consider any such difference as a claim for payment.

F. Failure on the part of the Contractor to construct any item to plan or authorized dimensions within the specification tolerances shall result in: reconstruction to acceptable tolerances at no additional cost to the Owner; acceptance at no pay; or, acceptance at reduced final pay quantity or reduced unit price, all at the discretion of the Engineer.

G. Work shall not be considered complete until all testing has been satisfactorily completed and the item of work has demonstrated compliance with plans and specifications.

H. A preliminary monthly application for payment shall be submitted to the Owner/Engineer for review five (5) days prior to the submittal for approval of the Contractor's monthly payment request.

I. Where FDOT pay item numbers are directed in the bid form, they generally follow FDOT pay item number formatting; however, they are only provided in order to use them for pay application purposes. FDOT pay item descriptions do not apply; utilize the descriptions on the bid form and within this section to determine the work associated with each pay item.

PART 2 PAY ITEMS

2.01 Mobilization

A. Work Includes

Preparatory work and operations in mobilizing for beginning work on the Project, including, but not limited to, those operations necessary for the movement of personnel, equipment, supplies and incidentals to the project site, plus permits and fees, bonds, and insurance. Also included are temporary utilities/facilities, survey and layout safety equipment and all other items not specifically identified under other bid items which are necessary for the construction. Also included is compliance with administrative and regulatory requirements, provision of record drawings and closeout documents, demobilization, cleanup, removal of equipment, materials, supplies, and incidentals from the project site.

B. Unit of measurement is Lump Sum (LS), performed and accepted.

C. Payment of this item shall be distributed equally over the first three payment applications.

2.02 Maintenance of Traffic

A. Work Includes

The construction and maintenance of any necessary detour facilities; the providing of necessary facilities for access to residences and businesses along the project; the furnishing, installation and maintenance of traffic control and safety devices during construction; daily inspections of the traffic control devices (including nighttime inspections); replacement of all equipment and devices found not to be conforming with approved standards during the inspection; the control of dust, 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” shall include all such facilities, devices, and operation as are required for the safety and convenience of the public as well as for minimizing public nuisance; all

as required by the FDOT, the Engineer and the Owner. This work shall also consist of the removal of existing pavement markings necessary in order to implement traffic control, temporary signs, and the removal or relocation of existing signs in order to implement traffic control. This item also includes any adjustments necessary to the traffic control devices under emergency conditions.

B. Unit of measurement is Lump Sum (LS), performed and accepted.

C. Payment of this item shall be made under the following schedule:

Percent of Original Contract Amount Earned	Allowable Percent of the lump sum Price to be Paid
5	25
10	50
25	75
50	100

2.03 Survey and Control Layout by Contractor

A. Work Includes

All necessary Survey work performed by a Professional Licensed Surveyor in the State of Florida to layout all necessary horizontal and vertical controls, as directed in the construction plans and the specifications.

B. Unit of measurement is Lump Sum (LS), performed and accepted.

2.04 As-Built Survey

A. Work Includes:

All necessary Survey work performed by a Professional Licensed Surveyor in the State of Florida as required in the RECORD DRAWINGS Specification, 01780.

B. Unit of measurement is Lump Sum (LS), performed and accepted.

2.05 Prevention, Control, and Abatement of Erosion and Water Pollution

A. Work Includes:

Preparation and implementation of stormwater pollution prevention control plan, including monitoring, inspecting, and reporting, providing erosion and sediment control measures, preparing and filing EPA NPDES NOI and NOT forms, and providing required contractor certifications. Also includes hay bales, floating turbidity barriers, filter bags, construction entrance, and filter fabric as needed for supplemental inlet protection and to supplement silt fence, including replacement and maintenance needed during construction. Also includes, all work required under Specification 01415 and Appendix B (Permit).

B. Unit of measurement is Lump Sum (LS), performed and accepted.

C. Payment of this item shall be made under the following schedule:

Percent of Original Contract Amount Earned	Allowable Percent of the lump sum Price to be Paid
5	25
10	50
25	75
50	100

2.06 Remove and Dispose of, Exist. Site Items

A. Work Includes:

Removing and disposing of all existing site items, as needed to complete the proposed project, and as directed in the Construction Plans. The existing items to be removed, and disposed of are the following items: fencing, signage, gates, posts, ramp, shell parking, concrete, along with any other items as required to complete the project. The contractor shall be responsible for removing, disposing, and hauling offsite, and any necessary fees, for these non-salvageable items.

B. Unit of measurement is Lump Sum (LS), performed and accepted.

2.07 Remove and Dispose of, Exist. Trees (8-Inch and Greater)

A. Work Includes:

The contractor's unit price shall include compensation for all labor, materials, and equipment required to **Remove and Dispose of, Exist. Trees (8-Inch and Greater)**, in accordance with the plans and specifications, or as directed by the Engineer, including but not limited to, tree removal, removing and hauling away and disposal off-site of removed material. This bid item applies to all trees which are greater than 8-INCH in diameter. Trees less than 8-INCH in diameter, shall be included within the Bid Item, “CLEARING AND GRUBBING”.

B. Unit of measurement is Each (EA), tree removed.

2.08 Clearing and Grubbing

A. Work Includes:

Clearing, grubbing, disposal of debris, and all work necessary to prepare the site for the proposed improvements.

B. Unit of measurement is Lump Sum (LS), performed and accepted.

2.09 Grading and Fill

A. Work Includes:

Finish grading (to uniform smooth surface, positive drainage), filling depressions, dressing with suitable topsoil.

B. Unit of measurement is Lump Sum (LS), performed and accepted.

2.10 Stormwater Pond Outfall

A. Work Includes:

Constructing stormwater pond outfall, to include rip rap, skimmers, concrete slab and posts.

B. Unit of measurement is Lump Sum (LS), performed and accepted

2.11 Pavement Cement Concrete and Base (5-Inch Thick Min., 3000 PSI), including WWR, with 12" Stabilized Base. Refer to Construction Plans.

A. Work Includes:

Forming, placing, finishing and curing new concrete parking area, and saw-cutting joints, as directed in the construction plans and specifications.

B. Unit of measurement is per Square Yard (SY), installed and accepted.

2.12 Pavement Cement Concrete and Base (6-Inch Thick Min., 3000 PSI), including WWR, with 12" Stabilized Base. Refer to Construction Plans.

A. Work Includes:

Forming, placing, finishing and curing new concrete parking area, and saw-cutting joints, as directed in the construction plans and specifications.

B. Unit of measurement is per Square Yard (SY), installed and accepted.

2.13 Concrete Sidewalk Onsite (FDOT)

A. Work Includes:

Forming, placing, finishing and curing new concrete sidewalk, including ADA ramps, and saw-cutting joints, as directed in the construction plans and specifications.

B. Unit of measurement is per Square Yard (SY), installed and accepted.

2.13 Concrete Sidewalk Offsite, 6” thick

A. Work Includes:

Forming, placing, finishing and curing new concrete sidewalk, including ADA ramps, and saw-cutting joints, per FDOT Index 310, as directed in the construction plans and specifications. Concrete sidewalk shall be 6” thick.

B. Unit of measurement is per Square Yard (SY), installed and accepted.

2.14 FDOT Type C Inlet

A. Work Includes:

Furnish and Install, the stormwater inlet, as directed in the construction plans and specifications.

B. Unit of measurement is Each (EA), installed and accepted.

2.15 12” Storm Pipe

A. Work Includes:

Furnish and Install, the necessary storm pipe, as directed in the construction plans and specifications.

B. Unit of measurement is Linear Foot (LF), installed and accepted.

2.16 Concrete Flume

A. Work Includes:

Furnish and Install, the necessary concrete flume for the proposed site, as directed in the construction plans and specifications.

B. Unit of measurement is Each (EA), installed and accepted.

2.17 Type F Curb and Gutter

A. Work Includes:

Furnish and Install, the necessary Curb and Gutter, Concrete, Type "F", for the proposed site, as directed in the construction plans and specifications.

B. Unit of measurement is Linear Foot (LF), installed and accepted.

2.18 Type D Vertical Curb

A. Work Includes:

Furnish and Install, the necessary Curb, Concrete, Type "D", for the proposed site, as directed in the construction plans and specifications.

B. Unit of measurement is Linear Foot (LF), installed and accepted.

2.19 Wooden Post

A. Work Includes:

Furnish and Install, the wooden Post, as directed in the Construction Plans and Specifications.

B. Unit of measurement is Each (EA), installed and accepted.

2.20 Rope / Post

A. Work Includes:

Furnish and Install, the Rope and Post, as directed in the Construction Plans and Specifications.

B. Unit of measurement is Linear Foot (LF), installed and accepted.

2.21 Wheel Stops

A. Work Includes:

Furnish and Install, concrete wheels stops, for the proposed site, as directed in the construction plans and specifications.

B. Unit of measurement is Each (EA), installed and accepted.

2.22 Bollard (Galvanized Steel, Painted)

A. Work Includes:

Furnish and Install, the galvanized steel bollards for the proposed site, as directed in the construction plans and specifications. Contractor shall coordinate with Owner on paint color.

B. Unit of measurement is Each (EA), installed and accepted.

2.23 Bollard (Removable)

A. Work Includes:

Furnish and Install, the removable bollards for the proposed site, as directed in the construction plans and specifications. Contractor shall coordinate with Owner on paint color.

B. Unit of measurement is Each (EA), installed and accepted.

2.24 Signage

A. Work Includes:

Furnish and Install, new Sign plates, posts, hardware, accessories, and foundations, as directed in the construction plans and the Specifications.

B. Unit of measurement is Lump Sum (LS), installed and accepted.

2.25 Detectable Warning Mats

A. Furnish and install, new detectable warning surface per FDOT specifications, as directed in the construction drawings.

B. Unit of measurement is Square Footage (SF), installed and accepted.

2.26 Traffic Stripes and Markings

A. Work Includes

Permanent double stripped pavement marking installation in areas where new paving occurs. New markings to tie to existing markings as directed in the construction plans and specifications.

B. Unit of measurement is Lump Sum (LS), installed and accepted.

2.27 Bike Rack

A. Work Includes

Furnish and install, new Bike Rack, as directed in the construction drawings.

B. Unit of measurement is Each (EA), installed and accepted.

2.28 Conduit for Future Water Service

A. Work Includes

Furnish and install, new conduit (with capped ends), as directed in the construction drawings.

B. Unit of measurement is Linear Foot (LF), installed and accepted.

2.29 Conduit for Future Light Pole

A. Work Includes

Furnish and install, new conduit (with capped ends), as directed in the construction drawings.

B. Unit of measurement is Linear Foot (LF), installed and accepted.

2.30 Irrigation

A. Work Includes

Contractor to provide temporary watering for all installed landscape materials as shown in the Construction Drawings. Contractor responsible to identify and secure the source of water to be used. Irrigation to be in place until all materials have been established, even if that occurs after completion of project.

B. Unit of measurement is Lump Sum (LS), installed and accepted.

2.31 Tree Protection

A. Work Includes

Furnish and install, tree protection as directed in the construction drawings.

B. Unit of measurement is Each (EA), installed and accepted.

2.32 Trees, Green Buttonwood

A. Work Includes:

Install trees, as directed in the construction plans and specifications. Work shall include stabilization and watering as required to establish.

B. Unit of measurement is Each (EA), installed and accepted.

2.33 Trees, Cabbage palms

C. Work Includes:

Install cabbage palm trees, as directed in the construction plans and specifications. Work shall include stabilization and watering as required to establish.

D. Unit of measurement is Each (EA), installed and accepted.

2.34 Shrubs, Silver Buttonwood

E. Work Includes:

Install shrubs, as directed in the construction plans and specifications. Work shall include stabilization and watering as required to establish.

F. Unit of measurement is Each (EA), installed and accepted.

2.35 Shrubs, Indian Hawthorn

G. Work Includes:

Install shrubs, as directed in the construction plans and specifications. Work shall include stabilization and watering as required to establish.

H. Unit of measurement is Each (EA), installed and accepted.

2.36 Groundcover, Sea Oxeye Daisy

I. Work Includes:

Install groundcover, as directed in the construction plans and specifications. Work shall include stabilization and watering as required to establish.

J. Unit of measurement is Each (EA), installed and accepted.

2.37 Groundcover, Sand Cordgrass

K. Work Includes:

Install groundcover, as directed in the construction plans and specifications. Work shall include stabilization and watering as required to establish.

L. Unit of measurement is Each (EA), installed and accepted.

2.38 Groundcover, Muhly Grass

M. Work Includes:

Install groundcover, as directed in the construction plans and specifications. Work shall include stabilization and watering as required to establish.

N. Unit of measurement is Each (EA), installed and accepted.

2.39 Sod, Seashore Paspalum

O. Work Includes:

Install Sodding, as directed in the construction plans and specifications.

B. Unit of measurement is Square Yard (SY), installed and accepted.

PART 3

3.01 Discretionary Funds (Testing)

Payment under this item shall be made as stipulated in Specifications Section 01120.

3.02 Discretionary Funds (10% Contingency)

Payment under this item shall be made as stipulated in Specifications Section 01120.

PART 4

4.01 Bid As Alternate – Kayak Launch

A. Work Includes:

Install Kayak Launch, as directed in construction plans and specifications, to include all items required including ribbon curb at bottom of ramp.

B. Unit of measurement is Lump Sum (LS) installed and accepted.

4.02 Bid As Alternate – New Light Pole, Fixture, Service

C. Work Includes:

Install new light pole, as directed in construction plans and specifications, to include modification of existing electrical service at existing pole to provide power to new light pole, electrical lines, light pole base, pole, arm and fixture.

D. Unit of measurement is Each (EA) installed and accepted.

4.03 Bid As Alternate – New Fixture

E. Work Includes:

Install light fixture, as directed in construction plans and specifications, to include removal of existing light fixture from the pole, and to include new fixture and required mounting arm as needed.

F. Unit of measurement is Each (EA) installed and accepted.

4.04 Bid As Alternate – Broadcast Shell

G. Work Includes:

Addition of broadcast shell to concrete areas, as directed in construction plans.

H. Unit of measurement is Square Yards (SY) installed and accepted.

END OF SECTION

SECTION 01310

ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

1.01 Section Includes

Meetings, construction progress documentation, submittals.

1.02 Related Sections

A. Section 01770 - Contract Closeout

B. Section 01780 - Record Drawings

1.03 Preconstruction Meeting

The Owner will schedule a preconstruction meeting prior to beginning the Work to review shop drawing procedures, submittal requirements, and construction administration requirements (project coordination and communication). The Contractor shall bring to the preconstruction meeting the proposed construction schedule, which will be reviewed with the Owner during the meeting.

1.04 Definitions

A. Shop Drawings - 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 shall be prepared by a qualified detailer and shall be identified by reference to sheet and detail numbers on the Contract Drawings

B. Product Data - Product data are manufacturer's standard schematic drawings and manufacturer's catalog sheets, brochures, diagrams, schedules, performance charts, illustrations, and other standard descriptive data. Catalog sheets, brochures, etc., shall be clearly marked to identify pertinent materials, products, or models.

C. Samples - Samples are physical examples to illustrate materials, equipment, or workmanship and to establish standards by which work is to be evaluated.

1.05 Submittal Requirements

A. Prior to submission, thoroughly check shop drawings, product data, and samples for completeness and for compliance with the Contract Documents. Verify all field measurements, quantities, dimensions, specified performance criteria, fabrication, shipping, handling, storage, assembly, installation, and safety requirements.

B. Coordinate the submittals with the requirements for other related work.

C. 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.

D. Submit at least six (6) copies of each shop drawing and product data. The specific number of copies required of all submittals will be determined during the preconstruction meeting. Submit the number of samples indicated in the individual Specification Sections.

E. Where a specific product manufacturer and model number is listed in individual specification sections and is proposed by the Contractor to be used, full submittal of product data is not required. In this case, submit in letter format the name of the product, manufacturer, model number, specification section, and name of project. Certify the identified product is proposed to be used in the project.

F. Shop drawings, product data, and samples shall be accompanied by a letter of transmittal referring to the name of the project and to the specification page number and/or Drawing number for identification of each item. Submittals for each type of work shall be numbered consecutively, and the numbering system shall be retained throughout all revisions.

G. Submittals shall bear the Contractor's stamp of approval certifying that they have been checked and indicate appropriate specification section and/or drawing location. Submittals without the Contractor's initialed or signed certification stamp and submittals which, in the Engineer's opinion, are incomplete, contain numerous errors or have not been properly checked, will be returned unchecked by the Engineer for resubmission.

H. Begin no work which requires submittals until return of submittals with Engineer stamp and initials or signature indicating the submittal has been approved.

1.06 Engineer Review of Submittals

A. Engineer’s review and approval of submittals will not extend to means, methods, techniques, sequences, procedures of construction or to safety precautions.

B. The review and approval of a separate item will not indicate approval of the assembly in which the item functions. Engineer’s review and approval of submittals shall not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents.

C. The Engineer will review submittals with reasonable promptness. The Engineer's review of submittals shall not be construed as a complete check and shall not

relieve the Contractor from responsibility for complete compliance with the Contract requirements.

D. No corrections, changes, or deviations indicated on submittals reviewed by the Engineer shall be considered as a change order.

E. Where review of submittals is required by the Owner or other agencies, the Engineer will forward the appropriate submittal(s) to these parties after Engineer review. Once review of all parties is complete, the submittal(s) will be returned to the Contractor reflecting the review of all parties

F. If the submittal is not satisfactory, one copy of the submitted item will be retained by the Engineer and all other copies returned to the Contractor for appropriate action.

G. In the event a third submittal is required, due to previous submittals of incomplete or incorrect data or not in compliance with the Contract Documents, the Contractor will be charged one-half of the cost incurred by the Engineer for the review of the third submittal. The Contractor shall bear the total cost incurred by the Engineer for all subsequent reviews. The Engineer costs charged to the Contractor will be at the cost plus rate generally charged by the Engineer and will be deducted by the Owner from payments due to the Contractor.

H. Distribution of copies of acceptable submittals will be as mutually determined by the Contractor, Owner, and Engineer on an individual item basis during or following the preconstruction conference.

1.07 Progress Meetings

A. The frequency of progress meetings shall be determined during the preconstruction meeting. As a minimum, progress meetings shall be held twice per month during construction.

B. The Contractor, Engineer,and Owner shall attend the progress meetings.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF SECTION

SECTION 01315

PRECONSTRUCTION VIDEO

PART 1 GENERAL

1.01 Description

A. Provide continuous color audio-DVD recording along the entire length of all proposed work areas prior to construction to serve as a record of pre-construction conditions.

B. Supplement audio video recording with digital color photographs for areas which require details not ascertainable on the DVD.

1.02 Related Requirements

Section 01310 - Administrative Requirements

1.03 Definitions

Construction Area = All areas used for construction of the proposed improvements, temporary construction, stockpile areas, staging and storage areas, and entry and exit points used by equipment, delivery vehicles, service vehicles, and other vehicles used for transport of labor, equipment, and materials to the job site.

1.04 Qualifications

The preconstruction audio-video recording shall be of professional quality that will clearly log an accurate visual description of existing conditions. Any portion of the digital recording that is determined by the Owner or Engineer to be not acceptable in the documentation of the existing condition shall be re-filmed at no additional cost to the Owner.

PART 2 PRODUCTS

2.01 General

The total video recording system and the procedures employed in its use shall be such as to produce a finished product that will fulfill the technical requirements of the project. The digital portion of the recording shall produce bright, sharp, clear pictures with accurate colors and shall be free from distortion, tearing, rolls or any other form of picture imperfection. The audio portion of the recording shall produce the commentary of the camera operator with proper volume, clarity, and be free from distortion. The recording system shall utilize EIA standard video and RGB compatible video.

2.02 Camera

The camera used in the recording system shall be capable of recording in true color and on standard format DVD.

2.03 Recorder

The recording shall be made with a DVD-based DVR. The recorder shall record the color signal with a minimum horizontal resolution of 240, 4:3 lines, aspect ratio, MPEG-2 video, stored at a resolution of 720 x 480 (NTSC). Audio shall be recorded using Dolby Digital (AC-3) minimum.

2.04 Video Disk

The video disk used for the recordings shall be high resolution, extended still frame capable. The video disk shall be new and thus shall not have been used for any previous recording.

2.05 Video Playback Compatibility

The recorded DVD shall be compatible for playback with any TV Standard DVD player.

PART 3 EXECUTION

3.01 General

A. The recordings shall contain coverage of all surface features located within the construction area and extend outward a minimum of 30-ft outside the construction area plus all off road access routes used to reach the construction area. The recording shall include all surface conditions supported by appropriate audio description.

B. The surface features documented in the recordings shall include, but not be limited to, all driveways, sidewalk, curb, gutter, buildings, walls, storage sheds, swales, culverts, headwalls, landscaping, trees, shrubbery, pull boxes, valve boxes, concrete pads, power poles, mailboxes, and fences.

C. The recordings shall also document the existence or nonexistence of any faults, fractures, or defects, and existing man made material such as debris, construction stockpiles, trash, and fuel containers.

D. Each video recording of each DVD shall be a simultaneous recorded audio recording. This audio recording, exclusively containing the commentary of the camera operator, shall assist in viewer orientation and in any needed identification, differentiation, clarification, or objective description of the feature being shown in the video portion of the recording. The audio recording also shall be free from any conversations between the camera operator and any other production technicians.

E. All DVDs shall be permanently labeled and shall be properly identified by video number, Project title, and date(s) of the recording.

F. Each video shall have a log of that video's contents. The log shall describe the various segments of coverage contained on that video in terms of the names of streets or easements, coverage beginning and end, directions of coverage, and video unit counter numbers.

3.02 Recording Schedule

A. The recording shall be performed prior to the placement of any construction materials or equipment on the proposed construction site.

B. The Contractor shall coordinate the video recording with the construction schedule so that those portions of the construction that will be completed first will be recorded first.

C. Off road access routes to and from the construction area shall be recorded prior to mobilizing to work areas.

D. The Contractor shall deliver the video recordings to the Owner upon their completion. Upon delivery of the DVD's, transfer of ownership of those DVD's shall be made to the Owner.

3.03 Visibility

All recordings shall be performed during times of good visibility. No recording shall be done during periods of significant precipitation, mist, or fog. The recording shall only be done when sufficient sunlight is present to properly illuminate the subject, and to produce bright, sharp video recordings of those subjects. No recording shall be performed when more than 10% of the area to be recorded contains debris or obstructions unless otherwise authorized by the Engineer.

3.04 Continuity of Coverage

A. In order to increase the continuity of the coverage, the coverage shall consist of a single, continuous, unedited recording which begins at one end of a particular construction area. However, where coverage is required in areas not accessible by conventional wheeled vehicles and smooth transport of the recording system is not possible, such coverage shall consist of an organized, interrelated sequence of recordings at various positions along that proposed construction area.

B. The average rate of travel during a particular segment of coverage (e.g., coverage of one side of the street) shall be directly proportional to the number, size, and value of the surface features within that construction area's zone of influence.

3.05 Camera Height and Stability

When conventional wheeled vehicles are used as conveyances for the recording system, the distance between the camera lens and the ground shall not be more than 10 feet. The camera shall be firmly mounted, such that transport of the camera during the recording process will not cause any unsteady picture.

3.06 Camera Control

Camera pan, tilt, zoom-in, and zoom-out rates shall be sufficiently controlled such that recorded objects will be clearly viewed during video playback. In addition, all other camera and recording system controls, such as lens, focus, and aperture, video level, pedestal, chroma, white balance, and electrical focus, shall be properly controlled or adjusted to maximize recorded picture quality.

3.07 Viewer Orientation Techniques

The audio and video portions of the recording shall maintain viewer orientation. To this end, overall establishing views and visual displays of all visible house and building addresses shall be utilized. In easements where the proposed construction location will not be readily apparent in the recorded video, highly visible yellow flags shall be placed in such a fashion as to clearly indicate the proposed centerline of construction.

3.08 Areas to be Video Recorded

A. When video recording on private property, the Contractor shall give the Owner sufficient prior notice of such entry so that property owners may be advised of, and their permission obtained for, the Work.

B. All video recording shall be done during regular business hours, unless otherwise specified by the private property owner or the Engineer. The Contractor shall enter and leave private property in a professional and orderly, workmanlike manner.

END OF SECTION

SECTION 01320

PROJECT COMPLETION SCHEDULE

PART 1 GENERAL

1.01 Section Includes

Project completion scheduling

1.02 Submittals

A. Prior to construction, prepare a schedule showing all major activities needed to complete project. Include major material and equipment order and delivery times. Submit to Owner no later than the date of the preconstruction conference.

B. Schedule to utilize Critical Path Method formatted by establishing a precedence diagram which is time scaled. Include on schedule activity start dates, stop dates, and duration; critical path; float; delivery schedules. Include submittal dates and durations for components with extended lead times in schedule.

C. Include on the schedule a minimum float of 1 day every 3 weeks during construction.

D. Project substantial and final completion dates shown on schedule shall be same as or earlier than the contractual dates.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION

3.01 Monitoring and Updating of Schedule

A. Float shown on the schedule belongs to the project.

B. Progress data shall be accumulated to update the schedule on a monthly basis, prior to submittal of the application for payment. Progress data shall include:

1. Activities started
2. Activities completed.
3. Predicted activity starts
4. Predicted activity completions
5. Changes in original duration for specific activities
6. Changes in activity sequences
7. Percent complete on activities

C. Update of schedule to include effect of the progress projected for the next two (2) reporting periods.

END OF SECTION

SECTION 01410

REGULATORY REQUIREMENTS

PART 1 GENERAL

1.01 Section Includes

Regulatory requirements, project permits

1.02 Requirements of Regulatory Agencies

A. All piping installed within the right-of-way of any city, county, state, or federal highway or railroad shall be in accordance with a permit to construct issued by the controlling agency and obtained by the Owner. In no case shall an open trench be constructed within a railroad right-of-way unless otherwise indicated.

B. Whenever the Drawings and Specifications conflict with the requirements of the permit, then the requirements of the permit shall govern and the cost of abiding by the provisions of the permit shall be considered incidental to the Contract.

C. All electrical apparatus and wiring pertaining to a piece of equipment or an appliance furnished and installed under this Contract shall comply with the National Electrical Code and shall be listed by Underwriters Laboratories or bear the approval of a recognized Testing Laboratory approved by the Engineer.

D. All construction projects 1 or more acres in size that discharge to offsite areas are required to abide by the provisions of the National Pollution Discharge Elimination System (NPDES) General Permit. Contractor shall submit a NOI for permit coverage.

1.04 Project Permits

A. The following permits have been obtained for the construction of the project, and are contained in the Appendix of the Project Manual:

1. FDEP Permit: 41-0319897-003
2. FDOT Permit: Pending
3. ACOE Permit: SAJ-2014-02969 (LP-CMW)

B. The Contractor shall review and become familiar with all permits for the Project, complete with all conditions, attachments, exhibits and permit modifications. A copy of all permits for the Project shall be maintained by the Contractor at the project site, and shall be available for review upon request.

C. The Contractor shall be fully responsible to abide by all provisions of the permits. The Contractor is responsible for the selection, implementation and operation of all measures required by the permits, including the maintenance of said

measures as necessary during construction. No additional compensation will be allowed for any work associated with permit requirements.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF SECTION

SECTION 01415

STORMWATER POLLUTION PREVENTION / NPDES REQUIREMENTS

PART 1 GENERAL

1.01 Section Includes

Stormwater Pollution Prevention Plan requirements and recommendations under the NPDES program for construction projects located in Florida.

1.02 Purpose

The purpose of this section is to outline minimum requirements for stormwater pollution prevention as required under the NPDES program. There may be more stringent local government or Owner requirements for Erosion and Sediment Control, which would be located in the Specifications or on the Drawings. The more stringent requirement governs.

1.03 Related Sections

A. Section 01410 – Regulatory Requirements

B. Section 02370 – Erosion and Sediment Control

1.04 Abbreviations

A. NPDES - National Pollution Discharge Elimination System

B. SWPPP - Stormwater Pollution Prevention Plan

C. NOI - Notice of Intent

D. NOT - Notice of Termination

1.05 Definitions

The term “NPDES Generic Permit” means the State of Florida Department of Environmental Protection (FDEP) Generic Permit For Stormwater Discharge from Large and Small Construction Activities.

1.06 Construction Projects Requiring Compliance with NPDES Generic Permit

A. All projects 1 or more acres in size that discharge to offsite areas.

B. Smaller projects that are in the same construction corridor as larger construction projects where the larger project is 1 or more acre in size and is required to

comply with the NPDES Generic Permit. In this case, even if the smaller project is less than 1 acre in size, the smaller project must comply with the NPDES Generic Permit.

1.07 General Requirements

A. Construction of this project is required to comply with the requirements of the National Pollutant Discharge Elimination System (NPDES) Generic Permit for Stormwater Discharge from Small and Large Construction Activities.

B. In order to meet NPDES requirements, the Contractor is responsible for preparing a Stormwater Pollution Prevention Plan (SWPPP), implementing, inspecting, maintaining, and reporting on all elements of the SWPPP, completing and submitting the required Notice of Intent (NOI) and Notice of Termination (NOT) forms as the Operator, and paying all associated fees. Copies of the NPDES Generic Permit, NOI, and NOT forms, and permit application fee information are available for download at dep.state.fl.us/water/stormwater/npdes/

C. The Contractor must include in the SWPPP the names and addresses of all subcontractors working on this project who will be involved with the major construction activities that disturb site soil or who implement a pollutant control measure. These subcontractors, in addition to the Contractor, shall comply with the requirements of the NPDES Generic Permit and any local governing agency having jurisdiction concerning erosion and sedimentation control, and shall sign a copy of the certification statement in the SWPPP.

D. The SWPPP shall describe and ensure the implementation of best management practices which will be used to reduce the pollutants in stormwater discharge associated with construction activity and to assure compliance with the terms and conditions of the NPDES Generic Permit. The erosion and sediment control measures shown on these Drawings are the minimum required and are to be installed prior to construction. The Contractor is responsible for complying with all applicable rules, regulations and water quality standards and may need to install additional controls to meet these requirements.

1.08 SWPPP Implementation and Submittal Requirements

A. The SWPPP shall be completed prior to submittal of the NOI and shall include the elements necessary to comply with the NPDES Generic Permit for construction activities administered by the FDEP and shall also include all local governing agency and Owner requirements. There may be more stringent local government or Owner requirements for Erosion and Sediment Control, which would be located in the Specifications or elsewhere on these Drawings.

B. The Contractor must file the NOI with FDEP and the Owner at least two (2) business days prior to the start of construction. The Contractor shall also submit a copy of the NOI to the MS4 operator for all projects that discharge stormwater associated with construction activity to a municipal separate stormwater system

(MS4). A copy of the NOI and a description of the project must be posted in a prominent place for public viewing at the construction site.

C. The SWPPP must be implemented at the start of construction. A complete copy of the SWPPP, including copies of all inspection reports, plan revisions, etc., must be retained at the project site at all times during working hours and kept in the permanent project records for at least three years following submission of the NOT.

D. Final Stabilization means that all soil disturbing activities at the site have been completed, and that a uniform perennial vegetative cover (evenly distributed, without large bare areas) with a density of at least 70% for all unpaved areas and areas not covered by permanent structures has been established or equivalent permanent stabilization measures (such as geotextiles) have been employed. Once construction is completed and final stabilization has been achieved, the Contractor must file the NOT to FDEP, the Owner, and the MS4 operator within 14 days.

1.09 Inspections

A. It is the responsibility of the Contractor to assure the adequacy of site pollutant discharge controls. Between the time the SWPPP is implemented and final site stabilization is achieved, all disturbed areas and pollutant controls must be inspected at least once every seven calendar days and within 24 hours following a rainfall of 0.5 inches or greater. The inspections are to be conducted by the Contractor's qualified designated representative.

B. All inspections shall be documented in an inspection report that summarizes the scope of the inspection, the names and qualifications of personnel making the inspection; the date of the inspection; rainfall data; major observations relating to the implementation of the SWPPP, and actions taken in order to ensure compliance with NPDES requirements and the SWPPP. Such reports shall identify any incidents of non-compliance and actions taken to bring the project into compliance. Where a report does not identify any incidents of non-compliance, the report shall contain a certification that the facility is in compliance with the NPDES requirements and the SWPPP. Each inspection report shall be signed and certified by each inspector.

1.10 Updating and Modifying the SWPPP

A. Based on inspection results, any modifications necessary to increase effectiveness of the SWPPP to an acceptable level must be made within seven calendar days of the inspection.

B. The SWPPP must be updated each time there are significant modifications to the pollutant prevention system or a change of contractors working on the project who disturbs site soil. For construction activities where the operator changes, the new operator shall file an NOI for coverage under this permit at least two (2)

days before assuming control of the project and the previous operator shall file an NOT to terminate permit coverage in accordance with the NPDES Generic Permit. Amendments to the plan shall be prepared, signed, dated, and kept as attachments to the original SWPPP.

1.11 Minimum SWPPP Provisions

A. Each SWPPP shall provide a description of pollutant sources and other information including a description of the nature of the construction activity; the intended sequence of major activities which disturb soils for major portions of the site; estimates of the total area of the site and the total area of the site that is expected to be disturbed by excavation, grading, or other construction activities; existing data describing the soil or the quality of any discharge from the site and an estimate of the size of the drainage area for each discharge point; a site map indicating drainage patterns and approximate slopes anticipated after major grading activities, areas of soil disturbance, an outline of areas which may not be disturbed, the location of major structural and nonstructural controls identified in the plan, the location of areas where stabilization practices are expected to occur, surface waters, wetlands, and locations where stormwater is discharged to a surface water or MS4; and the latitude and longitude of each discharge point and the name of the receiving water(s) for each discharge point.

B. The following site data is provided to the Contractor for use in preparing the SWPPP and completing the NOI:

Total Site Area:	2.15 Ac
Total Area Impacted by Construction:	2.15 Ac
Existing Site Soils:	Sandy / Shell
Drainage Area Contributing to Each Discharge Point:	2.15 Ac
Latitude and Longitude of Project Location:	27.4973 Lat, -82.7024 Long
MS4 Operator Name:	Manatee County
Receiving Waters:	Anna Marie Sound, Class II OFW

1.12 Minimum Erosion and Sediment Control Construction Requirements

A. Stabilize all construction site exits with coarse aggregate or other approved materials, in accordance with details on the Drawings. Other minimum construction requirements that need to be implemented in order to comply with the NPDES Generic permit include installation of sediment barriers down slope from construction activities that disturb site soil; constructing rock surface temporary parking areas; installation of sediment barriers down slope prior to clearing and grubbing; installation of sediment barriers on the down slope side of utility construction and soil stockpiles; and the installation of sediment barriers on the down slope side of grading activities.

B. Stabilization measures shall be initiated as soon as practicable, but in no case more than 7 days, in portions of the site where construction activities have temporarily or permanently ceased.

C. The Owner has the authority to limit surface area of erodible earth material exposed by clearing and grubbing, excavation, trenching, borrow and embankment operations. The Owner also has authority to direct Contractor to provide immediate permanent or temporary erosion and sediment control measures.

D. The Contractor shall respond to erosion and sediment control maintenance requirements or implement additional measures to control erosion ordered by Owner or governing authorities within 48 hours or sooner if required at no additional cost to the Owner.

E. The Contractor shall incorporate permanent erosion control features into project at earliest practical time to minimize need for temporary controls.

F. For drainage basins with 10 or more disturbed acres at one time, a temporary (or permanent) sediment basin providing 3,600 cubic feet of storage per acre drained, or equivalent control measures, shall be provided where attainable until final stabilization of the site. The 3,600 cubic feet of storage area per acre drained does not apply to flows from offsite areas and flows from onsite areas that are either undisturbed or have undergone final stabilization where such flows are diverted around both the disturbed area and the sediment basin. For drainage basins with 10 or more disturbed acres at one time and where a temporary sediment basin providing 3,600 cubic feet of storage per acre drained, or equivalent controls is not attainable, a combination of smaller sediment basins and/or sediment traps and other BMPs should be used. At a minimum, silt fences, or equivalent sediment controls are required for all sideslope and downslope boundaries of the construction area.

G. Water trucks shall be used as needed during construction to reduce dust generated on the site. Dust control must be provided by the Contractor and shall be in compliance with applicable local and state dust control regulations.

1.13 Maintenance Requirements

A. Maintain all erosion and sediment control measures throughout construction. Repair or replace all damaged sediment barriers. Remove accumulated sediment along all silt fences where the height of the sediment exceeds one-third of the height of the silt fence. Inspect all temporary and permanent grassing areas and re-grass where there are bare spots, washouts, or unhealthy growth.

B. At the completion of construction, once final stabilization has been achieved, clean all accumulated sediment from all storm structures, pipelines, and stormwater ponds. Remove all temporary sediment controls upon receipt of authorization to remove has been received from the Owner or Engineer. Note

that this may not occur for some time after construction activities have been completed, in order to ensure their removal has not occurred until final stabilization has been achieved to the satisfaction of the Owner and Engineer.

1.14 Stormwater Discharge Provisions

A. Non-stormwater components of site discharge must be clean water. Water used for construction, which discharges from the site, must originate from a public water supply or private well approved by the governing local agency. Water used for construction that does not originate from an approved public supply must not discharge from the site. Allowable non-stormwater discharges include discharges from fire fighting activities; Fire hydrant flushing; Water used to wash vehicles or control dust; Water flowing from potable sources and water line flushing; Irrigation drainage; and runoff from pavement wash down where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled material has been removed) and where detergents have not been used.

B. Solid materials, including building materials, are not allowed to be discharged from the site with stormwater. All solid waste, including disposable materials incidental to the major construction activities, must be collected and placed in containers. The containers shall be emptied periodically by a contract trash disposal service and hauled away from the site.

C. Substances that have the potential for polluting surface and/or groundwater must be controlled by whatever means necessary in order to ensure that they do not discharge from the site. As an example, special care must be exercised during equipment fueling and servicing operations. If a spill occurs, it must be contained and disposed so that it will not flow from the site or enter groundwater, even if this requires removal, treatment, and disposal of soil in accordance with local and state regulations.

D. All personnel involved with construction activities must comply with state and local sanitary or septic system regulations. Temporary sanitary facilities shall be provided at the site throughout the construction phase for use by all construction personnel and shall be serviced by a commercial operator at least once a week.

E. Discharges resulting from groundwater dewatering activities at construction sites are permitted provided the groundwater is free of sediments, is not contaminated, and dewatering occurs in accordance with state and local governing agency regulations.

F. Chemicals, paints, solvents, fertilizers, and other toxic material must be stored in waterproof containers. Except during application, the contents must be kept in trucks or within storage facilities. Runoff containing such material must be collected, removed from the site, treated, and disposed at an approved solid waste or chemical disposal facility.

G. The discharge of hazardous substances or oil in the stormwater discharge(s) from a facility or activity shall be prevented. This does not relieve the operator of the reporting requirements of 40 CFR part 117 and 40 CFR part 302. The operator shall submit within 14 calendar days of knowledge of the release a written description of: the release (including the type and estimate of the amount of material released), the date that such release occurred, the circumstances leading to the release, and remedial steps to be taken. The SWPPP must be modified within 14 calendar days of knowledge of the release to: provide a description of the release, the circumstances leading to the release, and the date of the release. In addition, the plan must be reviewed to identify measures to prevent the reoccurrence of such releases and to respond to such releases, and the plan must be modified where appropriate.

CONTRACTOR AND SUBCONTRACTOR CERTIFICATION

The Contractor and subcontractor(s) that will implement the pollutant control measures described in the SWPPP must be identified below. Each must sign a statement certifying that they understand the NPDES Generic permit authorizing stormwater discharges during construction. These statements must be maintained in the SWPPP file on site.

Contractor implementing the SWPPP:

_____

Business Name

_____

Business Address

_____

_____

_____

Business Telephone Number

CERTIFICATION: (Note signature requirements in Part VI.G. of the NPDES Generic Permit.)

> **"I certify under penalty of law that I understand, and shall comply with, the terms and conditions of the Generic Permit for Stormwater Discharge from Large and Small Construction Activities and this Stormwater Pollution Prevention Plan prepared thereunder."**

_____

Signature Date

_____

Printed Name

CONTRACTOR
CERTIFICATION

The SWPPP has been prepared by:

_____
Business Name

_____
Business Address

_____

_____

_____
Business Telephone Number

The Contractor who has prepared the SWPPP shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

_____
Signature Date

_____
Printed Name

PART 2 PRODUCTS – Not Used

PART 3 EXECUTION – Not Used

END OF SECTION

SECTION 01420

REFERENCES

PART 1 GENERAL

1.01 Section Includes

Referenced standards and abbreviations

1.02 Referenced Standards

A. Any reference to published specifications or standards of any organization or association shall comply with the requirements of the specification or standard which is current on the date of Advertisement for Bids. In case of a conflict between the referenced specifications or standards, the one having the more stringent requirements shall govern.

B. In case of conflict between the referenced specifications or standards and the Contract Documents, the Contract Documents shall govern.

1.03 Abbreviations

The following are definitions of abbreviations used within the Project Manual:

AA	Aluminum Association
AASHTO	American Association of State Highway and Transportation Officials
ACI	American Concrete Institute
ANSI	American National Standard Institute
ASTM	American Society for Testing and Materials
AWS	American Welding Society
AWWA	American Water Works Association
CRSI	Concrete Reinforcing Steel Institute
FDEP	Florida Department of Environmental Protection
FDOT	Florida Department of Transportation
FS	Florida Statutes
NEC	National Electrical Code
NECA	National Electrical Contractors' Association
NEMA	National Electrical Manufacturers Association
NSF	National Sanitation Foundation
OSHA	Occupational Safety and Health Administration
PS	United States Products Standards
SSPC	Structural Steel Painting Council
UL	Underwriter's Laboratories, Inc.
FDOT Specification	FDOT Standard Specification for Road and Bridge Construction, latest edition

FDOT Index	FDOT Roadway and Traffic Design Standards, latest edition

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF SECTION

SECTION 01425

FDOT STANDARDS REFERENCE

PART 1 GENERAL

1.01 Section Includes

Instruction on the use and applicability of FDOT standards on the project

1.02 Requirements

A. The Florida Department of Transportation, Standard Specifications for Road and Bridge Construction, latest non-metric edition ("Standard Specifications"), and Roadway Traffic and Design Standards, latest non-metric edition ("Design Standards") are referenced herein as source documents for applicable technical specifications and construction details to be used in the construction of this project. The term “latest edition” refers to the latest edition implemented by FDOT and includes all FDOT implemented supplements.

B. Method of Measurement and Basis of Payment is to be in accordance with these Contract Documents rather than the Florida Department of Transportation Standard Specifications. Any item which is detailed in the Plans and for which material types, sizes and quality are also called out, the "Design Standards" shall take preference over the plan detail unless otherwise directed by the Engineer.

C. Where the FDOT Standard Specifications use the reference "Department", replace "Department" with "Owner", except for when such reference is to Department Standards and evaluation criteria.

D. The Design Standards are referenced herein as a source document for applicable construction items and details called for in the plans for which a specific plan detail is not provided. The Contractor shall construct the items called for in the plans in accordance with the "Design Standards" unless otherwise defined or detailed in the plans or as directed by the Owner, Engineer or authorized representative.

E. In case of conflict, the Project Manual takes precedence over FDOT specifications for a particular construction requirement.

F. Copies of the latest implemented edition and implemented supplements of the Florida Department of Transportation Standard Specifications may be purchased from FDOT for a nominal charge. Copies are also for download via the internet at “www.dot.state.fl.us/specificationsoffice”.

G. The Contractor shall inform the Owner and Engineer in writing of any specification that the Contractor feels is ambiguous or conflicting with other plan

notes and details prior to the construction of the associated item. The Engineer will determine which information is to be used for construction. The Contractor is

H. responsible for the removal and replacement of any item improperly constructed resulting from a misinterpretation of the specifications at no additional cost to the Owner.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION

3.01 General

The Contractor shall use Divisions Two (II) and Three (III) of the FDOT Specifications as they relate to methods of construction and material types and quality for the appropriate construction items contained within this project.

END OF SECTION

SECTION 01450

QUALITY CONTROL

PART 1 GENERAL

1.01 Section Includes

Quality control, quality assurance

1.02 Quality Control

A. It is the Contractor's responsibility to perform all work to a degree and in a manner that satisfies and complies with the Project requirements. In order to fulfill this responsibility, the Contractor is required to have an approved Quality Control Program, including testing, as part of his Contract work in accordance with the Contract Documents and to submit details of his Program to the Engineer for review and approval prior to commencing any construction operations. The submittal shall include detailed information on locations and number of all tests, etc., that will be necessary for the Contractor to make his own determination that the work is being performed in compliance with the Project requirements.

B. As part of the Contractor's Quality Control Program included as part of his work, the Contractor shall employ and pay for an independent, approved soils testing laboratory to perform testing services outlined in these Contract Documents.

C. The Contractor's Quality Control Program shall include, but not be limited to, the following in addition to the type and frequency of tests as required by the technical specifications:

1. Piping and structural excavation, bedding and backfill materials and density quality control testing

2. Determination of compactive effort needed for compliance with the density requirements.

3. Portland cement concrete and asphalt paving quality control testing including design mix review, materials, field slump and air content, and field and lab cured strength samples and testing.

D. In addition to Quality Control Testing, the Contractor shall be responsible for required testing or approvals for any work (or any part thereof) if laws or regulations of any public body having jurisdiction specifically require testing, inspections or approval. The Contractor shall pay all costs in connection therewith and shall furnish the Engineer the required certificates of inspection, testing or approval. The Contractor shall also be responsible for and shall pay all costs in connection with any inspection or testing required in connection with

Owner or Engineer acceptance of a supplier of materials or equipment proposed to be incorporated into the work.

E. Any design or testing laboratory utilized by the Contractor shall be an independent laboratory acceptable to the Owner and the Engineer, approved in writing, and complying with the latest edition of the "Recommended Requirements for Independent Laboratory Qualification", published by the American Council of Independent Laboratories.

F. Testing laboratories, whether provided by the Owner or the Contractor, shall promptly notify the Engineer and the Contractor of irregularities or deficiencies of work that are observed during performance of services. Laboratories shall submit two (2) copies of all reports directly to the Engineer and two (2) copies to the Contractor.

1.03 Quality Assurance

A. In addition to the services provided by the laboratory paid for by the Contractor as a part of his work, the Owner, at his sole discretion, may employ an additional independent soils laboratory as part of Owner's Quality Assurance Program to verify that the work meets the requirements of the Contract Documents. The Owner furnished Quality Assurance testing may include the type and frequency of tests as required by the technical specifications. The Owner reserves the right to have additional tests made beyond those specified in the Contract Documents. The Contractor shall cooperate with the Owner and make the work and samples available for Owner testing at no additional cost in case the Owner chooses to have additional Owner furnished testing performed. It is the sole responsibility of the Contractor to see that his work meets all provisions of the Contract Documents.

B. The Contractor shall cooperate with the soils laboratory personnel and provide access to the work to be tested. The Contractor shall notify the Engineer and Owner's testing laboratory sufficiently in advance of operations to allow scheduling of tests. The Contractor shall furnish casual labor and facilities to obtain and handle samples at the site and to store and cure test samples as required.

1.04 Testing of Materials

A. Unless otherwise specified, all materials shall be sampled and tested in accordance with the latest published standard methods of ASTM in effect at the time bids are received. If no ASTM Standards apply, applicable standard methods of the Federal Government or of other recognized agencies shall be used.

B. Test of materials shall be made by a representative of the Contractor, unless otherwise provided. Testing of equipment shall be the responsibility of the Contractor or an authorized manufacturer's representative. All test results shall be furnished to the Engineer in writing. The Contractor shall provide facilities

required to collect and forward samples. The Contractor shall furnish the required samples without charge.

C. The Contractor shall not make use of or incorporate in the work, the materials represented by the sample until tests have been made and the material found to be in accordance with the requirements of the Specifications.

D. Materials to be tested and the applicable test procedure shall be as outlined in the individual sections of these Specifications.

1.05 Source and Quality of Materials and Equipment

A. The source of materials to be used shall be in accordance with the Contract Documents and as approved by the Engineer before delivery. The approval of the source of any material shall continue as long as the material conforms to the Specifications.

B. All material not conforming to the requirements of the Specifications shall be considered as defective and shall be removed from the work. If in place, faulty materials shall be removed by the Contractor at his expense and replaced with acceptable material unless permitted otherwise by the Owner. No defective materials that have been subsequently corrected shall be reused until approval has been given.

C. Upon failure of the Contractor to comply immediately with any order of the Engineer to remove and replace defective material, the Owner shall have authority to remove and replace defective materials, and to deduct the cost of removal and replacement from any monies due or to become due to the Contractor. Failure to reject any defective materials or work at the time of installation shall in no way prevent later rejection when such defects are discovered, nor obligate the Owner to final acceptance.

1.06 Additional Testing

In addition to soils laboratory and materials testing, the Contractor shall perform other testing called for in the Contract Documents including but not limited to piping, pressure, leakage, infiltration and exfiltration, as appropriate.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF SECTION

SECTION 01520

TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.01 Section Includes

Construction facilities, controls, temporary utilities, project identification signs, field office and storage sheds, storage of materials and equipment.

1.02 Related Sections

Section 01550 - Maintenance of Traffic

1.03 Submittals

A. Prior to installation of construction facilities and temporary controls, submit the following items for review and approval:

B. Project identification sign - provide proposed text, layout, and sizing of all required signs

1.04 Construction Facilities and Temporary Controls

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.

1.05 Removal of Temporary Construction

Remove the various temporary facilities, services, and controls and legally dispose of them as soon as the Engineer deems permissible. Portions of the site used for temporary facilities shall be properly reconditioned and restored to a condition acceptable to the Engineer.

1.06 Transportation and Handling

A. Manufactured materials and products shall be delivered to the project site as needed for installation, undamaged, in original packages, containers, or bundles, as packaged by the manufacturer with manufacturer's name, brand, seals, and labels intact.

B. Materials other than those designated within the Specifications or approved by the Engineer shall not be delivered to the project site.

1.07 Storage and Protection

A. The Contractor shall be responsible for protection and preservation of all materials until final acceptance of the Project. Any damage to work prior to acceptance shall be remedied by the Contractor at no additional cost to the Owner.

B. Provide temporary weather-tight enclosures to protect work from damage by the elements, and protect finished surfaces to prevent any damage resulting from the work of any trade.

1.08 Security

A. Contractor shall, at all times, be responsible for the security required in all project areas and shall provide all reasonable protection to prevent damage, injury or loss to employees on the Work and all other persons who may be affected thereby; all the work materials and equipment to be incorporated therein, whether in storage on or off the project site, under the care, custody or control of the Contractor or any subcontractors; and any other property under the care, custody or control of the Contractor or any subcontractors. Contractor shall be responsible for such security and safety until final acceptance of the Work.

B. 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.

PART 2 PRODUCTS

2.01 Temporary Electric Service

A. Furnish and maintain temporary lighting and power required to perform the Work. Include in the Bid all costs for providing temporary electrical service.

B. Temporary service shall include protective enclosures, branch wiring, outlets, lamps, and grounding as required by NEC and Local Electrical Codes.

2.02 Temporary Heating

The Contractor shall furnish fuel or power and provide and operate all temporary heating units. Heat shall be provided as necessary to perform the Work. Temporary heating units shall be adequately vented and approved devices which will not damage finished areas. The Contractor shall also furnish all tarpaulins and temporary enclosures necessary to provide this protection.

2.03 Temporary Ventilation

The Contractor shall provide, operate, and furnish power for temporary ventilation required for the proper installation and curing of materials and safety of workmen.

2.04 Temporary Water

A. Provide a temporary water distribution system for all construction purposes and pay for all water used. Obtain temporary meters from the local water utility as required and pay all associated fees.

B. Furnish potable drinking water in suitable dispensers and with cups for use of all employees at the job.

C. Provide all temporary piping, hoses, etc., required to transport water to the point of usage by all trades.

2.05 Temporary Sanitary Facilities

Provide temporary toilet facilities as required. Maintain these during the entire period of construction under this Contract for the use of all construction personnel on the job. Enough chemical toilets shall be provided to conveniently serve the needs of all personnel. Chemical toilets and their maintenance shall meet the requirements of State and local health regulations and ordinances.

2.06 Temporary Pumping and Site Drainage

Keep the site free from water at all times to permit continuous access and to prevent damage to the work.

2.07 Material Hoists and Cranes

A. Provide material hoists required for normal use by all trades and employ skilled hoist operators. Provide all necessary guards, signals, safety devices, etc., required for safe hoist operation. The construction and operation of material hoists shall be in accordance with the applicable ANSI Standards, the "Manual Code of Accident Prevention in Construction" of the Associated General Contractors of America, OSHA, and of other Federal, State, and municipal codes or ordinances. The Contractor shall prohibit the use of hoists for transporting personnel. Hoists shall be located to avoid risk of damage to completed work.

B. Special rigging and hoisting facilities shall be provided by each trade requiring their use.

2.08 Temporary Runways, Scaffolding, and Ladders

A. Provide temporary ladders, ramps, and runways as required for performance and inspection of the work. The above facilities shall be constructed and maintained in accordance with the applicable Federal, State, and Municipal regulations and codes.

B. Furnish, erect, and maintain all scaffolding required for this work. Scaffolding shall be constructed and maintained in accordance with applicable State and

Federal laws and local ordinances. Scaffolding shall be promptly removed after serving its purpose.

C. The structural strength and safety of scaffolding, runways, covers, railings, ladders, stairs, etc., and compliance with law shall be the sole responsibility of the Contractor.

2.09 Temporary Chutes

No materials shall be dropped from structures except through enclosed wooden or metal chutes which shall be provided and maintained as required for the performance of the work by the various trades.

2.10 Project Identification Sign

A. As soon as practicable after award of contract, but no later than twenty (20) days after the Notice to Proceed is issued, furnish and erect one sign for the project, placed at a location determined by Owner. The sign shall be erected when the work is started and shall be suitably supported, braced, and maintained, and shall be removed upon completion of the project or when directed by the Owner.

B. Submit to the Owner for approval the proposed sign lettering (fonts, size) and text prior to fabricating the signs.

C. No other signs will be permitted.

2.11 Contractor's Field Office and Storage Sheds

The Contractor shall provide field office and storage sheds that it determines are required for the performance of the Work and protection of materials and equipment.

2.12 Owner / Engineer Field Office - N/A

PART 3 EXECUTION

3.01 Access Roads and Parking Areas

A. Construct temporary roadways and parking areas within the site as required to provide proper access to the site for delivery of material and equipment of all trades. It is up the Contractor to determine whether it needs to construct any temporary roads or parking areas to accommodate its construction (including delivery of materials, equipment, and manpower to the site).

B. At completion of the work or when directed by the Engineer, surfacing and sub-base material used for the temporary road and parking areas shall be removed, unless otherwise approved by the Engineer.

END OF SECTION

SECTION 01550

MAINTENANCE OF TRAFFIC

PART 1 GENERAL

1.01 Section Includes

Traffic and dust control

1.02 Related Sections

Section 01520 - Temporary Facilities and Controls

1.03 Definitions

The term "Maintenance of Traffic" as used herein, shall include all facilities, devices, traffic control personnel, and operations as are required for the safety and convenience of the public as well as for minimizing public nuisance.

1.04 References

A. Florida Department of Transportation Roadway and Traffic Design Standards

B. Manual on Uniform Traffic Control Devices

1.05 Submittals

Provide traffic control plan. Include proposed signs, markings, barricades, detour routes, sequencing, and phasing for vehicular and pedestrian traffic routes during construction.

1.06 Qualifications

Provide at least one employee in the field (superintendent or foreman) who holds an IMSA (International Municipal Signal Association) Work Zone Traffic Control Safety Certification. This certified employee shall be on the job site when the traffic control measures are installed and when work is occurring within the zones.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION

3.01 Site Preparation

A. Contact property owners affected by construction. Coordinate temporary driveway closures and sequencing. Maintain access for all property owners during construction.

B. Remove existing pavement markings and remove or relocate existing signs as necessary to implement traffic control.

C. Install signs, markings, barricades in accordance with approved traffic control plan.

D. Implement lane closures in accordance with the parameters shown on the drawings and in the approved traffic control plan.

E. Perform work in a manner that will cause minimum interruptions to traffic.

F. Place excavated material outside roadway clear zones, and away from pedestrian facilities.

G. All trenches shall be backfilled each day prior to the completion of construction activities.

H. Where special hazards exist, install traffic control through the use of lighted concrete barriers, barricades, or other such traffic control facilities as needed to ensure public safety.

3.02 Maintenance

A. Inspect traffic control devices on a daily basis to ensure placement of barricades and function of lights is maintained throughout construction.

B. Wet unstabilized areas as necessary to control dust.

C. Adjust traffic control devices as required under emergency conditions.

END OF SECTION

SECTION 01630

PRODUCT SELECTION AND SUBSTITUTION PROCEDURES

PART 1 GENERAL

1.01 Section Includes

Product selection and substitution procedures

1.02 Product Selection

A. Provide products that comply with the Contract Documents, that are undamaged, and unless otherwise indicated, new at the time of installation.

B. To the fullest extent possible, provide products of the same kind from a single source.

C. Compatibility among product options is required. Where more than one choice is available as options during product selection, select an option which is compatible with other products and materials already selected.

D. Provide products complete with accessories, trim, finish, safety guards, and other devices and details needed for a complete installation and the intended use and effect.

E. Where available, provide standard products of types that have been produced and used successfully in similar situations on other projects.

F. Where Contract Documents are at variance with specific manufacturer's details and installation procedures, contact Engineer for resolution prior to start of work.

G. For products specified by naming a number of products and manufacturers and "or equal", select any of the products and manufacturers listed, or propose a substitution. If the Contractor wishes to propose a substitution, the Contractor must submit a request for product substitution for approval by the Engineer and Owner.

H. For products specified naming only one product and manufacturer or a number of products and manufacturers without the "or equal" allowance, no substitutes are allowed.

I. For products specified by reference standards only, the Contractor may provide any product complying with the specified standard.

J. For products specified by performance and descriptive methods, without naming manufacturer's products, the Contractor may provide the products of any

manufacturer complying with the Contract Documents, subject to the review of product data and concurrence by the Engineer as specified herein.

1.03 Substitutions

A. The intent of these Specifications is to provide the OWNER with a quality facility without discouraging competitive bidding. Substitutions may be submitted and will be evaluated as specified herein.

B. If the Contractor wishes to provide a product other than one named in the Specifications, he shall submit sufficient information to the Engineer for evaluation and determination of acceptability of the product prior to Bid Opening.

C. The Contractor is responsible for obtaining information required by the Engineer for the evaluation of products. The Engineer is responsible for determination of the equality of products, and his decision shall be final, except as otherwise provided by law and funding agency regulations.

D. Substitution requests can be made after Bid Opening when:

1. A specified product is no longer available
2. The product cannot be delivered by the manufacturer in a timely manner
3. The product is found to be incompatible with other specified products
4. Proposed substitutions will yield a cost savings to the Owner

E. The Contractor shall be responsible for the constructability and performance of any substitute materials requested by the Contractor and approved by the Engineer or by the Owner. The Contractor shall ensure that any approved substitute materials will perform to the intent of the specified materials, at no additional cost or time to the Owner, including the costs of installation, testing, repair, or correction of the utility system due to the performance or lack thereof of the substitute material.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF SECTION

SECTION 01770

CONTRACT CLOSEOUT

PART 1 GENERAL

1.01 Section Includes

Substantial completion requirements, clean-up, final completion requirements, closeout submittals

1.02 Clean-Up Operations

A. The entire Project site shall be thoroughly cleaned at the completion of the Work.

B. Clean all installed pipelines, structures, sidewalks, paved areas, accumulated silt in ponds, plus all adjacent areas affected by construction, as directed by the Owner or jurisdictional agency. Equipment to clean these surfaces shall be subject to approval by the Owner.

1.03 Substantial Completion Requirements

A. Complete the following before requesting the inspection for certification of substantial completion.

1. Submit Record Drawings.
2. Deliver tools, spare parts, extra stocks of material and similar physical items to the Owner.
3. Complete required cleaning and testing of systems, and instruction of the Owner's operating and maintenance personnel. Discontinue or change over and remove temporary facilities and services from the project site, along with construction tools and facilities, mock-ups, and similar elements.
4. Complete final cleaning up requirements, including touch-up painting of marred surfaces.
5. Touch-up and otherwise repair and restore marred exposed finishes.

B. Work is not substantially complete until regulatory agency letters of clearance for placing systems into service are received by the Owner.

1.04 Closeout Submittals

A. At the Completion of all Work, provide the following to the Owner:

1. Executed Certificates of Substantial Completion and Final Completion
2. Final As-Built Drawings
3. Manufacturer operation and maintenance instructions

4. Submittal of manufacturers' guarantees, warranties, bonds, and letters of coverage extending beyond the time limitations of the Contractor's guarantee
5. Material and Workmanship Bond
6. Delivery of any salvaged or borrowed materials or equipment to the Owner
7. Waivers of lien from Contractor plus all Subcontractors and Suppliers
8. Checklist indicating satisfactory completion of all unfinished items from the final inspection
9. Consent of Surety to Final Payment
10. Stormwater NPDES Notice of Termination

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF SECTION

SECTION 01780

RECORD DRAWINGS

PART 1 GENERAL

1.01 Section Includes

Record Drawing requirements including format requirements and submittal procedures.

1.02 General Requirements

A. As the Work progresses, the Contractor shall be responsible for recording information on the approved Contract Documents concurrently with construction progress.

B. Mark on the Contract Drawings all changes in direction and location of structure, piping, equipment, electrical, and mechanical work.

C. If requested, mark on the Specifications the manufacturer, trade name, catalog, and supplier of each product actually installed, and mark changes made by Change Order or Field Order.

D. All Record Drawings shall be prepared by the Contractor in ACAD format using construction plan sheets provided by the Engineer. As-built information shall be field verified, measured, added to the ACAD files of the construction plan sheets provided by the Engineer, and certified, signed and sealed by the Contractor's licensed Surveyor who will be responsible for the accuracy of all dimensions and elevations.

E. Record Drawings shall clearly show all field changes of dimension and detail including changes made by field order or by change order.

F. The X, Y and Z location based on the coordinate system Florida East Zone State Plane Coordinate Feet NAD 83, of all valves (center of pipe) and valve boxes (grade), hydrants (grade), blow offs (grade), sample points (grade) and meter boxes (grade) etc. shall be clearly shown. Acceptable position accuracy shall be sub-meter or better for compatibility with Global Positioning System (GPS) equipment. The vertical datum used shall be NAVD 88 unless otherwise shown on the construction plans.

G. All water valves, hydrants, and blowoffs shall be horizontally referenced from at least two and preferably three permanent points.

H. The as-built information shown on the Record Drawings is to include, but not be limited to, the following:

1. Stormwater control structure dimensions and elevations, including all weirs, slots, orifices, grates, flumes, and skimmers.
2. Stormwater conveyance systems including dimensions, elevations, contours, and cross sections.
3. Horizontal locations and vertical elevations of all utility valves, fittings, connection points, etc.
4. Vertical elevations of all pipelines at crossings of potable water mains (whether the water main is existing or new) in order to document that the minimum required vertical separation has been met.
5. Horizontal offsets from adjacent potable water mains (whether the water main is existing or new) in order to document that the minimum required horizontal separation has been met.
6. Pavement width and elevations at the centerline and edge of pavement every 20 feet plus at all changes in longitudinal slope, cross slope, inlet locations, and at all driveway and street intersections. For parking lots, record centerline and edge of pavement elevations along all drive aisles and islands.
7. All parking areas and sidewalk ramps designated for handicap access shall contain horizontal and vertical measurements in order to verify required widths and slopes have been met.
8. All boat ramp elevations, finish concrete curbing elevations, vinyl sheet piling elevations and lengths, articulated concrete block mattress widths and elevations,
9. The location of all new pull boxes.
10. Horizontal and vertical data for any construction that deviates from the approved engineering drawings.
11. Where the plans contain specific horizontal location data, such as station and offset, the as-built drawings are to reflect the actual horizontal location.
12. Where the plans contain specific vertical elevation data, the as-built drawings are to reflect the actual measured vertical elevation.

1.03 Submittal Requirements

A. Record Drawings are to be prepared by the Contractor, certified by the Contractor's licensed surveyor, and delivered to the Engineer for review. The Engineer will review the drawings for completeness in accordance with the requirements of this section within seven (7) full working days. For preliminary review, submittal in ACAD and PDF format is sufficient and signed and sealed copies are not necessary. Final submittal of complete Record Drawings shall consist of one set signed and sealed by the Contractor's licensed surveyor plus ACAD and PDF files of the Record Drawings delivered to the Engineer.

B. If the drawings are found to be incomplete or inaccurate, the drawings will be returned to the Contractor for correction.

C. In cases where the Owner determines partial clearances from permitting agencies are beneficial to the Owner for completed portions of the project,

provide preliminary record drawings (ACAD format) to the Engineer for its use in preparing the partial clearance applications for the Owner.

D. Complete record drawings that are found to be satisfactory as a result of the Engineer's review will be used as the basis for the final project Record Drawings prepared by the Engineer using the Contractor provided record drawings plus Engineer added information.

E. Complete signed and sealed Record Drawings are required to be delivered to the Owner prior to final inspection of the project. Final inspections will only be scheduled upon receipt of signed and sealed record drawings that have been reviewed by the Engineer and delivered by the Engineer to the Owner.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF SECTION

SECTION 02220

SITE DEMOLITION

PART 1 GENERAL

1.01 Section Includes

A. Demolition of designated site structures, retaining walls and foundations and removal of materials from project site.

B. Demolition and removal of pavements, curbs and gutters, drainage structures, utilities, signage or landscaping.

C. Disconnecting and capping or removal of identified utilities.

D. Filling voids in subgrade created as a result of removals or demolition.

E. Disposal of demolished materials.

1.02 Related Sections

A. Section 02230 - Site Preparation

B. Section 02310 - Finish Grading

C. Section 02315 - Excavation and Fill

1.03 Regulatory Requirements

A. Conform to applicable State and local codes for demolition of structures, safety of adjacent structures, dust control, and runoff control.

B. Obtain required permits and licenses from appropriate authorities. Pay associated fees including disposal charges.

C. Notify affected utility companies before starting work and comply with their requirements.

D. Do not close or obstruct roadways, sidewalks, or fire hydrants without appropriate permits.

E. Conform to applicable regulatory procedures when hazardous or contaminated materials are discovered.

F. Test soils around buried tanks for contamination.

1.04 Project Record Documents

Accurately record actual locations of capped utilities and subsurface obstructions that will remain after demolition.

1.05 Project Conditions

A. Structures to be demolished will be discontinued in use and vacated prior to start of work.

B. Owner assumes no responsibility for condition of structures to be demolished.

C. Conditions existing at time of inspection for bidding purposes will be maintained by Owner as practicable. Variations within structures may occur by Owner's removal and salvage operations prior to start of demolition work.

D. Unless otherwise indicated in Contract Documents or specified by the Owner, items of salvageable value to Contractor shall be removed from site and structures. Storage or sale of removed items on site will not be permitted and shall not interfere with other work specified in Contract Documents.

E. Explosives shall not be brought to site or used to demolish structures.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION

3.01 Preparation

A. Provide, erect, and maintain erosion control devices, temporary barriers, and security devices at locations indicated on Construction Drawings.

B. Protect existing landscaping materials, appurtenances, and structures which are not to be demolished. Repair damage caused by demolition operations at no cost to Owner.

C. Prevent movement or settlement of adjacent structures. Provide bracing and shoring as needed.

D. Mark location of utilities. Protect and maintain in safe and operable condition utilities that are to remain. Prevent interruption of existing utility service to occupied or used facilities, except when authorized in writing by authorities having jurisdiction. Provide temporary services during interruptions to existing utilities as acceptable to governing authorities and Owner.

3.02 Salvage

A. Contractor to salvage items specifically listed in the Construction Plans. Salvaged items include, but are not limited to, existing fence posts and rails, signs, concrete ramp panels, aluminum ramps, garbage cans/pads, wheel stops, to be potentially re-used and re-installed.

3.03 Demolition Requirements

B. Conduct demolition to minimize interference with adjacent structures or pavements.

C. Cease operations immediately if adjacent structures appear to be in danger and notify the Owner. Do not resume operations until directed by the Owner.

D. Conduct operations with minimum of interference to public or private access. Maintain ingress and egress at all times.

E. Obtain written permission from adjacent property owners when demolition equipment will traverse, infringe upon, or limit access to their property.

F. Sprinkle work with water to minimize dust. Provide hoses and water connections for this purpose.

G. Comply with governing regulations pertaining to environmental protection.

H. Clean adjacent structures and improvements of dust, dirt, and debris caused by demolition operations. Return adjacent areas to condition existing prior to start of work.

I. Demolition plan identifies major structures and items to be demolished. Include incidental demolition to completely demolish structures whether indicated on plan or not.

3.04 Demolition

A. Demolish improvements noted on the plans completely and remove from site using methods as required to complete work within limitations of governing regulations.

B. Locate demolition equipment and remove materials so as to prevent excessive loading to supporting walls, floors, or framing.

C. Demolish concrete and masonry in small sections. Break up concrete slabs-on-grade that are 2-feet or more below proposed subgrade. Remove slabs-on-grade and below grade construction within 2-feet of proposed subgrade.

3.05 Filling Voids

A. Completely fill below grade areas and voids resulting from demolition or removal of structures, underground fuel storage tanks, wells, cisterns, etc., using approved select fill materials consisting of stone, gravel, and sand free from debris, trash, frozen materials, roots, and other organic matter.

B. Ensure that areas to be filled are free of standing water, frost, or unsuitable material, trash, and debris prior to fill placement.

C. Place fill materials in accordance with Sections 02315 or 02320 as applicable unless subsequent excavation for new work is required.

D. Grade surface to match adjacent grades and to provide flow of surface drainage after fill placement and compaction.

3.06 Disposal of Demolished Materials

A. Remove from site debris, rubbish, and other materials resulting from demolition operations.

B. No burning of any material, debris, or trash on-site or off-site will be allowed.

C. Transport materials removed from demolished structures with appropriate vehicles and dispose off-site to areas that are approved for disposal by governing authorities and appropriate property owners.

3.07 Cleanup

A. Clean the Project site to a condition satisfactory to the Engineer, free from demolished materials, rubbish or debris. Grade the site to meet adjacent contours and provide a positive flow for surface drainage.

B. Restore items intended to remain that have been damaged by demolition work at no cost to, and to the satisfaction of the Owner.

C. Return all interrupted utility services to their pre-demolition state and disconnect temporary services, unless otherwise specified.

END OF SECTION

SECTION 02230

SITE PREPARATION

PART 1 GENERAL

1.01 Section Includes

A. Layout of work and protection of bench marks.

B. Protection of structures, trees, or vegetation to remain.

C. Clearing and grubbing.

D. Stripping and storing topsoil.

1.02 Related Sections

A. Section 02220 - Site Demolition

B. Section 02370 - Erosion and Sedimentation Control

1.03 Coordination

A. Notify the utility owners which may have utilities in the project area and coordinate with them to avoid service interruptions and/or safety hazards.

B. Contact “Sunshine State, One-Call” by dialing “811”, to determine if there are other utilities in the area, and their location. For additional information: www.callsunshine.com.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION

3.01 Bench Marks and Monuments

Maintain all existing bench marks, monuments and other reference points; if destroyed, replacement costs will be deducted from payments due the Contractor.

3.02 Laying Out Work

A. Base lines, property lines, and easement lines, are shown on the Drawings. Bench marks utilized are also shown on the drawings. If the bench marks are disturbed as a result of construction activities, reestablish such items by utilizing a surveyor licensed in the state where the project is located.

B. Stake out the construction, establish lines and levels, temporary bench marks, batter boards, centerlines and reference points for the work, and verify all dimensions relating to interconnection with existing features.

C. Report any inconsistencies in the proposed grades, lines and levels, dimensions and locations to the Engineer before commencing work.

D. Contain all construction activities within the right-of-way, easements, and property secured by the Owner, as shown on the drawings. Do not disturb surrounding properties or travel on surrounding properties without written consent from the property owner. Repair or reconstruct damaged areas on an immediate basis. All costs for repairs shall be the responsibility of the Contractor.

3.03 Burning

Burning is not allowed, unless notes on the drawings specifically allow it to occur. In the event burning is allowed, secure all necessary permits.

3.04 Protection of Trees and Shrubs

A. Protect all trees and shrubs located outside the right-of-way, easements, and Owner secured property, particularly those trees and shrubs located adjacent to work areas.

B. Within the right-of-way, easements, and Owner secured property, the intent is to allow tress and shrubs to remain in accordance with the following schedule:

1. New roadway construction – trees and shrubs to remain where located more than 15 feet from the back of curb, or outside the limits of excavation or fill areas, whichever is further.
2. Utility pipeline construction – trees and shrubs to remain outside a 15 foot wide path, centered on the pipeline.

C. Protect branches, trunks, and roots of trees and shrubs that are to remain. Trees to remain in the construction area shall be boxed, fenced or otherwise protected before any work is started; remove boxing when directed by the Engineer. Do not permit heavy equipment or stockpiles within branch spread. Remove interfering branches without injury to trunks and cover scars with tree paint.

3.05 Relocation of Utilities

A. Active utilities which do not interfere with the work shall be supported and protected from damage. After obtaining the Engineer's approval, relocate or remove active utilities which will interfere with work as indicated. Pay for all damage to active utilities and for relocation or removal of all interfering utilities which are ascertainable from Drawings, surveys, site inspection or encountered during construction.

B. Coordinate with each utility and pay all costs associated with the protection of existing facilities during construction. Also coordinate necessary relocations or other construction related matters with each utility.

C. Inactive or abandoned utilities and appurtenant structures encountered shall be removed to avoid interference as directed by the Engineer. Exposed ends of abandoned lines shall be plugged or capped in a water-tight manner.

3.06 Clearing and Grubbing

A. Areas to receive clearing and grubbing shall include all areas to be occupied by the proposed improvements, areas for fill and site grading, and borrow sites. Remove trees outside of these areas only as indicated on the Drawings or as approved in writing by the Engineer.

B. Clearing shall consist of removing trees and brush and disposal of other materials that encroach upon or otherwise obstruct the work.

C. Exercise extreme care during the clearing and grubbing operations. Do not damage existing structures, pipes or utilities.

D. Grubbing shall consist of removing and disposing of stumps, roots larger than 2" in diameter, and matted roots. Remove to a depth of not less than 18" below the original surface level of the ground.

E. All combustible debris and refuse from site preparation operations shall be removed to legal offsite disposal areas.

3.07 Topsoil Removal

A. All areas to be occupied by proposed improvements, and borrow sites shall be stripped of all brush, weeds, grass, roots and other material.

B. Remove all loamy, organic topsoil suitable for seeding and planting to whatever depth encountered and store separately from other excavated material. Stockpile in designated areas and provide for proper drainage. Cover storage piles as required to prevent windblown dust.

C. All removed topsoil shall be stockpiled within the project work area. Topsoil can be incorporated into the project in all areas that are to be grassed.

D. Dispose of unsuitable topsoil as specified under disposal of debris. Excess topsoil shall be removed from site unless specifically noted on Contract Drawings.

3.08 Disposal of Debris

A. All combustible debris and refuse from site preparation operations shall be removed to legal offsite disposal areas.

B. All non-combustible debris (not including acceptable fill material, fences, or other structures), resulting from site preparation operations shall become the property of the Contractor and shall be removed to legal offsite disposal areas.

END OF SECTION

SECTION 02240

DEWATERING

PART 1 GENERAL

1.01 Section Includes

Dewatering design and operation requirements

1.02 Related Sections

Section 02370 - Erosion and Sedimentation Control

1.03 General Requirements

A. Obtain the services of a qualified dewatering specialist to provide dewatering plan as may be necessary to complete the Work. Contractor shall be solely responsible for the design, installation, operation, maintenance, and any failure of any component of the system.

B. Dewatering discharge from the site shall comply with all NPDES general permit requirements and state water quality standards. Provide all testing and permitting required and comply with all treatment or disposal methods required to meet all local, state and federal requirements.

C. Design and provide dewatering system using accepted and professional methods consistent with current industry practice to eliminate water entering the excavation under hydrostatic head from the bottom and/or sides. Design system to prevent differential hydrostatic head which would result in floating out soil particles in a manner termed as a “quick” or “boiling” condition. System shall not be dependent solely upon sumps and/or pumping water from within the excavation where differential head would result in a quick condition, which would continue to worsen the integrity of the excavation’s stability.

D. Provide dewatering system of sufficient size and capacity to prevent ground and surface water flow into the excavation and to allow all Work to be installed in a dry condition.

E. No additional payment will be made for any supplemental measures to control seepage, groundwater, or artesian head.

F. If dewatering equipment needed exceeds any of the following: 1) 6" pump volute; 2) 100,000 GPD total 24 hour (1 day) dewatering, and; 3) 1,000,000 GPD pump capacity, the Contractor shall be required to permit the dewatering system with the water management district.

G. Contractor shall be responsible for and shall repair without cost to the Owner any damage to work in place, or other contractor's equipment, utilities, residences, highways, roads, railroads, private and municipal well systems, adjacent structures, natural resources, habitat, existing wells, and the excavation, including, damage to the bottom due to heave and including but not limited to, removal and pumping out of the excavated area that may result from Contractor's negligence, inadequate or improper design and operation of the dewatering system, and any mechanical or electrical failure of the dewatering system.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION

3.01 General Requirements

A. Control, by acceptable means, all water regardless of source and be fully responsible for disposal of the water.

B. Confine discharge piping and/or ditches to available easement or to additional easement obtained by Contractor.

C. Control groundwater in a manner that preserves strength of foundation soils, does not cause instability or raveling of excavation slopes, and does not result in damage to existing structures. Where necessary to these purposes, lower water level in advance of excavation, utilizing wells, wellpoints, jet educators, or similar positive methods. Maintain the groundwater level to a minimum of 2 feet below excavations. Provide piezometers if directed by the Engineer to document the groundwater level is being maintained.

D. Commence dewatering prior to any appearance of water in excavation and continue until Work is complete to the extent that no damage results from hydrostatic pressure, flotation, or other causes.

E. Open pumping with sumps and ditches shall be allowed, provided it does not result in boils, loss of fines, softening of the ground, or instability of slopes.

F. Install wells and/or wellpoints, if required, with suitable screens and filters, so that continuous pumping of fines does not occur. During normal pumping, and upon development of well(s), levels of fine sand or silt in the discharge water shall not exceed 5 ppm. Install sand tester on discharge of each pump during testing to verify that levels are not exceeded.

G. Control grading around excavations to prevent surface water from flowing into excavation areas.

H. Remove subgrade materials rendered unsuitable by excessive wetting and replace with approved backfill material at no additional cost to the Owner.

I. Walls shall not be exposed to water pressure before structural work at the next higher level has properly cured and the cantilever action of walls is eliminated.

J. Any dewatering pumps within 1500-ft of private residences shall be equipped with satisfactory sound suppression.

K. Water from dewatering activities shall be disposed in a manner that does not cause flooding, erosion, or the transfer of sediments.

3.02 Maintaining Excavation in Dewatering Condition

A. Dewatering shall be a continuous operation. Interruptions due to power outages, or any other reason will not be permitted.

B. Continuously maintain excavation in a dry condition with positive dewatering methods during preparation of subgrade, installation of pipe, and construction of structures until the critical period of construction and/or backfill is completed to prevent damage of subgrade support, piping, structure, side slopes, or adjacent facilities from flotation or other hydrostatic pressure imbalance.

C. Provide standby equipment on site, installed, wired, and available for immediate operation if required to maintain dewatering on a continuous basis in the event any part of the system becomes inadequate or fails. If dewatering requirements are not satisfied due to inadequacy or failure of dewatering system, perform such work as may be required to restore damaged structures and foundation soils at no additional cost to Owner.

D. System maintenance shall include but not be limited to 24-hour supervision by personnel skilled in the operation, maintenance, and replacement of system components, and any other work required to maintain excavation in dewatered condition.

3.03 System Removal

Remove all dewatering equipment from the site, including wells and related temporary electrical service.

END OF SECTION

SECTION 02310

FINISH GRADING

PART 1 GENERAL

1.01 Section Includes

Topsoil placement, grading of site

1.02 Related Sections

A. Section 02230 - Site Preparation

B. Section 02315 - Excavation and Fill

C. Section 02320 - Trenching, Bedding, and Backfilling

1.03 References

A. American Association of State Highway and Transportation Officials (AASHTO) latest edition:

1. AASHTO T267 – Determination of Organic Matter in Soils by Loss on Ignition

PART 2 PRODUCTS

2.01 Topsoil

A. Topsoil shall be fertile, friable, natural topsoil typical of the area, free from subsoil, stones, plants, roots or other extraneous material and shall not be used while muddy or frozen.

B. Topsoil shall contain not less than 8% organic matter (AASHTO T267). The topsoil shall consist of either natural topsoils typical of the locality and free from coarse stone aggregate or surface soils stripped from the site and enriched with humus at a rate of 8% by volume. The soil mixture prepared by mixing surface soils and humus shall be free of oil, cinders, coarse stone, and woody root material.

PART 3 EXECUTION

3.01 General

Provide all topsoil placement and finish grading and filling to achieve the lines and grades indicated on the Drawings. All earthwork shall be done in a manner that provides drainage.

3.02 Topsoil Placement

Place topsoil in all areas of new grading. The compacted subgrade to receive topsoil shall be scarified to a depth of 3 inches. Topsoil shall be spread evenly and compacted to a thickness of not less than 6 inches, to the proposed elevations and grades. Grade flush with walks, curbs, and paving.

3.03 Finish Grading

A. All areas of the project including all previously grassed areas that have been disturbed, borrow sites, excavated and filled sections and adjacent transition areas shall be uniformly smooth-graded. Depressions from settlement shall be filled and compacted. Tops of embankments and breaks in grade shall be rounded. All surfaces shall be finished to provide adequate drainage. Finished surfaces shall be reasonably smooth, compacted, free from irregular surface changes and comparable to the smoothness obtained by blade-grader operations.

B. Slope grades to drain away from structures at a minimum of ¼-inch per foot for 10 feet.

C. Finished surfaces adjacent to paved or surfaced areas and within 10 feet of structures shall be within 1 inch of the proposed grade. All other areas shall be within 3 inches of the proposed grade.

D. Newly graded areas shall be protected from traffic and erosion. All settlement or washing away that may occur from any cause prior to seeding or acceptance shall be repaired and grades re-established to the required elevations and slopes at no additional cost to the Owner.

E. Unless otherwise indicated, dispose of all surplus material.

END OF SECTION

SECTION 02315

EXCAVATION AND FILL

PART 1 GENERAL

1.01 Section Includes

A. Excavation and fill for roads, ponds, general site work

B. Sheeting, shoring and bracing

C. Compaction

1.02 Related Sections

A. Section 02230 - Site Preparation

B. Section 02240 - Dewatering

C. Section 02310 - Finish Grading

D. Section 02320 - Trenching, Bedding, and Backfilling

E. Section 02370 - Erosion and Sedimentation Control

1.03 References

A. American Association of State Highway and Transportation Officials (AASHTO) latest edition:

1. AASHTO M145 - Classification of Soils and Soil Aggregate Mixtures
2. AASHTO T180 - Moisture-Density Relations of Soils Using a 10-lb Rammer and 18-in Drop

B. American Society for Testing and Materials (ASTM) latest edition:

1. ASTM D1557 - Laboratory Compaction Characteristics of Soil Using Modified Effort
2. ASTM D2487 - Classification of Soils for Engineering Purposes

C. Occupational Safety and Health Administration (OSHA) Regulations, including:

1. Part 1926 Subpart P – Excavations

1.04 Definitions

A. Backfill = material placed in newly excavated areas to the topsoil, paving sub-grade, or foundation level.

B. Influence Area = the area within lines sloped downward at 45 degrees from the outer edges of paving, foundations, and utility lines. As a minimum, the influence area shall extend 5 feet beyond the edge of pavement (where there is no curb) or 5 feet beyond the back of curb.

1.05 Quality Assurance

A. Field density testing frequencies:

1. One test for each 5,000 square feet or fraction thereof per lift of general backfilling, minimum 2 tests each layer.
2. One test per each lift of backfill around and under structures.
3. One test per lift per each change in type of fill.
4. One test per 2,000 square feet of pavement subgrade, minimum of 2 tests.

B. Pond construction shall result in the finished pond having side slopes and dimensions that are in accordance with the construction drawings. It is the Contractor's sole responsibility to ensure that these requirements have been met. If the constructed side slopes are steeper than the required side slopes, or the pond volume is not within three (3) percent of the design volume, the Contactor may be required to make corrections to the pond at no additional cost to the Owner.

C. Sheeting, shoring, and bracing used for the support of excavations over 20 feet deep shall be designed by a professional engineer licensed by the State of Florida.

1.06 Preconstruction Requirements

Precondition surveys and vibration monitoring are required for those areas where residential structures are within 100 feet of the proposed construction.

PART 2 PRODUCTS

2.01 General

It is intended that previously excavated materials conforming to the following requirements be utilized wherever possible.

2.02 Materials

A. Acceptable materials (suitable material): AASHTO M145 classification A-1, A-3, A-2-4, A-2-6; ASTM D2487 classification GW, GP, GM, SM, SW, SP; unless otherwise disapproved within the Soil and Subsurface investigation reports. No more than 12% of acceptable materials shall pass the number 200 sieve.

B. Unacceptable materials (unsuitable material): AASHTO M145 classification A-2-5, A-2-7, A-4, A-5, A-6, A-7, A-8; ASTM D2487 classification GC, SC, ML, MH, CL, CH, OL, OH, PT; unless otherwise approved within the Soil and Subsurface investigation reports.

C. Flowable fill shall be “Excavatable” and shall meet the requirements of FDOT specification section 121, with a maximum 28-day compressive strength of 100 psi and a minimum 28-day compressive strength of 80 psi.

2.03 Sheeting, Shoring, and Bracing

A. The structural strength and safety of all sheeting, shoring and bracing shall be the sole responsibility of the Contractor. Repair any damage resulting from failure to provide adequate supports.

B. Provide timber work, shoring, bracing, sheeting, and sheet piling where necessary to retain banks of excavations, prevent cave-in of adjacent ground, prevent displacement of utilities and structures, and to protect public safety.

C. Contractor is solely responsible for the design, installation, and operation of dewatering systems and their safety and conformity with local codes and regulations.

PART 3 EXECUTION

3.01 General Construction Requirements

A. Provide suitable temporary drainage channels for any water that may flow along or across the work as specified hereafter.

B. Provide barriers, warning lights and other protective devices at all excavations.

C. Sidewalks, roads, streets, and pavements shall not be blocked or obstructed by excavated materials, except as authorized by the Engineer, in which case adequate temporary provisions must be made for satisfactory temporary passage of pedestrians, and vehicles. Minimize inconvenience to public travel or to tenants occupying adjoining property.

D. Where necessary to place excavated material adjacent to buildings, erect barriers to keep earth at least 4 feet from such buildings. Earth deposited on lawns shall be promptly and carefully removed to preserve the turf. All trees, shrubs, and landscaping shall be protected. Boring and jacking shall be used, if necessary, except where written permission is granted to remove trees and shrubs.

E. If open excavations cross existing rigid surfacing, the surfacing shall be removed for a width one foot beyond the anticipated edge of the excavation. The pavement break shall be sawed to insure a straight joint. Surface replacement

shall match existing surfacing except as otherwise indicated on the Drawings. Where open excavation is allowed along or across public roadways, excavation, backfill, and surface replacement shall conform to the requirements of all permits applicable thereto. In no case shall surface replacement edges bear on less than 12" of undisturbed soil.

3.02 Preparation

A. Identify required lines, levels, contours, and datum.

B. Locate and identify existing utilities that are to remain and protect from damage.

C. Notify utility companies to remove or relocate utilities that are in conflict with proposed improvements.

D. Protect plant life, lawns, fences, existing structures, sidewalks, paving, and curbs from excavating equipment and vehicular traffic.

E. Protect benchmarks, property corners, and other survey monuments from damage or displacement. If marker needs to be removed it shall be referenced by licensed land surveyor and replaced, as necessary, by same.

F. Prior to placing fill in low areas, such as previously existing ditches, ponds, or lakes, perform following procedures:

1. Drain water out by gravity with ditch having flow line lower than lowest elevation in low area. If drainage cannot be performed by gravity ditch, use adequate pump to obtain the same results.
2. After drainage of low area is complete, remove mulch, mud, debris, and other unsuitable material by using acceptable equipment and methods that will keep natural soils underlying low area dry and undisturbed.
3. If proposed for fill, muck, mud, and other materials removed from low areas shall be dried on-site by spreading in thin layers for observation by Engineer. Material shall be inspected and, if found to be suitable for use as fill material, shall be incorporated into lowest elevation of site filling operation, but not under building or pavement subgrade or within 10'-0" of perimeter of building subgrade or paving subgrade. If, after observation by Engineer, material is found to be unsuitable, unsuitable material shall be removed from site.

3.03 Sheeting, Shoring, and Bracing

A. Furnish, install, and maintain, without additional compensation, sheeting, bracing, and shoring support required to keep excavations within the easement provided, to support the sides of the excavation, and to prevent any movement which may damage adjacent pavements or structures, damage or delay the work, or endanger life and health. Voids outside the supports shall be immediately filled and compacted.

B. Sheeting, where required, shall be driven below the bottom of excavation so the lowest set of wales and struts are above the bottom of the excavation to allow necessary working room.

C. The Engineer may direct in writing that supports in trenches be cut off at any specified elevation, in which case Contractor shall be paid for the supports left in place.

D. Contractor may leave in place, to be embedded in the backfill of the excavation, any or all supports for the purpose of preventing injury to persons or property, whether public or private. However, no supports which are within 4' of the ground or pavement surface may be left in place without written permission of the Engineer. No extra payment will be made for supports left in place at the Contractor's option.

E. All supports not left in place shall be removed in such manner as to avoid endangering the piping, structures, utilities or property, whether public or private. All voids left by the withdrawal of sheeting shall be immediately filled and compacted.

F. The right of the Engineer to order supports left in place shall not be construed as creating an obligation on his part to issue such orders. Failure by the Engineer to exercise this right shall not relieve the Contractor from total liability for damages to persons or property resulting from the failure of the Contractor to leave in place sufficient supports to prevent any caving or moving of the ground adjacent to the excavation.

3.04 Excavation

A. Do not excavate for any structure until that structure is scheduled for construction. Excavate only to the depth and dimensions necessary for the construction. Slope sides of excavations in accordance with OSHA requirements and the recommendations contained within the project geotechnical report.

B. The bottom of all excavations shall be undisturbed earth unless otherwise indicated, and shall be approved by the Engineer before any subsequent work is started. Over excavate a minimum of 2 feet where excavations occur within unsuitable soils, and replace over excavated material with suitable soils.

C. Excavations carried below depths indicated on the Drawings without the previous approval of the Engineer shall be filled with 2500 psi concrete or flowable fill to the correct level at the expense of the Contractor.

D. Maintain excavations in good order. If the bearing capacity of the foundation soils is reduced because the excavation is allowed to remain open prior to commencing work, the weathered soil shall be removed and replaced with 2500 psi concrete or flowable fill at the Owner’s discretion at the expense of the Contractor.

E. All suitable materials removed from excavation areas shall be used for the project. Excess excavated suitable material shall be stockpiled on site at a location of the Owner's choosing, and shall become the property of the Owner, unless otherwise indicated on the Drawings.

F. Suitable onsite excavated materials containing silty or slightly clayey to clayey fine sands shall be sufficiently dried by surface spreading and discing if necessary, or by mixing with cleaner fine sands prior to placement in fill areas.

G. Unsuitable materials within the influence area of construction shall be excavated, removed from the site, and disposed, unless otherwise indicated on the Drawings.

H. Excavations shall be kept dry, compacted, and stable to a depth two feet below the bottom of the excavation.

I. If portions of the bottom of excavations consist of material unstable to such a degree that, in the opinion of the Engineer, it cannot adequately support the construction, the bottom shall be over excavated and stabilized with approved coarse granular stabilization material. Depth of stabilization shall be as directed by the Engineer. The initial 50 tons of stabilization shall be incidental to the Contract. Compensation will be allowed only for such additional quantities as the Engineer shall direct in writing to be placed.

3.05 Filling

A. All fill material shall be suitable soils or flowable fill. Fill placed within 1 foot of structures shall not contain rock or stone larger than 2 inch diameter. If a sufficient quantity of suitable material is not available from other excavations within the site, provide additional suitable material or flowable fill.

B. Fill within the influence area of roadways, structures, foundations, or slabs, shall be placed in layers of 8 inch loose depth. In all other areas, place fill in layers of 12 inch loose depth.

C. Take necessary precautions not to cause settlement or damage to adjacent slabs, walls, structures, or foundations. Place fill materials evenly adjacent to structures, without wedging against structures.

D. Where filling is required on both sides of structures, fill and compact simultaneously on opposite sides in even layers.

3.06 Compaction

A. Unless otherwise indicated, the type of equipment and number of passes required to obtain the specified degree of compaction shall be determined at the site, subject to the approval of the Engineer.

B. Provide mechanical compaction for cohesive material and vibratory compaction for granular materials, unless otherwise approved by the Engineer. Vibratory compaction is not allowed within 100 feet of existing structures. In these areas, compaction shall be accomplished by static means only. If compaction difficulties arise, the Engineer shall be consulted to review and possibly modify compaction procedures.

C. Noncohesive soils shall be compacted with vibrating roller or equivalent; cohesive soils shall be compacted with sheeps-foot roller, pneumatic tamping, or approved equivalent, unless otherwise indicated.

D. Before compaction, moisten or aerate each layer as necessary to provide optimum moisture content. Do not place backfill or fill material on surfaces that are muddy, frozen, or contain frost or ice.

3.07 Testing and Cleanup

A. Provide for testing and cleanup as soon as practicable, so these operations do not lag far behind pipe installation. Perform preliminary cleanup and grading operations immediately after backfilling.

B. All surplus excavated material shall be disposed of by the Contractor.

3.08 Field Quality Control

A. Minimum Density Requirement (ASTM D1557 or AASHTO T180):

1. Fill placed under and within the influence area of roadways, structures, slabs, foundations = 98 percent
2. Fill placed within pond and road embankment = 95 percent
3. Fill placed within public road right-of-way and utility easements outside the road influence area = 95 percent
4. Fill placed within landscape areas = 85 percent
5. Fill placed within all other areas = 90 percent

Where fill is placed and differing density requirements are defined, the more stringent density requirement governs.

END OF SECTION

SECTION 02320

TRENCHING, BEDDING, AND BACKFILLING

PART 1 GENERAL

1.01 Section Includes

A. Trenching for piping and electrical work.

B. Excavation for manholes, junction boxes, meter vaults, and appurtenances.

C. Sheeting, shoring and bracing

D. Bedding, backfilling, and compaction.

1.02 Related Sections

A. Section 02230 - Site Preparation

B. Section 02240 - Dewatering

C. Section 02310 - Finish Grading

D. Section 02315 - Excavation and Fill

E. Section 02370 - Erosion and Sedimentation Control

1.03 References

A. American Association of State Highway and Transportation Officials (AASHTO) latest edition:

1. AASHTO M145 - Classification of Soils and Soil Aggregate Mixtures
2. AASHTO T180 - Moisture-Density Relations of Soils Using a 10-lb Rammer and 18-in Drop

B. American Society for Testing and Materials (ASTM) latest edition:

1. ASTM D1557 - Laboratory Compaction Characteristics of Soil Using Modified Effort
2. ASTM D2487 - Classification of Soils for Engineering Purposes

C. Occupational Safety and Health Administration (OSHA) Regulations, including:

1. Part 1926 Subpart P – Excavations

1.04 Definitions

A. Bedding = Area from bottom of trench to centerline of pipe

B. Backfill = material above the top of pipe to the topsoil, paving sub-grade, or foundation level.

C. Influence Area = the area within lines sloped downward at 45 degrees from the outer edges of paving, foundations, and utility lines. As a minimum, the influence area shall extend 5 feet beyond the edge of pavement (where there is no curb) or 5 feet beyond the back of curb.

1.05 Quality Assurance

A. Field density testing frequencies:

1. One test for each 150 linear feet of pipeline or fraction thereof per lift of general backfilling in the pipeline trench. Where less than 150 linear feet of pipeline is installed, one test per lift of backfill is required, staggered along the pipeline at locations determined by the Engineer
2. One test for each 100 square feet or fraction thereof of backfill around and under structures, with a minimum of two tests per lift.
3. One test per lift per each change in type of fill.

B. Sheeting, shoring, and bracing used for the support of excavations over 20 feet deep shall be designed by a professional engineer licensed by the State of Florida.

1.06 Preconstruction Requirements

Precondition surveys and vibration monitoring are required for those areas where residential structures are within 100 feet of the proposed construction.

PART 2 PRODUCTS

2.01 General

It is intended that previously excavated materials conforming to the following requirements be utilized wherever possible.

2.02 Materials

A. Acceptable materials (suitable material): AASHTO M145 classification A-1, A-3, A-2-4, A-2-6; ASTM D2487 classification GW, GP, GM, SM, SW, SP; unless otherwise disapproved within the Soil and Subsurface investigation reports. No more than 12 percent of acceptable materials shall pass the number 200 sieve.

B. Unacceptable materials (unsuitable material): AASHTO M145 classification A-2-5, A-2-7, A-4, A-5, A-6, A-7, A-8; ASTM D2487 classification GC, SC, ML, MH,

CL, CH, OL, OH, PT; unless otherwise approved within the Soil and Subsurface investigation reports.

C. Flowable fill shall be “Excavatable” and shall meet the requirements of FDOT specification section 121, with a maximum 28-day compressive strength of 100 psi and a minimum 28-day compressive strength of 80 psi.

2.03 Sheeting, Shoring, and Bracing

A. The structural strength and safety of all sheeting, shoring and bracing shall be the sole responsibility of the Contractor. Repair any damage resulting from failure to provide adequate supports.

B. Provide timber-work, shoring, bracing, sheeting, and sheet piling where necessary to retain banks of excavations, prevent cave-in of adjacent ground, prevent displacement of utilities and structures, and to protect public safety.

C. Contractor is solely responsible for the design, installation, and operation of dewatering systems and their safety and conformity with local codes and regulations.

PART 3 EXECUTION

3.01 General Construction Requirements

A. Provide suitable temporary drainage channels for any water that may flow along or across the work as specified hereafter.

B. Provide barriers, warning lights and other protective devices at all excavations.

C. Sidewalks, roads, streets, and pavements shall not be blocked or obstructed by excavated materials, except as authorized by the Engineer, in which case adequate temporary provisions must be made for satisfactory temporary passage of pedestrians, and vehicles. Minimize inconvenience to public travel or to tenants occupying adjoining property.

D. Where necessary to place excavated material adjacent to buildings, erect barriers to keep earth at least 4 feet from such buildings. Earth deposited on lawns shall be promptly and carefully removed to preserve the turf. All trees, shrubs, and landscaping shall be protected. Boring and jacking shall be used, if necessary, except where written permission is granted to remove trees and shrubs.

E. If open excavations cross existing rigid surfacing, the surfacing shall be removed for a width one foot beyond the anticipated edge of the excavation. The pavement break shall be sawed to insure a straight joint. Surface replacement shall match existing surfacing except as otherwise indicated on the Drawings. Where open excavation is allowed along or across public roadways, excavation, backfill, and surface replacement shall conform to the requirements of all permits

applicable thereto. In no case shall surface replacement edges bear on less than 12 inches of undisturbed soil.

3.02 Preparation

A. Identify required lines, levels, contours, and datum.

B. Locate and identify existing utilities that are to remain and protect from damage.

C. Notify utility companies to remove or relocate utilities that are in conflict with proposed improvements.

D. Protect plant life, lawns, fences, existing structures, sidewalks, paving, and curbs from excavating equipment and vehicular traffic.

E. Protect benchmarks, property corners, and other survey monuments from damage or displacement. If marker needs to be removed it shall be referenced by licensed land surveyor and replaced, as necessary, by same.

3.03 Sheeting, Shoring, and Bracing

A. Furnish, install, and maintain, without additional compensation, sheeting, bracing, and shoring support required to keep excavations within the easement provided, to support the sides of the excavation, and to prevent any movement which may damage adjacent pavements or structures, damage or delay the work, or endanger life and health. Voids outside the supports shall be immediately filled and compacted.

B. Sheeting, where required, shall be driven below the bottom of excavation so the lowest set of wales and struts are above the bottom of the excavation to allow necessary working room.

C. The Engineer may direct in writing that supports in trenches be cut off at any specified elevation, in which case Contractor shall be paid for the supports left in place.

D. Contractor may leave in place, to be embedded in the backfill of the excavation, any or all supports for the purpose of preventing injury to persons or property, whether public or private. However, no supports which are within 4 feet of the ground or pavement surface may be left in place without written permission of the Engineer. No extra payment will be made for supports left in place at the Contractor's option.

E. All supports not left in place shall be removed in such manner as to avoid endangering the piping, structures, utilities or property, whether public or private. All voids left by the withdrawal of sheeting shall be immediately filled and compacted.

F. The right of the Engineer to order supports left in place shall not be construed as creating an obligation on his part to issue such orders. Failure by the Engineer to exercise this right shall not relieve the Contractor from total liability for damages to persons or property resulting from the failure of the Contractor to leave in place sufficient supports to prevent any caving or moving of the ground adjacent to the excavation.

3.04 Trenching

A. All excavations shall be made by open cut unless otherwise indicated. Sides of trenches shall be kept as nearly vertical as possible from the trench bottom to a level of one foot above the top of the pipe. Slope sides of trenches in accordance with OSHA requirements and the recommendations contained within the project geotechnical report.

B. Excavation of trenches shall not advance more than 50 feet ahead of completed pipe installation except as approved by the Engineer.

C. Excavate trenches to depth indicated or required for indicated flow lines and invert elevations. Over excavate trenches a minimum of 2 feet where excavations occur within unsuitable soils, and replace over excavated material with suitable soils.

D. Where rock is encountered, carry excavation 6 inches below scheduled elevation and backfill with a 6 inch layer of crushed stone or gravel prior to installation of pipe.

E. For pipes or conduit 5 inches or less, excavate to indicated depths. Hand excavate bottom cut to accurate elevations and support pipe or conduit on undisturbed soil.

F. For pipes or conduit 6 inches or larger, and other work indicated to receive subbase, excavate to subbase depth indicated, or, if not otherwise indicated, to 6 inches below bottom of work to be supported.

G. Except as otherwise indicated, excavate for pressure piping so top of piping is minimum 3 feet below finished grade.

H. Unsuitable excavated materials shall be removed from the site and disposed, unless otherwise indicated on the Drawings.

I. Grade bottoms of trenches as indicated, notching under pipe bells to provide solid bearing for entire body of pipe.

J. Trench bottoms shall be kept dry, compacted, and stable to a depth two feet below the bottom of the trench.

K. Dig trenches to the uniform width required for particular item to be installed, sufficiently wide to provide ample working room. Provide 9 -12 inch clearance on each side of pipe or conduit.

L. If more than one pipe is to be installed in a trench, the pipes shall be spaced a minimum of one foot apart for pipes 4 inches and larger.

M. If portions of the bottom of trenches consist of material unstable to such a degree that, in the opinion of the Engineer, it cannot adequately support the pipe or structure, the bottom shall be over excavated and stabilized with approved coarse granular stabilization material. Depth of stabilization shall be as directed by the Engineer. The initial 50 tons of stabilization shall be incidental to the Contract. Compensation will be allowed only for such additional quantities as the Engineer shall direct in writing to be placed.

N. Do not backfill trenches until tests and inspections have been made.

3.05 Trench Backfilling

A. Following placement of pipe and inspection of joints, install tamped bedding material. Place bedding fill materials in layers of 6 inch loose depth.

B. All bedding and backfill material shall be suitable soils or flowable fill. Backfill material within 1 foot of pipe and appurtenances shall not contain rock or stone larger than 2 inch diameter. If a sufficient quantity of suitable material is not available from the trench or other excavations within the site, provide additional suitable material or flowable fill.

C. After completion of bedding and preliminary approval of piping and testing, the pipe shall be covered to a point one foot above the top of the pipe for the full trench width, placed in layers of 8 inch loose depth.

D. Place backfill over pipe. Where trench is within the influence area of roadways, structures, foundations, or slabs, place backfill in layers of 8 inch loose depth. In all other areas, place backfill in layers of 12 inch loose depth.

E. Take necessary precautions not to cause settlement or damage to adjacent slabs, walls, structures, or foundations. Place backfill and fill materials evenly adjacent to structures, without wedging against structures or displacement of piping or conduit.

3.06 Minor Structural Excavation and Backfilling

A. Minor structures are defined as manholes, junction boxes, inlets, valve vaults, and meter vaults. Do not excavate for any structure until that structure is scheduled for construction. Excavate only to the depth and dimensions necessary for the construction.

B. The bottom of all excavations shall be undisturbed earth unless otherwise indicated, and shall be approved by the Engineer before any subsequent work is started. Over excavate a minimum of 2 feet where excavations occur within unsuitable soils, and replace over excavated material with suitable soils.

C. Excavations carried below depths indicated on the Drawings without the previous approval of the Engineer shall be filled with 2500 psi concrete or flowable fill at the Owner's discretion to the correct level at the expense of the Contractor.

D. Maintain excavations in good order. If the bearing capacity of the foundation soils is reduced because the excavation is allowed to remain open prior to commencing work, the weathered soil shall be removed and replaced with 2500 psi concrete or flowable fill at the Owner's discretion at the expense of the Contractor.

E. Do not backfill until new concrete has properly cured, coatings have been approved, and any required tests have been accepted.

F. Fill within the influence area of roadways, structures, foundations, or slabs, shall be placed in layers of 8 inch loose depth. In all other areas, place fill in layers of 12 inch loose depth.

G. Exercise care during backfilling operations to avoid any puncture, break or other damage to waterproofing systems, if any. Backfill adjacent to waterproofing in the presence of the Engineer.

H. Where backfilling is required on both sides of structures, backfill and compact simultaneously on opposite sides in even layers. Other backfilling sequences shall be as specifically noted.

3.07 Compaction

A. Unless otherwise indicated, the type of equipment and number of passes required to obtain the specified degree of compaction shall be determined at the site, subject to the approval of the Engineer.

B. Provide mechanical compaction for cohesive material and vibratory compaction for granular materials, unless otherwise approved by the Engineer. Vibratory compaction is not allowed within 100 feet of existing structures. In these areas, compaction shall be accomplished by static means only. If compaction difficulties arise, the Engineer shall be consulted to review and possibly modify compaction procedures.

C. Noncohesive soils shall be compacted with vibrating roller or equivalent; cohesive soils shall be compacted with sheeps-foot roller, pneumatic tamping, or approved equivalent, unless otherwise indicated.

D. Before compaction, moisten or aerate each layer as necessary to provide optimum moisture content. Do not place backfill or fill material on surfaces that are muddy, frozen, or contain frost or ice.

3.08 Testing and Cleanup

A. Provide for testing and cleanup as soon as practicable, so these operations do not lag far behind pipe installation. Perform preliminary cleanup and grading operations immediately after backfilling.

B. All surplus excavated material shall be disposed of by the Contractor.

3.09 Field Quality Control

A. Minimum Density Requirement (ASTM D1557 or AASHTO T180):

1. Backfill placed under and within the influence area of roadways, structures, slabs, foundations = 98 percent
2. Backfill placed within pond and road embankment = 95 percent
3. Backfill placed within public road right-of-way and utility easements outside the road influence area = 95 percent
4. Backfill placed within landscape areas = 85 percent
5. Backfill placed within all other areas = 90 percent

Where backfill is placed and differing density requirements are defined, the more stringent density requirement governs.

END OF SECTION

SECTION 02370

EROSION AND SEDIMENTATION CONTROL

PART 1 GENERAL

1.01 Section Includes

Designing, providing, maintaining, removing temporary erosion and sedimentation controls.

1.02 Related Sections

A. Section 01415 - Stormwater Pollution Prevention / NPDES Requirements

B. Section 02230 - Site Preparation

C. Section 02240 - Dewatering

D. Section 02315 - Excavation and Fill

E. Section 02320 - Trenching, Bedding, and Backfilling

1.03 References

A. Florida Department of Transportation (FDOT) Standard Specifications for Road and Bridge Construction, latest edition:

1. Specification 104 - Prevention, Control, and Abatement of Erosion and Water Pollution
2. Specification 300 - Prime and Tack Coats for Base Courses
3. Specification 985 - Geotextile Fabrics

1.04 Owner's Instructions / Sequencing

A. Owner has authority to limit surface area of erodible earth material exposed by clearing and grubbing, excavation, trenching, borrow and embankment operations. Owner also has authority to direct Contractor to provide immediate permanent or temporary erosion and sediment control measures.

B. Contractor shall respond to erosion and sediment control maintenance requirements or implement additional measures to control erosion ordered by Owner or governing authorities within 48 hours or sooner if required at no additional cost to the Owner.

C. Contractor will be required to incorporate permanent erosion control features into project at earliest practical time to minimize need for temporary controls.

PART 2 PRODUCTS

2.01 Erosion Control

A. Seeding and Mulching

B. Sodding

C. Hydro-seeding

D. Coarse Aggregate

E. Prime Coat - Per FDOT Specification 300

2.02 Sedimentation Control

A. Silt Fence - Per FDOT Index No. 102

B. Floating Turbidity Barriers - Per FDOT Index No. 103

PART 3 EXECUTION

3.01 Erosion Control

A. Maintain temporary erosion control systems as directed by Owner or governing authorities to control erosion and siltation during life of contract.

B. The erosion and sediment control measures shown on the plans represent a minimum requirement. The Contractor is responsible for determining additional erosion and sediment control measures needed in order to prevent the transfer of sediment from the project area and prevent the erosion of surfaces during construction, as needed to protect adjacent properties and water bodies.

C. Permanently grass cut slopes as excavation proceeds to extent considered desirable and practical as determined by the Owner.

D. Grass all disturbed areas within 7 days of initial disturbance. Type of grassing shall be as follows: temporary grassing to be sodding at all drainage structures, retention areas, swales and ditches, and where slopes are steeper than 5:1. Temporary grassing can be seed and mulch at all other locations unless otherwise indicated in the drawings or specifications.

E. Erosion control of areas to be paved shall meet the following:

1. Install subgrade and base course materials within 48 hours of the removal/open cutting of existing pavement consisting of streets, driveways, or sidewalk. Install final surface courses within 14 days after removal of existing pavement.

2. Areas to receive asphalt shall receive erosion control measures no later than 48 hours after installation of base course. Temporary erosion control consists of placement of a bituminous prime coat and sanding the surface. Permanent erosion control consists of placement of the structural course.
3. Areas to receive concrete paving shall be either protected with a layer of FDOT coarse aggregate material or shall be paved within 48 hours of installation of the subgrade.

F. Dirt roads are to be stabilized and compacted within 7 days of the completion of trenching and grading activities.

3.02 Sedimentation Control

A. Install prior to construction.

B. Inspect every two weeks during construction.

C. Remove any sediment build-up.

D. Repair and reinstall any damaged or missing sediment control measures. Install additional measures if inspection reveals additional sedimentation control is necessary.

E. Rough excavate and grade any proposed stormwater ponds at the start of site grading activities. Direct site runoff to the ponds to minimize runoff to offsite areas.

END OF SECTION

SECTION 02510

WATER DISTRIBUTION SYSTEMS

PART 1 GENERAL

1.01 Section Includes

A. Piping, fittings, valves, and hydrants for public drinking water distribution systems

B. Testing and disinfection

1.02 Related Sections

A. Section 02320 - Trenching, Bedding and Backfilling

B. Section 02955 - Cleaning and Flushing Of Underground Piping

1.03 References

A. American Water Works Association (AWWA) and American National Standards Institute (ANSI) latest edition:

1. ANSI/AWWA C104/A21.4 - Cement Mortar Lining for Ductile Iron Pipe and Fittings for Water
2. ANSI/AWWA C105/A21.5 - Polyethylene Encasement for Ductile Iron Pipe Systems
3. ANSI/AWWA C110/A21.10 - Ductile Iron and Gray Iron Fittings, 3 Inch Through 48 Inch, for Water
4. ANSI/AWWA C111/A21.11 - Rubber Gasket Joints for Ductile Iron Pressure Pipe and Fittings
5. ANSI/AWWA C115/A21.15 - Flanged Ductile Iron Pipe with Ductile Iron or Gray Iron Threaded Fittings
6. ANSI/AWWA C150/A21.50 - Thickness Design of Ductile Iron Pipe
7. ANSI/AWWA C151/A21.51 - Ductile Iron Pipe, Centrifugally Cast, for Water
8. ANSI/AWWA C153/A21.53 - Compact Ductile Iron Fittings for Water Service
9. AWWA C502 - Dry Barrel Fire Hydrants
10. AWWA C504 - Rubber Seated Butterfly Valves
11. AWWA C508 - Swing Check Valves for Waterworks Service, 2 Inch Through 24 inch
12. AWWA C509 - Resilient Seated Gate Valves for Water Supply Service
13. AWWA C515 - Reduced-Wall, Resilient-Seated Gate Valves for Water Supply Service
14. AWWA C518 - Dual Disc Swing Check Valves for Waterworks Service
15. AWWA C550 - Protective Epoxy Interior Coatings for Valves and Hydrants

16. AWWA C600 - Installation of Ductile Iron Water Mains and Their Appurtenances
17. AWWA C605 - Underground Installation of PVC Pipe and Fittings for Water
18. AWWA C651 - Disinfecting Water Mains
19. AWWA C800 - Underground Service Line Valves and Fittings
20. AWWA C900 - PVC Pressure Pipe, and Fabricated Fittings, 4 Inch Through 12 Inch, for Water Distribution
21. AWWA C901 - Polyethylene Pressure Pipe and Tubing, ½ Inch Through 3 Inch for Water Service
22. AWWA C905 - PVC Pressure Pipe and Fabricated Fittings, 14 Inch Through 48 Inch
23. AWWA C906 - Polyethylene Pressure Pipe and Fittings, 4 Inch Through 63 Inch for Water Distribution and Transmission
24. AWWA M23 - PVC Pipe Design and Installation Manual

B. American Society for Testing and Materials (ASTM) latest edition:

1. ASTM A307 - Carbon Steel Bolts and Studs
2. ASTM A536 - Ductile Iron Castings
3. ASTM D1784 - Rigid PVC Compounds and CPVC Compounds
4. ASTM D2000 - Classification System for Rubber Products in Automotive Applications
5. ASTM F1674 - Test Method for Joint Restraint Products for Use with PVC Pipe
6. ASTM F2164 - Field Leak Testing of Polyethylene (PE) Pressure Piping Systems Using Hydrostatic Pressure

1.04 Submittals

A. Product data for gaskets, pipe, joints, joint restraint, fittings, valves, coatings.

B. Product data for all locate wire, tape, markers, warning tape

C. Submit certification documenting that all pipe and fittings used to convey potable water shall conform to one of the following standards:

1. NSF International Standard 61 (Drinking Water System Components);
2. Section 6 of NSF International Standard 14 (Plastics Piping System Components and Related Materials); or
3. Food and Drug Administration’s Regulations for indirect food additives as contained in 21 CFR Parts 174 through 189.

D. Piping specialties and installation details.

E. Product data and painting schedule for field applied paint and coatings.

F. Final coat paint colors.

G. Proposed sequence of operation for disinfection and testing, manner of filling and flushing units, source and quality of water to be used, and proposed discharge locations.

1.05 Quality Assurance

A. Chlorination and dechlorination shall be performed by competent individuals knowledgeable and experienced in the operation of the necessary application and safety equipment in accordance with applicable Federal, State and Local laws and regulations.

B. Samples of water shall be collected and tested by a State Certified Testing Laboratory.

C. The contractor installing the underground fire protection piping shall hold a class I, II, or V level certification as issued by the State of Florida, as required by FS 633.021(15).

1.06 Product Delivery, Storage, and Handling

Exercise care in transporting and handling pipe and fittings in order to avoid damage to materials or coatings. Lifting shall be by hoist or on skids when hand lifting is not feasible. Dropping shall not be permitted. Store pipe as recommended by the manufacturer. Damaged pipe and fittings shall be replaced.

PART 2 PRODUCTS

2.01 Ductile Iron Pipe

A. Buried pipe shall conform with ANSI/AWWA C150/A21.50 and C151/ A21.51, and shall have a minimum working pressure of 150 psi. Buried pipe shall comply with the following pressure class (PC) designations unless otherwise indicated on the Drawings:

1. 12 inch diameter and smaller = PC 350
2. 14 inch through 24 inch diameter = PC 250
3. 30 inch through 64 inch diameter = PC 200

B. Exposed pipe 4 inches and larger shall be flanged and shall conform with AWWA/ANSI C115/A21.15, and shall have a minimum working pressure of 150 psi. Flanged pipe shall comply with the following thickness class (TC) designations unless otherwise indicated on the Drawings:

1. 4 inch diameter = TC 54
2. 6 inch through 24 inch diameter = TC 53

C. All flanges shall be class 125, and shall be fully machine faced after being screwed tightly on the pipe. Bolts and nut shall conform to ASTM A307, Grade B.

2.02 Fittings for Ductile Iron and PVC Pipe

A. Fittings shall be manufactured of ductile iron, conforming to ANSI/AWWA C110/A21.10 or ANSI/AWWA C153/A21.53.

B. All full body (C110/A21.10) fittings shall be pressure rated to 250 psi, minimum. All compact fittings (C153/A21.53) shall be pressure rated to 350 psi, minimum.

C. Fitting joints shall be compatible with the type of pipe in use or specified, e.g., flange fittings for flange pipe and mechanical joint for mechanical joint pipe and push-on joint pipe.

2.03 Linings and Coatings for Ductile Iron Pipe and Fittings

A. Interior lining shall be standard thickness cement mortar lining and bituminous seal coat, conforming to ANSI/AWWA C104/A21.4.

B. Exterior coating for buried pipe and fittings shall be a petroleum asphaltic coating in accordance with ANSI/AWWA C110/A21.10.

C. All exposed pipe and fittings shall be painted with a three coat system. The first coat shall be primer, 2.5-3.5 mil Dry Film Thickness (DFT) Tnemec Series 135 ChemBuild or approved equal; the intermediate coat shall be 4.0-10.0 mil DFT Tnemec Color Hi-Build Epoxoline II Series N69 or approved equal, and the final coat shall be 2.0-3.0 mil DFT Tnemec EnduraShield Series 73 or approved equal. The final coat paint color shall be as selected by the local utility.

2.04 Joints for Ductile Iron Pipe and Fittings

A. Mechanical and push-on joints shall be rubber gasketed, conforming to ANSI/AWWA C111/A21.11. Mechanical joint bolts and nuts shall conform to ASTM A307, Grade B. Ductile iron glands shall be provided with ductile iron pipe.

B. Lubricants other than that furnished by the pipe manufacturer with the pipe shall not be used.

2.05 Restrained Joints for Ductile Iron Pipe and Fittings

A. Restrained joints for ductile iron pipe bell joints shall be American Fast Grip Gasket, McWane Sure Grip 350 Gasket, U.S. Pipe Field Lok 350 Gasket, or EBAA Iron Mega Lug Series 1100HD.

B. Restrained joints for ductile iron pipe and fitting mechanical joints shall be EBAA Iron Mega Lug Series 1100, Star Grip Series 3000, or Tyler Union Tuf-Grip Series TLD.

C. Locking bell joint restraint shall be American Flex Ring Joint, American Lok-Ring Joint, or U.S. Pipe TR-Flex.

D. Pipe joints shall be restrained upstream and downstream of fittings in accordance with the manufacturer's requirements or the table shown in the Drawings, whichever is greater.

2.06 PVC Pressure Pipe

A. Pipe 4 inch through 12 inch diameter shall conform to AWWA C900.

B. Pipe 14 inch through 30 inch diameter shall conform to AWWA C905.

C. Pipe shall conform to ASTM D1784, Type I, Grade I, 4000 psi design stress, and shall be National Sanitation Federation (NSF) approved.

D. Water main pipe shall be class 235 (DR18), fire mains shall be class 305 (DR 14). All pipe shall contain markings on each section showing conformance to the above specifications.

E. PVC pipes shall be color coded blue and stenciled (0.75-inch lettering on the pipe in at least three areas per pipe section) "Potable Water Main".

2.07 PVC Pressure Pipe Joints

A. Joints shall be rubber gasketed conforming to AWWA C900 or C905

B. The bell shall be integral with the pipe and of equal or greater pressure rating. The bell of pipe and fittings using push-on joints shall have an integral groove to retain the gasket in place.

C. Provide adapters as required to join PVC pipe to pipe, fittings and equipment of other materials.

2.08 Restrained Joints for PVC Pressure Pipe

A. Restrained joints for PVC pipe mechanical joints shall be Tyler Union Series 2000 Tuf Grip TLP, JCM Sur-Grip Bell Restrainer, Ford Uni-Flange Series 1500 Circle Lock, or EBAA Iron Mega Lug Series 2000PV.

B. Restrained joints for PVC pipe push on joints shall be EBAA Iron Mega Lug Series 1500 or Series 1600 (C900 PVC), Series 2800 (C905 PVC), Ford Uni-Flange Series 1390, or Smith-Blair Bell-Lok Series 165.

C. Pipe joints shall be restrained upstream and downstream of fittings in accordance with the manufacturer's requirements or the table shown in the Drawings, whichever is greater.

2.09 Polyethylene Pipe and Fittings (4 Inches and Larger)

A. Polyethylene pipe and fittings shall be in accordance with AWWA C906, standard code designation standard code designation PE 3408. Pipe 4-30 inch diameter shall be DR11, PC 160. The manufacturer shall certify that the materials used to manufacture pipe and fittings meet these requirements. The pipe sizing shall be in accordance with Ductile Iron Sizing System (DIOD). Pipe using the newer ASTM designations for the material is acceptable, provided it is stamped "PE3408/PE4710 - AWWA C906" or "PE3408/PE3608/PE4710 - AWWA C906".

B. Polyethylene mechanical joint adapters and flange adapters shall be manufactured in accordance with AWWA C906. Mechanical joint adapters shall be fitted with gland rings pressure rated equal to or greater than the mating pipe, and shall be made with sufficient through-bore length to be clamped in a heat fusion joining machine without the use of sub-end holder. The sealing surface of the flange adapter shall be machined with a series of small v-shaped grooves to provide gastketless sealing, or to restrain the gasket against blow-out.

C. Below grade HDPE pipe terminations shall be fitted with a mechanical joint adapter kit that will enable the HDPE pipe to be joined with mechanical joint fittings. The adapter shall be AWWA compliant, and the pressure rating for the adapter shall match the pressure rating for the HDPE pipe. Mechanical Joint adapter kits shall be manufactured in standard DIPS sizes for connecting DIPS sized polyethylene pipe to mechanical joint fittings and shall contain a HDPE anchor fitting, stainless steel reinforcing collar, AWWA C110 ductile iron gland ring, gasket and extra length T-bolts.

D. Back-Up Rings and Flange Bolts. Flange adapters shall be fitted with lap joint flanges pressure rated equal to or greater than the mating pipe. The lap joint flange bore shall be chamfered or radiused to provide clearance to the flange adapter radius. Flange bolts and nuts shall be grade 2 or higher.

E. All polyethylene pipe shall be black, and shall contain a continuous blue colored stripe, 2 inches wide, located at no greater than 90 degree intervals around the pipe.

2.10 Polyethylene (PE) Pressure Pipe and Tubing, Joints and Fittings (½ Inch through 3 inch)

A. Polyethylene pipe and tubing used for service lines ½-3 inch diameter shall be blue polyethylene in accordance with AWWA C901, standard code designation PE 4710, SDR 9 (outside diameter based dimension ratio), 250 psi. Pipe and fittings shall be NSF approved for the usage to which they are to be applied.

B. Joints in SDR-PR PE pipe shall be butt heat fusion or socket heat fusion type.

C. Fittings shall be manufactured of the same material as the pipe and shall be of the same DR.

D. Provide adapters as required to join PE pipe-to-pipe, fittings and equipment of other materials.

2.11 Service Saddles

Service saddles shall meet the requirements of AWWA C800 and shall consist of epoxy coated ductile iron bodies in accordance with ASTM A536, with double stainless steel straps, bolts, washers and nuts. Stainless steel shall be Type 304, and nuts are to be Teflon coated. The ductile iron body is to be fusion bonded nylon coated, minimum thickness 12 mils, outlet of saddle is to have NPT threads. Service saddles shall be manufactured by Ford, Mueller, or Smith-Blair.

2.12 Tapping Sleeves

Tapping sleeves are to be 18-8 type 304 stainless steel and stainless steel outlet, as manufactured by JCM or approved equal.

2.13 Polyethylene Encasement

A. Provide virgin polyethylene encasement in conformance with AWWA C105/A21.5. Polyethylene to be Type I, Grade E-1, 0.4 maximum flow rate, 1200 psi minimum tensile strength, 300 percent minimum elongation, 800 volt/mil thickness minimum dielectric strength.

B. Polyethylene material shall have a minimum nominal thickness of .008 inch (8 mils). The minus tolerance on thickness shall not exceed 10 percent of the nominal thickness.

2.14 General Valve Requirements

A. Unless otherwise indicated or specified, all valves two inches and smaller shall be all brass or bronze; valves over two inches shall be iron body, fully bronze or bronze mounted.

B. Where required for satisfactory operation of valves, provide valve operators, extension stems, stem guides, cast iron valve boxes, floor boxes, handwheels, operator stands, position indicators, and other valve appurtenances. Extension stems shall be complete with guide bearings, wrench nut, and tee handle wrench. All machinery stuffing boxes shall be packed with material selected for the service intended. Maintain all packing until final acceptance by the Owner.

C. Manufacturer's name, service, and pressure marking shall be cast into the body.

D. Valve operators shall be sized for operation at the pressure and flow conditions required for proper operation.

E. Extension stems shall be provided for all valves in buried locations and in other locations where indicated on the Drawings.

F. Extension stems shall be fabricated from solid steel shafting not smaller in diameter than the stem of the valve or from galvanized steel pipe having an

internal diameter not smaller than the diameter of the valve stem. Stem couplings shall be both threaded and keyed to the coupled stems and shall be of standard design and construction. Pipe couplings will not be acceptable.

G. Stems for buried valves shall extend to within 6 inches of the surface of the ground. Each extension stem shall be connected to the valve operator with a suitable universal joint type coupling. All connections shall be pinned. Each extension stem shall be provided with spacers which will center the stem in a valve box having an inside diameter of approximately 5 inches, and shall be equipped with a standard AWWA wrench nut as described in AWWA C500, except where handwheels are indicated.

2.15 Linings and Coatings for Valves

A. Exterior coating on buried valves shall be rust inhibiting epoxy primer, followed by a coal tar epoxy, total minimum dry film thickness of 16 mils, applied at the factory. Exterior coating of exposed valves shall be factory applied rust inhibiting epoxy primer, minimum 3 mils dry film thickness.

B. After installation, exterior surfaces shall be painted with a two coat system. The first coat (intermediate coat) shall be 4.0-10.0 mil DFT Tnemec Color Hi-Build Epoxoline II Series N69 or approved equal, and the final coat shall be 2.0-3.0 mil DFT Tnemec EnduraShield Series 73 or approved equal. The final coat paint color shall be as selected by the local utility.

C. The interior of valves with a cast iron or ductile iron body shall be coated with an epoxy protective coating meeting NSF International Standard 61 and AWWA C550.

2.16 Gate Valves

A. Gate valves 3 inches and larger shall be resilient wedge gate valves, conforming to AWWA C509 or AWWA C515. The valves shall be iron body, cast iron fully encapsulated molded rubber wedge complying with ASTM D2000, non-rising stem with O-ring seals. Valves shall open counterclockwise. Resilient wedge to be US Food and Drug Administration approved for potable water and have an EPDM visible marking.

B. Valves shall have an unobstructed waterway equal to or greater than the full nominal diameter of the valve.

C. All valves will have 250 psig working pressure and a 500 psi static test pressure. The valves shall be non-rising stems and the stem material shall be 18-8 stainless steel, Type 304, ANSI 420/ASTM A276 with no measurable level of lead content. Valves shall have two upper o-ring seals on the stem above the thrust collar and at least one o-ring seal below the collar so designed to allow for replacement of the upper o-rings with the valve under full operating pressure. Valves shall have thrust washers located above and below the thrust collar to insure a smooth frictionless operation.

D. All valves shall have a 2 inch ductile iron wrench nut with direction of valve operation clearly visible when looking down on the nut. Hold down nut or bolt shall be Type 316 stainless steel. All exterior bonnet and thrust collar fasteners, whether recessed or exposed, are to be Type 316 Stainless Steel and marked by type.

E. The waterway seat area will be smooth without ridges or cavities and valves will have full size bore throughout the flow-way. All valves will be hydrostatically pressure tested prior to shipment in accordance with AWWA C509 and are to be covered by the manufacturers Ten Year Limited Warranty from date of purchase by the end user.

F. The resilient sealing mechanism shall provide zero leakage at test and normal working pressure when installed with the line flow from either direction.

G. Gate valves larger than 12 inches shall be resilient seated and shall include either spur gear actuators (for valves to be installed in a vertical position) or bevel gear and side actuators (for valves to be installed in a horizontal position).

H. Standard gate valves 2½ inches and smaller shall be Class 150 bronze gate valves by Powell Valves or approved equal.

I. Gate valves 3”-12” shall be American Flow Control Series 2500, Clow Series F-6100, or Mueller Series A-2360.

J. Gate Valves large than 12 inches shall be American Flow Control Series 2500 or Mueller Series A-2361.

2.17 Tapping Valves

Tapping valves shall be resilient seated gate valves and shall conform to the requirements of AWWA C509. Tapping Valves shall be American Flow Control Series 2500, Clow Series F-6100, or Mueller Series A2361.

2.18 Butterfly Valves

A. Butterfly valves shall meet or exceed the design strength, testing and performance requirements of AWWA C504, Class 150.

B. Valve body shall be mechanical joint end type valve constructed of cast iron or ductile iron.

C. Disc shall be one piece cast design with no external ribs transverse to flow. Disc shall be cast iron or ductile iron.

D. The resilient seat shall mate with a 304 or 316 stainless steel surface.

E. Valve seats for valves 14 inch diameter and larger shall be mechanically retained, and may be installed on either the body or disc. O-ring seats on valve discs are unacceptable. Seats for valves 14 inch diameter and larger shall be fully field replaceable without the use of special tools.

F. Operators of the enclosed traveling-nut type shall be provided unless otherwise indicated.

G. Valve shafts shall be one piece extended completely through the disc or stub shafts extending 1½ times the shaft diameter into the disc. Valve shaft diameter shall be as required by AWWA C504. Valve shafts shall be 304 or 316 stainless steel. Disc to stem connections or turned down portions of shafts shall be designed to transmit shaft torque equivalent to 75% of the required shaft diameter. Bushings shall be of reinforced Teflon, luberized bronze, or stainless steel. Seals may be preloaded by packing gland mechanism.

H. Manual valve operators shall be designed to hold the valve disc in any intermediate position between fully opened and fully closed without creeping or fluttering. The operator shall be capable of transmitting sufficient torque to open or close each valve under the most adverse operating conditions. An indicating arrow shall be provided to give full closed, full open, or intermediate disc position indicators.

I. Valves shall be Mueller Lineseal III, Kennedy BFV Style 4500, Clow 1450, or DeZurik BAW.

2.19 Air Release Valves

A. Air release valves along the below grade water transmission main shall be single body combination air release valves designed to release large quantities of air at start up, admit air on shut down and release air in operation. All parts shall be NSF 61 certified.

B. Air release valves shall be made of a reinforced nylon body, foamed polypropylene float, NBR 70 O-ring and reinforced nylon base.

C. Air release valves shall be capable of withstanding operating pressures of 150 psi.

D. Valves shall be ARI D-040 or Vent-o-Mat Series RBX DN50.

2.20 Swing Check Valves

A. Below grade buried swing check valves shall be ductile iron body, with rubber encapsulated ductile iron reversible disc, resilient seated disc, full flow area, and shall conform to AWWA C508. Valves shall be pressure rated at a minimum of 250 PSI working pressure.

B. Below grade non-buried or above grade swing check valves shall be iron body, bronze mounted, with rubber faced disc, Class 125 flanged ends, removable inspection cover, O-ring sealed stuffing box, with an external weighted lever, and shall conform to AWWA C508.

C. Acceptable manufacturers: Kennedy, M&H or Mueller.

2.21 Corporation Stops

Corporation stops shall be 1 inch, 1½ inch or 2 inch brass ball type, equipped with connections suitable for service piping. Conformance with AWWA C800 and C901 is required. Corporation stops shall be Ford FB1000 or McDonald 4701B-22.

2.22 Curb Stops

Curb stops shall be manufactured of 85-5-5-5 bronze conforming to ASTM B62. Conformance with AWWA C800 and C901 Is required. Curb stops at meters shall be sized to match the meter size. Curb stops shall be ball type reduced type Ford B11-333W or McDonald 6101W. Curb stops at meters shall be ball type compression Ford B43-342W, B43-777W or McDonald 6100MW-22.

2.23 Valve Boxes

A. All buried valves shall be provided with adjustable valve boxes approximately 5 inches in diameter and shall be heavy duty traffic rated.

B. Valve boxes shall be cast iron. Valve box lids shall be cast iron H-20 load rated.

C. Valve boxes shall be of sufficient length to operate all valves buried in the ground. Valve boxes shall consist of base, center section, and top section with cover. All valve box extensions shall be cast iron.

D. Valve box lids in paved areas shall be lockable.

E. Valve boxes located in unpaved areas shall be Slip Type design to permit movement of the top section without transmitting forces onto the valve body.

F. Valve boxes shall have valve box covers with the inscription "WATER" cast thereon.

G. All valve box covers shall be painted with a three coat system. The first coat shall be primer, 2.5-3.5 mil Dry Film Thickness (DFT) Tnemec Series 135 ChemBuild or approved equal; the intermediate coat shall be 4.0-10.0 mil DFT Tnemec Color Hi-Build Epoxoline II Series N69 or approved equal, and the final coat shall be 2.0-3.0 mil DFT Tnemec EnduraShield Series 73 or approved equal. The final coat paint color shall be Ultra Blue No. 124A or as approved by the local utility.

H. Acceptable manufacturers: Tyler Union, Sigma Corporation, Star Pipe Products.

2.24 Curb Boxes

Boxes for curb stops shall be manufactured of heavy cast iron and shall be of the telescopic type with a tar base enamel coating inside and outside. Base of curb boxes shall be Minneapolis type. Covers for curb boxes shall be marked "Water".

2.25 ARV Enclosures

A. Enclosures for air release valves shall be polyethylene with stainless steel hardware, and shall be provided with a tamper proof locking device. Enclosures shall be as manufactured by Water Plus Corporation (model 131632) or approved equal.

B. Enclosure color shall be blue.

2.26 Hydrants

A. Hydrants shall conform to AWWA C502 and shall be furnished complete with wrench and other appurtenances. Manufacturer's certification of compliance with AWWA C502 and tests listed therein will be required.

B. All hydrants shall be of breakable type, with the breakable section located slightly above the finish ground line. Hydrants shall contain two 2½ inch hose connections and one 4½ inch steamer connections with national standard fire hose coupling screw threads, 5¼ inch valve opening, 6 inch diameter mechanical joint inlet, 1½ inch pentagon operating nut. The hydrants shall open counterclockwise.

C. All hydrants shall be painted with a three coat system. The first coat shall be primer, 2.5-3.5 mil Dry Film Thickness (DFT) Tnemec Series 135 ChemBuild or approved equal; the intermediate coat shall be 4.0-10.0 mil DFT Tnemec Color Hi-Build Epoxoline II Series N69 or approved equal, and the final coat shall be 2.0-3.0 mil DFT Tnemec EnduraShield Series 73 or approved equal. The final coat paint color shall be as selected by the local utility.

D. Hydrants shall be Mueller Centurion (Traffic model A-423), American-Darling B-84-B, Kennedy K-81A, or Clow Medallion F-2545.

2.27 Line Stops

A. Line stops shall consist of a line stop fitting, stopping plug/valve, blind flange for installation after stop is completed, and 1-inch equalization/purge fitting.

B. The line stop fitting shall be fabricated steel with 12 mil (minimum) epoxy coating.

C. All hardware and accessories shall be 304 Stainless Steel.

D. The blind flange shall be ductile iron conforming to ANSI/AWWA C110/A21.10 or ANSI/AWWA C153/A21.53.

E. Provide additional pipe restraining in the vicinity of the line stop for preventing pipe movement due to any unbalanced forces created by the line stop installation and removal.

2.28 Electronic Marker Balls

A. Marker balls shall consist of a passive device capable of reflecting a specifically designated repulse frequency tuned to the utility being installed.

B. Balls shall be four inches in diameter with a high density polyethylene shell and shall be color coded blue (potable water).

C. Balls shall be as manufactured by 3M or Omni.

2.29 Pipeline Identification Tape

A. Identification tape shall be an inert plastic film specifically formulated for prolonged underground use. Minimum thickness 4 mils, width 6 inches, letter size 1 inch. Lettering shall be continuous.

B. Tape shall be the standard product of a manufacturer regularly engaged in the supply of this tape. Provide tape with adhesive backing for attachment to pipe.

C. Identification tape shall be color coded blue with black lettering "POTABLE WATER MAIN".

2.30 Pipeline Warning Tape

Warning tape shall be 6 inch wide vinyl continuous tape, for identification and warning purposes. It shall be color coded blue with black lettering “CAUTION: WATER MAIN BURIED BELOW”.

2.31 Locating Wire

Locating wire shall be color-coded 10 gage continuous insulated wire. Color coding shall be blue.

2.32 Disinfection and Dechlorination System

A. Sizing and selection of disinfection system, disinfection equipment, disinfection system piping, and appurtenances is the responsibility of the Contractor.

B. All equipment used in disinfection work shall be in proper working condition, and shall be adequate for the specified work.

C. Provide equipment and feed system for chlorinating agent that is appropriate to the chlorinating agent and the piping to be disinfected. Also provide equipment and feed system for dechlorinating agent that is appropriate to the dechlorinating agent and the piping to be dechlorinated.

D. Disconnect and remove equipment, piping, and appurtenances after the water mains have been successfully disinfected and dechlorinated, bacteriological testing has been completed, and water mains have been approved for connection to the existing water distribution system.

PART 3 EXECUTION

3.01 General Installation Requirements

A. All lengths of pipe shall be dimensioned accurately to measurements established at the site, and shall be worked into place without springing or forcing.

B. Cut all pipe and drill all holes that may be necessary. Cut sections of pipe shall be reamed or filed to remove all burrs. The pipe interior and joints shall be thoroughly cleaned before being installed and kept clean during construction.

C. All changes in direction shall be made with fittings or approved joint deflection. Bending of pipe, except copper and polyethylene, is prohibited. Joint deflection shall not exceed 75 percent of the manufacturer's recommended maximum deflection.

D. Any transition from one pipe size to another shall be made with a reducing fitting. Reducing bushings are prohibited except where specifically indicated on the Drawings or approved by the Engineer.

E. Make adequate provision for expansion and contraction of piping.

F. Trenching, bedding and backfilling shall be in accordance with Section 02320.

G. Valves shall be installed in all pipe ahead of appliances and equipment not furnished with stops, and elsewhere as required for proper control and isolation of sections of systems for maintenance purposes.

H. Minimum cover over pipe shall be 36 inches.

3.02 Concrete Cradles and Encasement

Concrete cradles and encasement shall be as indicated on the Drawings, or as directed by the Engineer. All concrete cradles and anchors shall be of Class B concrete.

3.03 Separation of Non-Potable and Potable Water Lines

A. The horizontal separation between water mains and sanitary sewer, storm sewer, wastewater force mains, stormwater force mains, reclaimed water mains and onsite sewage treatment and disposal systems shall be in accordance with the following:

1. The outside of water mains shall be a minimum of three feet from the outside of any existing or proposed storm sewer, stormwater force main, vacuum type sanitary sewer and reclaimed water main.
2. The outside of water mains shall be a minimum of six feet from the outside of any existing or proposed gravity sanitary sewer and wastewater force main. The minimum horizontal separation distance between the outside of water mains and the outside of gravity sanitary sewers can be reduced to three feet where the bottom of the water main is at least six inches above the top of the sewer.
3. The outside of water mains shall be a minimum of ten feet from all parts of any existing or proposed onsite sewage treatment and disposal system such as septic tanks, drainfields, and grease traps. Onsite sewage treatment and disposal systems do not include package sewage treatment facilities and public wastewater treatment facilities.

B. The vertical separation between water mains and sanitary and storm sewer, wastewater or stormwater force mains, and reclaimed water mains shall be in accordance with the following:

1. Wherever possible, water mains shall cross over existing or proposed gravity sanitary sewer, vacuum type sanitary sewer, and storm sewer, so the outside of the water main is at least six inches above the outside of the sewer. Where it is not possible for the water main to cross over existing or proposed gravity sanitary sewer, vacuum type sanitary sewer, and storm sewer, then the water main can cross under these types of pipeline systems provided the outside of the water main is at least 12 inches below the outside of the pipeline. At the crossing, the proposed pipe joints shall be arranged so that all water main joints are at least three feet from vacuum type sanitary sewer or storm sewer joints, and at least six feet from gravity sanitary sewer joints.
2. Wherever possible, water mains shall cross over existing or proposed reclaimed water mains, wastewater force mains and stormwater force mains. Whether the water main crosses over or under these types of pipeline systems, the outside of the water main shall be at least 12 inches from the outside of the existing or proposed reclaimed water main, wastewater force main and stormwater force main. At the crossing, the proposed pipe joints shall be arranged so that all water main joints are at least three feet from reclaimed water main joints and stormwater force main joints, and at least six feet from the joints of wastewater force mains.

C. No water main shall pass through or come in contact with any part of a sanitary sewer manhole.

D. The following are acceptable alternative construction features to be considered for cost evaluation with no guarantee they will be approved for implementation where it is not possible to meet the separation requirements. Exceptions from meeting the pipe separation requirements, without mitigation, shall be allowed only by FDEP if technical or economic justifications for each exception provided by the Engineer are acceptable to FDEP and are only to be implemented upon receipt of expressed written consent from the Engineer and approval from FDEP on a case by case basis. All possible measures to achieve compliance with the pipe separation requirements shall be considered first along with design changes to meet the requirements before the Engineer submits a justification of an exception to FDEP for approval. Implementation of these measures without the expressed written consent of the Engineer and approval by FDEP could result in the requirement that the installed unapproved measures be removed and replaced at no cost to the Owner.

1. Where a water main is less than the required minimum horizontal distance from another pipeline or where a water main crosses another pipeline and joints in the water main are less than the minimum required distance between the joints in the other pipeline:

   a. Use of pressure rated pipe conforming to AWWA standards for a gravity or vacuum type pipeline.
   b. Use of welded, fused, or otherwise restrained joints for either pipeline.
   c. Use of watertight casing pipe or concrete encasement at least four inches thick for either pipe.

2. Where a water main is less than three feet horizontally from another pipeline or where a water main crosses another pipeline less than the required minimum separation:

   a. Use of pipe or casing pipe, having high impact strength (at least equal to 0.25 inch thick ductile iron pipe), or concrete encasement at least four inches thick for the water main and for the other pipeline if the other pipeline coveys wastewater or reclaimed water.

3.04 Plugs

A. Installed piping systems shall be temporarily plugged at the end of each day's work, or other interruption to progress on a given line. Plugging shall be adequate to prevent entry of small animals or persons into the pipe or the entrance or insertion of deleterious materials.

B. Standard plugs shall be inserted into all dead-end pipes, tees, or crosses; spigot ends shall be capped; flanged and mechanical joint ends shall have blind flanges of metal.

C. Plugs installed for pressure testing shall be blind flanges fully secured and blocked to withstand the test pressure.

D. Where plugging is required because of contract division or phasing for later connection, the ends of such lines shall be equipped with a permanent type plug or blind flange. Installation or removal of such plugging shall be considered incidental to the work.

3.05 Ductile Iron Pipe

A. Mechanical joints: install according to the manufacturer's specifications. Socket and gasket shall be clean and gasket shall be properly centered before joint is made.

B. Push-On Type Joints: Remove any foreign matter in the gasket seat, wipe gasket clean, flex and place in socket. Apply thin film of lubricant to inside surface of gasket. Complete joint assembly by forcing the plain end of the entering pipe past the gasket until it makes contact with the bottom of the socket.

C. Flanged Joints: Bolt flanged joints with care so there is no restraint on the opposite end of the piece, which would prevent pressure from being evenly and uniformly applied upon the gasket. The pipe or fitting must be free to move in any direction while bolting. Gradually tighten bolts, each in turn, at a uniform rate of gasket compression around the entire flange.

3.06 O-Ring Type Push-On Joints for PVC Pipe

A. Clean the pipe end and the bell thoroughly. Insert O-Ring gasket, making certain it is properly oriented. Lubricate the spigot well with an approved lubricant; do not lubricate the bell or O-ring. Insert the spigot end of the pipe carefully into the bell until the reference mark on the spigot is flush with the bell.

B. Field cut pipe shall be beveled, have all burrs removed, and shall have a reference mark applied the correct distance from the end.

3.07 Butt Heat Fusion Joints for PE (Polyethylene) Pipe

A. Equipment for butt heat fusion joints shall be as recommended by the pipe manufacturer.

B. Carefully face pipe ends and check for squareness prior to heating ends. Apply clamps as necessary to match outside pipe end diameters. Follow the pipe manufacturer's recommendations concerning temperature, melt time, heat soak times, and joining time. Maintain joining pressure until pipe has cooled to a temperature of 150-160 degrees F. Handle pipe carefully until joint has returned to ambient temperature. Inspect all joints carefully for any irregularities; cut out and re-do all defective joints.

3.08 Socket Heat Fusion for PE (Polyethylene) Pipe

A. Equipment for socket heat fusion shall be as recommended by the pipe manufacturer.

B. Bevel the pipe end and remove burrs before making joint. Clean heating tool thoroughly and, if tool is not Teflon coated, spray with a silicone release solution. Heat tool to the temperature recommended by the pipe manufacturer. Place both pipe and fitting on the tool until the correct degree of melt is achieved. Remove pipe and fitting from the tool simultaneously and insert the pipe squarely into the fitting; do not turn pipe or fitting during insertion. Avoid any movement of the joint for 10 to 15 seconds. Handle pipe carefully until the joint has returned to ambient temperature.

3.09 Polyethylene Pipe Joining (4 Inches and Larger Pipe)

A. Joints between plain end pipes and fittings shall be made by butt fusion, and joints between the main and saddle branch fittings shall be made using saddle fusion using only procedures that are recommended by the pipe and fitting manufacturer. The Contractor shall ensure that persons making heat fusion joints have received training in the manufacturer's recommended procedure. The Contractor shall maintain records of trained personnel, and shall certify that training was received not more than 12 months before commencing construction. External and internal beads shall not be removed.

B. Upon request, the manufacturer shall provide training in the manufacturer's recommended butt fusion and saddle fusion procedures to the Contractor's installation personnel, and to inspectors representing the Owner.

C. Mechanical joints are only allowed where joining polyethylene pipe to another material. Mechanical couplings shall be fully pressure rated and fully thrust restrained such that when installed in accordance with manufacturer's recommendations, a longitudinal load applied to the mechanical coupling will cause the pipe to yield before the mechanical coupling disjoins. External joint restraints shall not be used in lieu of fully restrained mechanical couplings. Mechanical joints and flange connections shall be installed in accordance with the manufacturer's recommended procedure. Flange faces shall be centered and aligned to each other before assembling and tightening bolts. In no case shall the flange bolts be used to draw the flanges into alignment. Bolt threads shall be lubricated, and flat washers shall be fitted under the flange nuts. Bolts shall be evenly tightened according to the tightening pattern and torque step recommendations of the manufacturer. At least 1 hour after initial assembly, flange connections shall be re-tightened following the tightening pattern and torque step recommendations of the manufacturer. The final tightening torque shall be 100 ft-lbs or less as recommended by the manufacturer.

D. Branch connections to the main shall be made with saddle fittings or tees. Polyethylene saddle fittings shall be saddled fused to the main pipe per Heat Fusion Joining.

3.10 Polyethylene Encasement Installation

A. Install polyethylene encasement in accordance with ANSI/AWWA C105/A21.5.

B. Polyethylene encasement is to be installed on all ductile iron pipe and fittings within 10 feet of gas mains.

C. Cut polyethylene to a length approximately two feet longer than the length of the pipe section. Slip around the pipe, centering it to provide a one-foot overlap and 1 foot overlay on each adjacent pipe section, bunching it accordion fashion lengthwise until it clears the pipe ends. Place a six-inch length of pressure sensitive waterproof tape at approximately three-foot intervals along the pipe length, securing the cut edge of polyethylene sheet.

D. After assembling the pipe joint, make the overlap of the polyethylene tube. Pull the bunched polyethylene from the preceding length of pipe, slip it over the end of the new length of pipe and secure in place. Then slip the end of the polyethylene from the new pipe section over the end of the first wrap until it overlaps the joint at the end of the preceding length of pipe. Secure the overlap in place. Take up the slack width to make a snug, but not tight, fit along the barrel of the pipe, securing a fold at quarter points.

E. Repair any rips, punctures, or other damage to the polyethylene with pressure sensitive waterproof tape or with a short length of polyethylene tube cut open, wrapped around the pipe, and secured in place. Proceed with installation of the next section of pipe in the same manner.

F. Where polyethylene wrapped pipe joins a pipe that is not wrapped, extend the polyethylene tube to cover the unwrapped pipe a distance of at least two feet. Secure the end with circumferential turns of tape.

3.11 Buried and Exposed Valves

A. Buried valves 6 inch diameter and larger shall be set on a foundation of solid concrete or stone not less than 8 inches thick nor less than one cubic foot in volume. Foundations shall be set on firmly compacted ground.

B. The height of the valve and its supporting foundation shall conform to the height of the connecting pipe. Valves shall be set in a vertical position, except where indicated on the Drawings or as determined in the field to require a horizontal installation as determined by the Engineer and Owner. Where valves are required to be installed in a horizontal position, provide with a bevel gear side actuator.

C. Exposed valves shall be installed in a vertical position wherever possible. Unless otherwise indicated or directed by the Engineer, valve stems shall never be below a horizontal position.

D. Open and close each valve observing full operation prior to installing successive lengths of pipe.

3.12 Air Release Valves

Air release valves shall be placed at high points of the pipeline to permit escape of trapped air. The valve size, location and method of installation shall be indicated on the Drawings or as directed by the Engineer.

3.13 Valve Boxes and Curb Boxes

A. Boxes shall rest on the valve and shall be adjusted so that the cover may be set flush with paving; in areas without paving, set the cover as directed by the Engineer. Boxes shall be set to allow equal movement above and below finish grade.

B. The base of the box shall be centered over the valve, and the top of the base section shall be approximately on line with the nut on top of the valve stem. The entire assembly shall be plumb.

3.14 Hydrants

A. Blue pavement reflectors (cat eyes) shall be placed in the centerline of the driving lane directly in front of the fire hydrant.

B. All hydrants shall be inspected in the field upon delivery to the job to insure proper operation before installation.

C. There shall be no trees, shrubs, or landscaping planted around the fire hydrants or in areas designated as fire lanes.

D. Final field location of all hydrants shall be as approved by the utility. All hydrants shall be located no less than three feet (3') and no more than eight feet (8') from back of curb of the adjacent roadway, or seven (7) feet from the edge of pavement, and no less than five (5) feet from any physical feature which may obstruct access or view of any hydrant unless otherwise approved by the utility.

E. Hydrants shall be plumb and shall be set so that the lowest hose connection is, at least, eighteen (18) inches above the surrounding finished grade.

F. Combustible construction cannot occur until proper documentation has been submitted to the local fire marshal. Documentation shall show that hydrants have been installed, tested, and are in proper working order.

G. New or relocated fire hydrants shall be located such that the underground drain (weep hole) is at least:

1. Three feet from any existing or proposed storm sewer, stormwater force main, reclaimed water main, or vacuum type sanitary sewer.

2. Six feet from any existing or proposed gravity sanitary sewer and wastewater force main.
3. Ten feet from any onsite sewage treatment and disposal system such as septic tanks, drainfields, and grease traps. Onsite sewage treatment and disposal systems do not include package sewage treatment facilities and public wastewater treatment facilities.

3.15 Line Stops

A. Line stops shall be completed while the water system is pressurized.

B. A concrete encasement shall be poured for pipe support at the point of line stop.

C. Provide additional pipe restraining in the vicinity of the line stop for preventing pipe movement due to any unbalanced forces created by the line stop.

3.16 Electronic Marker Balls

A. Electronic markers shall be furnished and installed so that a marker will be located at one hundred foot (100') intervals along the pipeline length. Markers shall also be placed at all valves, changes in direction, tees, or other points of connection and as directed by the Engineer.

B. Marker balls shall be placed in a position directly above the pipe and hand backfilled one foot above the ball to prevent damage or movement during subsequent backfilling. Depth of burial shall not be less than 1.5 feet nor more than 2 feet.

3.17 Installation of Identification and Warning Tape

A. Install identification tape on all pipelines. Place tape as follows:

1. 2 inch through 8 inch diameter pipe - center along top half of pipe
2. 10 inch through 18 inch diameter pipe - place along both sides of the top half of pipe
3. 20 inch diameter and larger pipe - place on both sides of top half of pipe with a third strip centered along top half of pipe

B. Place tape from joint to joint on every section of pipe.

C. Install warning tape along all pipelines. Install 2 feet above pipe, minimum of 1 foot below grade.

3.18 Locator Wire

A. Install locator wire along all pressurized pipelines 2 inch diameter and larger.

B. Terminate locator wires at top of the valve box with 12 inches of extra wire.

C. Test the locate wire for continuity and submit report documenting the continuity testing. Repair or replace locate wire at failed test locations as directed by Owner.

3.19 Testing General Requirements

A. Hydrostatic testing shall be in accordance with AWWA C600 (Ductile iron water mains), AWWA C605 (PVC water mains) and ASTM F2164 (polyethylene water mains).

B. Test procedures and method of disposal of water shall be approved by the Engineer. All tests shall be made in the presence of the Engineer and utility. Preliminary tests made by the Contractor without being observed by the Engineer will not be accepted. Notify the Engineer and the utility companies at least 48 hours before any work is to be inspected or tested.

C. All defects in piping systems shall be repaired and/or replaced and retested until acceptable. Repairs shall be made to the standard of quality specified for the entire system.

D. Sections of the system may be tested separately, but any defect which may develop in a section previously tested and accepted shall be promptly corrected and retested. Pressure tests shall be made between valves to demonstrate ability of valves to sustain pressure.

E. Provide all necessary test equipment. Increments on gages used for pressure pipe testing shall be of scaled to the nearest 1 psi. Gages, pumps, and hoses shall be in good working order with no noticeable leaks.

F. Tests for any exposed piping shall be made before covering and insulation is placed.

G. The pressure and leakage test for buried piping shall be made after all jointing operations are completed and restraints have been in place at least seven days. Lines tested before backfill is in place shall be retested after compacted backfill is placed.

H. All service connections to water mains shall be completed prior to testing.

I. Sections of piping between valves and other short sections of line may be isolated for testing. If shorter sections are tested, test plugs or bulkheads required at the ends of the test section shall be furnished and installed by Contractor, together with all anchors, braces, and other devices required to withstand the hydrostatic pressure without imposing any thrust on the pipe line. Contractor shall be solely responsible for any damage that results from the failure of test plugs or supports.

J. All items including valves and controls shall be given a thorough test. The entire system shall be operated for two days to prove compatibility of equipment and to

achieve proper adjustment for operation. Valves, pipes, tanks, and other items that are non-operating or occasional-operating shall be tested for ability to meet design criteria.

3.20 Sequence of Testing and Disinfection

A. The sequence of testing and disinfection shall be as follows:

1. Conduct pressure and leakage testing.
2. Perform flushing in accordance with Section 02955.
3. Disinfect the water main, including valves and fittings
4. Dechlorinate and flush after disinfection.

3.21 Pressure and Leakage Testing (PVC and DI Mains)

A. Piping shall be slowly filled with water and all air expelled. Care shall be taken that all air valves are installed and open in the section being filled, and that the rate of filling does not exceed the venting capacity of the air valves.

B. Apply hydrostatic test pressure of 150 psi (water mains), or 200 psi (fire mains) for 10 minutes and for such additional period necessary for the Engineer to complete the inspection of the line under test. Do not exceed pipe manufacturer's suggested time duration at the test pressure. If defects are noted, repairs shall be made and the test repeated until all parts of the line withstand the test pressure.

C. Apply leakage test pressure of 150 psi (water mains), or 200 psi (fire mains). Maintain pressure at a maximum variation of 5 percent during the entire leakage test. The duration of the leakage test shall be two hours minimum, and for such additional time necessary for the Engineer to complete inspection of the section of line under test. Leakage measurements shall not be started until a constant test pressure has been established. The line leakage shall be measured by means of a water meter installed on the supply side of the pressure pump.

D. No leakage is allowed in exposed piping, buried piping with flanged, threaded, or welded joints or buried non-potable piping in conflict with potable water lines.

E. The testing allowance shall be defined as the quantity of water that must be applied to the pipe section being tested to maintain a pressure within 5 psi of the specified hydrostatic test pressure. No installation will be accepted if the quantity of makeup water is greater than that determined by the following formula:

$$L = \frac{S \times D \times P^{0.5}}{148{,}000}$$

L = Testing Allowance (quantity of makeup water) in gallons per hour
S = Length of line being tested, in feet
D = Nominal internal diameter (in inches) of the pipe.

P = The average test pressure during the pressure test, in pounds per square inch (gauge) This actual pressure shall be determined by finding the difference between the average elevation of all tested pipe joints and the elevation of the pressure gauge and adding the difference in elevation head to the authorized test pressure.

F. All leaks shall be repaired by removing and replacing defective pipe and joints with pipe and joints free of defects, after which the lines shall be retested. Such repair and retesting shall be done until the lines pass the specified retest.

G. All apparent leaks discovered within one year from the date of final acceptance of the work by the Owner shall be located and repaired by Contractor, regardless of the total line leakage rate.

3.22 Pressure and Leakage Testing (Polyethylene Mains)

A. Conduct hydrostatic pressure testing of installed polyethylene pipe in accordance with ASTM F2164 and as indicated herein.

B. Piping shall be slowly filled with water and all air expelled. Care shall be taken that all air valves are installed and open in the section being filled, and that the rate of filling does not exceed the venting capacity of the air valves.

C. Subject pipeline to be tested to a 4 hour expansion phase prior to commencing leakage testing. Pipeline expansion shall be accomplished by applying hydrostatic test pressure of 150 psi (water mains), or 200 psi (fire mains). In order to compensate for the initial expansion of the pipeline, add sufficient make-up water at hourly intervals to return to the required test pressure. At the end of the fourth hour, the test phase is to commence.

D. At the conclusion of the fourth hour of the expansion phase, fill the pipeline again with makeup water to return to the test pressure. The test phase shall consist of a two hour or three hour pressure test, as required by the Engineer. At the end of the test phase, measure the amount of makeup water required to return to the test pressure. The pipeline passes the pressure test if the makeup water required does not exceed the following:

Nominal Pipe Size (In)	Allowable Makeup Water (Gallons / 100 Ft Of Pipeline)	
	Two Hour Test	Three Hour Test
2	0.11	0.19
4	0.25	0.4
6	0.6	0.9
8	1.0	1.5
10	1.3	2.1
12	2.3	3.4
16	3.3	5.0
18	4.3	6.5
20	5.5	8.0

Nominal Pipe Size (In)	Allowable Makeup Water (Gallons / 100 Ft Of Pipeline)	
	Two Hour Test	Three Hour Test
24	8.9	13.3
28	11.1	16.8

D. If any defects or leaks are revealed, they should be corrected and the pipeline retested after a minimum 24 hour recuperation period between tests. Total testing conducted on a section of pipeline shall not exceed 8 hours within a 24 hour period.

E. All apparent leaks discovered within one year from the date of final acceptance of the work by the Owner shall be located and repaired by Contractor, regardless of the total line leakage rate.

3.23 Fire Hydrant Testing

The Contractor shall provide a post-construction fire flow test witnessed and approved by the Engineer and the Utility. Hydrants shall deliver a minimum of 1250 gpm with a residual pressure of 20 psi.

3.24 Disinfection General Requirements

A. Disinfect all water mains, including all valves and fittings.

B. All disinfection work shall be acceptable to FDEP and the State Department of Health. If any requirements of this Section are in conflict with requirements of the authority for disinfection, those of the authority shall govern. The water main disinfection and bacteriological sampling and methods of disinfection for all water containment devices and piping systems shall conform to AWWA C651.

C. All valves and appurtenances shall be operated while the line or unit is being disinfected to insure that all surfaces of the valves are disinfected. Valves shall be manipulated to keep the strong chlorine solution and/or contaminated water from flowing into units that have been previously chlorinated and/or flushed.

3.25 Disinfection

A. Direct chlorine feed is preferred for disinfection. Use of high-test calcium hypochlorite or the tablet method of disinfection must be approved by the Engineer and must be in accordance with AWWA procedures.

B. Granular calcium hypochlorite shall be prepared as a water mixture before introduction into the unit. The dry powder shall first be made into a paste and then thinned to approximately a one percent chlorine solution. To prepare a one percent chlorine solution, add one pound of calcium hypochlorite (65-70 percent available Cl_2) to 7½ gallons of water.

C. Chlorinating agent shall be applied at the supply end of the unit being disinfected. For pipes, disinfectant shall be applied through a corporation cock installed in the top of the pipe.

D. Water shall be introduced at a controlled rate in order to regulate the chlorine dosage. The rate of chlorine mixture flow shall be proportioned to the rate of water entering the unit so the chlorine dose applied shall produce at least 25 mg/L chlorine residual after a period of 24 hours. If the total residual has decreased below 25 mg/L, the system may be required to be rechlorinated if required by the Engineer.

E. Operate valves and other appurtenances during disinfection to assure sterilizing mixture is dispersed into all parts of system being disinfected.

F. Upon approval by the Engineer and Owner, all treated water shall be thoroughly flushed from the newly laid pipe at its extremity until the replacement water throughout its lengths shows upon test, a free chlorine residual of no more than 4 mg/L. The flushing activity shall be conducted in such a manner as to avoid any soil erosion or localized flooding.

G. The discharge locations for the chlorinated water shall be approved by the Owner. Neutralize the chlorine residual by means of a reducing agent in accordance with AWWA C651.

3.26 Bacteriological Sampling and Testing

A. Samples of water shall be collected by a representative of a State Certified Testing Laboratory with a representative of the Owner present.

B. Sample locations shall be along every 1200 feet of new main, plus one from each end of the line and at least one from each branch. The sample points must have a brass non-threaded smooth-nosed downward spouted hose bib mounted on a rigid stand pipe at least three feet above the finish grade. Warning tags shall be attached to each sample point.

C. After flushing, water samples collected on two successive days from the treated piping system at the approved sample points shall show acceptable bacteriological results. All bacteriological testing shall be performed by a State Certified Laboratory contracted by the Contractor. Proper chain of custody procedures must be followed and samples shall only be collected by certified laboratory personnel.

D. Should the initial treatment result in an unsatisfactory bacterial test, the original chlorination and dechlorination procedure and bacteriological testing shall be repeated by the Contractor until satisfactory results are obtained.

E. Copies of all testing results and all related correspondence from the testing lab shall be submitted to the Engineer and Owner.

3.27 Placing the Water Main Into Service

The water main can only be placed into service once clearance is received from FDEP, followed by approval by the Utility and Owner. Remove temporary sampling points following the Owner's approval to place the water main in service. Provide a permanent cap or plug at each temporary bacteriological sampling point location.

END OF SECTION

SECTION 02710

STABILIZED SUBGRADE

PART 1 GENERAL

1.01 Section Includes

Stabilized subgrade for asphalt pavement

1.02 References

A. American Association of State Highway and Transportation Officials (AASHTO) latest edition:

1. AASHTO T180 - Moisture-Density Relations of Soils Using a 10-lb Rammer and 18-in Drop

B. Florida Department of Transportation Standard Specifications for Road and Bridge Construction, latest edition:

1. Section 914 - Materials for Subgrade Stabilization

1.03 Quality Assurance

Field compaction density, stability, and thickness testing frequencies of the subgrade shall be tested once every 300 linear feet of paving per 24-ft wide strip, staggered left, center and right of centerline. Where less than 300 linear feet of asphalt is placed in one day, provide minimum of one test for each per day's construction at a location designated by the Engineer.

1.04 System Description

A. Stabilize the roadbed below the proposed base to provide a firm and unyielding subgrade.

B. Provide a finished roadbed section that meets the bearing value requirements, regardless of the quantity of stabilizing materials necessary to be added.

PART 2 PRODUCTS

2.01 General

A. The Contractor may choose the type of stabilizing material, Commercial or Local.

B. Materials may be either limerock, shell rock, crushed concrete, cemented coquina or shell base sources approved by FDOT.

2.02 Limerock

For limerock, carbonates of calcium and magnesium shall be at least 70%. Materials having a plasticity index of more than ten or a liquid limit greater than 40 shall not be used as a stabilizer. The gradation of limerock shall be such that 97% of these materials will pass a 3½ -inch (90 mm) sieve.

2.03 Crushed Shell

A. Crushed shell for this use shall be mollusk shell (i.e., oysters, mussels, clams, cemented coquina). Steamed shell will not be permitted.

B. Material having a plasticity index of more than ten or a liquid limit greater than 40 shall not be used as a stabilizer.

C. At least 97% by weight of the total material shall pass a 3½ -inch (90 mm) sieve and at least 50% by weight of the total material shall be retained on the No. 4 [4.75 µm] sieve.

D. Not more than 20% by weight of the total material shall pass the No. 200 [75 µm] sieve. The determination of the percentage passing the No. 200 [75 µm] sieve shall be by washing only.

2.04 Local Materials

A. Local materials used for this stabilizing may be soils or recyclable materials such as crushed concrete, roof tiles and asphalt coated base or reclaimed pavement. However, no materials that deteriorate over time, cause excessive deformations, contain hazardous substances, contaminates, or do not improve the bearing capacity of the stabilized material may be used in accordance with FDOT Specification Section 914.

B. At least 97% by weight of the total material shall pass a 3½ -inch (90 mm) sieve. Material having a plasticity index greater than ten or a liquid limit greater than 40 shall not be used as a stabilizer.

PART 3 EXECUTION

3.01 General

A. Prior to the beginning of stabilizing operations, construct the area to be stabilized to an elevation such that, upon completion of stabilizing operations, the completed stabilized subgrade will conform to the lines, grades, and cross-section shown in the plans. Prior to spreading any additive stabilizing material, bring the surface of the roadbed to a plane approximately parallel to the plane of the proposed finished surface.

B. Process the subgrade to be stabilized in one course, unless the equipment and methods being used do not provide the required uniformity, particle size limitation, compaction, and other desired results, in which case, the Engineer will direct that the processing be done in more than one course.

C. Vibratory compaction is not allowed within 100 feet of existing structures. In these areas, compaction shall be accomplished by static means only. If compaction difficulties arise, the Engineer shall be consulted to review and possibly modify compaction procedures.

3.02 Application of Stabilizing Material

A. When additive stabilizing materials are required, spread the designated quantity uniformly over the area to be stabilized.

B. When materials from an existing base are to be used in the stabilizing at a particular location, place and spread all of such materials prior to the addition of other stabilizing additives.

C. Spread commercial stabilizing material by the use of mechanical material spreaders, except that where use of such equipment is not practicable, use other means of spreading, but only upon written approval of the proposed alternate method.

3.03 Mixing

A. Perform mixing using rotary tillers or other equipment meeting the approval of the Engineer. The Contractor may mix the materials in a plant of an approved type suitable for this work. Thoroughly mix the area to be stabilized throughout the entire depth and width of the stabilizing limits.

B. Perform the mixing operations, as specified, (either in place or in a plant) regardless of whether the existing soil, or any select soils placed within the limits of the stabilized sections, have the required bearing value without the addition of stabilizing materials.

3.04 Maximum Particle Size of Mixed Materials

At the completion of the mixing, ensure that the gradation of the material within the limits of the area being stabilized is such that 97% will pass a 3½-inch sieve and that the material does not have a plasticity index greater than eight or liquid limit greater than 30. Note that clay balls or lumps of clay size particles (2 microns or less) cannot be considered as individual particle sizes. Remove any materials not meeting the plasticity requirements from the stabilized area. The Contractor may break down or remove from the stabilized area materials not meeting the gradation requirements.

3.05 Compaction

Compact the materials at a moisture content permitting the specified compaction. If the moisture content of the material is improper for attaining the specified density, either add water or allow the material to dry until reaching the proper moisture content for the specified compaction.

3.06 Finish Grading

Shape the completed stabilized subgrade to conform with the finished lines, grades, and cross-section indicated in the plans. Check the subgrade using elevation stakes or other means approved by the Engineer.

3.07 Condition of Completed Subgrade

A. After completing the stabilizing and compacting operations, ensure that the subgrade is firm and substantially unyielding to the extent that it will support construction equipment and will have the bearing value required by the plans.

B. Remove all soft and yielding material, and any other portions of the subgrade which will not compact readily, and replace it with suitable material so that the whole subgrade is brought to line and grade, with proper allowance for subsequent compaction.

3.08 Maintenance of Completed Subgrade

After completing the subgrade, maintain it free from ruts, depressions, and any damage resulting from the hauling or handling of materials, equipment, tools, etc. The Contractor is responsible for maintaining the required density until the subsequent base or pavement is in place including any repairs, replacement, etc., of curb and gutter, sidewalk, etc., which might become necessary in order to recompact the subgrade in the event of underwash or other damage occurring to the previously compacted subgrade. Perform any such recompaction at no expense to the Owner. Construct and maintain ditches and drains along the completed subgrade section.

3.09 Field Quality Control

When proper moisture conditions are attained, compact the material to not less than 98% of maximum density determined by AASHTO T180, and a minimum Limerock Bearing Ratio of 40.

END OF SECTION

SECTION 02910

LANDSCAPING

PART 1 GENERAL

1.01 Section Includes

Materials, installation, maintenance of trees, ground cover, and shrubs

1.02 Related Sections

Section 02920 - Grassing

1.03 General Requirements

A. Furnish all labor, materials, equipment, and incidentals required to install trees, ground cover, and shrubs, to place accessory planting materials and to maintain and guarantee all planted areas, in areas as shown on the Drawings. All work shall be in strict adherence with sound nursery practice and shall include maintenance and watering of all the work of this Contract until final completion and acceptance by the Owner.

B. The landscaping shall be performed by a subcontractor who is fully experienced in projects of this scope and whose main business is landscaping. The subcontractor shall be subject to the approval of the Engineer.

C. Provide under this Section all landscaping appurtenances as shown on the landscaping drawings and specifications.

1.04 Submittals

A. Submit to the Engineer for approval, complete written maintenance instructions for each type of plant furnished under the Contract.

B. Submit representative samples of any or all of required accessory planting materials as ordered by the Engineer.

C. All trees, shrubs and sod shall have a valid and current state of Florida, Division of Plant Industry (DPI) inspection certification prior to being transported to the construction site. Submit the DPI certification to the Engineer and maintain a copy of the certification onsite with the construction records.

1.05 Warranty

The life and satisfactory condition of all plant material planted shall be guaranteed by the Contractor for a minimum of one calendar year. Guarantee shall include complete

replacement with material of the same kind and size as in the original work if not in a healthy condition, as determined by the Engineer, at the end of the warranty period.

1.06 Maintenance

A. Plant material maintenance shall begin when planting operations start and shall extend until final acceptance of the work.

B. Maintain all plant materials under this Contract to the satisfaction of the Engineer. Maintenance shall include necessary watering, cultivation, weeding, pruning, spraying, tightening and repair to guy wires, removal of dead material, resetting, and other work required to conform with referenced standards and accepted nursery standards as approved.

C. Plant materials which are in a tilted or in a leaning position shall be properly righted

D. After final acceptance by the Owner and until 120 days after acceptance of all plantings, the landscaping subcontractor shall make monthly inspections of materials and report in writing to the Engineer the conditions of the plants and the necessary requirements to keep the plants in a healthy growing condition.

PART 2 PRODUCTS

2.01 Materials

A. Plant species and size shall conform to those indicated in the Plant List and in plant locations shown on the Drawings. All plants shall be Florida Grade No. 1, or better.

B. Plants shall be sound, healthy, vigorous, free from plant diseases, insects, pest, or their eggs, and shall have healthy normal root systems. Plants shall be nursery grown stock, freshly dug. No heeled in, cold storage or collected stock will be acceptable.

C. Shape and Form:

1. Plant material shall be symmetrical, typical for the variety and species, and shall conform to the measurements specified in the Plant List.
2. Plants used where symmetry is required shall be matched as nearly as possible.
3. Plants shall not be pruned prior to delivery except as authorized.
4. All plants shall have been transplanted or root pruned at least once in the past 3 years.
5. Unless otherwise noted, street trees shall be free of branches up to 6 feet, with the single leader well branched, and with straight trunks.
6. Shrubs shall have been twice transplanted, have fully developed root systems, be heavily canned with foliage to base, fulfill dimensions required, and be typical of the species.

7. Ground covers shall have sturdy fibrous root systems and shall be heavily leafed.

D. Measurement: The height and/or width of trees shall be measured from the ground or across the normal spread of branches with the plants in their normal position. The measurement shall not include the immediate terminal growth.

E. Substitutions in plant species or size shall be made only with the written approval of the Engineer.

F. Ground cover plants shall be planted in beds which receive 4 inches of approved topsoil, thoroughly disced into the soil. The finished surface, compacted and settled, shall conform generally with and at all points to the required grade. Plants shall be spaced as shown, and in accordance with the best practices of the trade.

G. Planting Soil:

1. Soil for backfilling around plants and planting beds shall be a good grade of garden loam as approved. Soil shall be free of heavy clay, coarse sand, stones, lumps, sticks or other foreign material. The soil shall not be delivered or used in a muddy condition.
2. The soil shall be taken from ground that has never been stripped. There shall be a slight acid reaction to the soil with no excess of calcium or carbonate. The soil shall be free from excess weeds or other objectionable material.
3. Soil for trees and shrubs shall be delivered in a loose, friable condition. All trees should average approximately 1 cubic yard per tree. There will be 4-inches of planting soil in ground cover areas and 1/8 cubic yard per shrub or vine.
4. No marl shall be used in ground cover planting beds.

H. Any required landscaping stone shall be inert, nonleaching material as specified on the Drawings. Provide physical samples for approval before purchase. No crushed limerock shall be used.

PART 3 EXECUTION

3.01 Planting Procedures

A. Plant Locations: All plants shall be located as shown on the Drawings, to dimensions if shown, to scale if not dimensioned. Large areas or beds shall be scaled and the plants spaced evenly. Approval by the Engineer is required before any plants are installed.

B. Tree Staking: All tree staking and bracing shall be included herein in accordance with sound nursery practice and shall generally be in accordance with the details shown. Furnish all materials required for staking and bracing as approved.

C. Tree Pits: Pits for trees shall be at least 2 feet greater in diameter than the specified diameter of the ball. Pits shall be of sufficient depth to allow a 6-inch layer of planting soil under the ball when it is set to grade. Bottom of pit shall be loosened prior to backfilling. Other specifications for tree pits shall be as shown on the plans.

D. Digging and Handling:

1. Plants shall be handled at all times so that roots or balls are adequately protected from sun or drying winds. Tops or roots of plants allowed to dry out will be rejected.
2. Balled or burlapped plants shall be moved with firm, natural balls of soil, not less than 1-foot diameter of ball to every 1-inch caliper of trunk, and a depth of not less than 2/3 of ball diameter. No plant shall be accepted when the ball of earth surrounding its roots has been cracked or broken. All trees, except palm and seedling pines, shall be dug with ball and burlapped. Root pruning shall have been done a minimum of four weeks before planting at the job.
3. Bare root plants shall be dug with spread of root and of sufficient depth to ensure full recovery of the plant.

E. When balled and burlapped plants are set, planting soil shall be carefully tamped under and around the base of the balls to prevent voids. All burlap, rope, wires, etc., shall be removed from the sides and tops of balls, but no burlap shall be pulled from underneath. Roots of bare rooted plants shall be properly spread out and planting soil carefully worked in among them.

F. Before plants are backfilled with planting soil, fertilizer tables, Agriform 20-10-5 or equal, shall be placed in each pit. Provide three tablets for each tree and one for each shrub or vine.

G. All plants shall be set straight or plumb, in locations shown on the Drawings. Except as otherwise specified, plants shall be planted in pits and shall be set at such level that, after settlement, they bear the same relation of the finished grade or surrounding ground as they bore to the grade of the soil from which they are taken.

H. Pruning shall be carefully done by experienced plantsmen. Prune immediately upon acceptance by the Owner, including any broken branches, thinning all small branches and tipping back main branches (except main leaders).

I. Excess soil and debris shall be disposed of off the project site unless ordered stockpiled by the Engineer.

3.02 Obstructions Below Ground

A. If underground construction utilities or obstructions are encountered in excavation of the planting areas, or pits, other locations for the plant material may be selected by the Engineer.

B. Such changes shall be done without additional compensation.

3.03 Tree and Plant Protection

A. The Contractor shall remove only those trees selected for removal by the Engineer. Prior to removal of said trees, the Contractor shall obtain a tree removal permit, if required. All other trees in the vicinity of the work shall be protected against damage by the Contractor until all work under the Contract has been completed.

B. Consult with the Engineer, and remove agreed-on roots and branches which interfere with construction. Employ qualified tree surgeon to remove, and to treat cuts.

C. Provide temporary barriers to the height of six feet (6-foot/0-inches), around each, or around each group of trees and plants.

D. Protect root zones of trees and plants:

1. Do not allow vehicular traffic or parking.
2. Do not store materials or products.
3. Prevent dumping of refuse or chemically injurious materials or liquids.
4. Prevent puddling or continuous running water.

E. Carefully supervise excavating, grading and filling, and subsequent construction operations, to prevent damage.

F. In case of inadvertent damage to any tree, by the Contractor or any of his subcontractors or employees, the Contractor shall provide replacement of each size tree with a new tree of acceptable type, size and quality, subject in each case to the approval of the Owner.

G. Completely remove barricades, including foundations, when construction has progressed to the point that they are no longer needed, and when approved by the Engineer.

H. Clean and repair damage caused by installation, fill and grade the areas of the site to required elevations and slopes, and clean the area.

3.04 Replacement

A. At the end of the warranty period, any plant required under this Contract that is dead or not in satisfactory growth as determined by the Engineer shall be removed. Plants replaced shall be guaranteed for 90 days after date of replacement.

B. Replacement of plants necessary during the guarantee period shall be the responsibility of the Contractor, except for possible replacements of plants

resulting from removal, vandalism, acts of neglect on the part of others, or acts of God.

C. All replacements shall be plants of the same kind and size as specified in the landscape drawings. They shall be furnished and planted as herein specified. The cost shall be the responsibility of the Contractor.

END OF SECTION

SECTION 02920

GRASSING

PART 1 GENERAL

1.01 Section Includes

Soil preparation, sodding, seeding, mulching, fertilizing, watering, and maintenance of grassed areas

1.02 References

Florida Department of Transportation Standard Specifications for Road and Bridge Construction, latest implemented edition.

1.03 Submittals

A. All sod shall have a valid and current state of Florida, Division of Plant Industry (DPI) inspection certification prior to being transported to the construction site. Submit the DPI certification to the Engineer and maintain a copy of the certification onsite with the construction records.

B. Tickets from each sod pallet of sod delivered to the site shall be provided to the Owner. The tickets are to identify the sod type, the sod farm (source) of the sod, and the date the sod was cut.

C. Provide signed copies of a statement by the vendor certifying that each lot of seed has been tested by a recognized laboratory for seed testing within 6 months of date of delivery. This statement shall include: name and address of laboratory, date of test, lot number for each kind of seed, and the results of tests as to name, percentages of purity and of germination, and percentage of weed content for each kind of seed furnished, and, in case of a mixture, the proportions of each kind of seed.

1.04 Warranty

All seeding shall be warrantied by the General Contractor to be true to name and in a vigorous growing condition through one growing cycle including one summer and one winter season.

1.05 Certification

Sod shall have a valid and current State of Florida, Division of Plant Industry (DPI) inspection certification prior to being transported to the construction site.

1.06 Maintenance

A. Maintenance for lawns shall begin immediately after seeding or sodding. Provide fertilizing, watering, mowing and replanting and continue as necessary until a close healthy stand of specified grasses is established.

B. Mowing and watering shall be continued until project completion as directed by the Owner.

PART 2 PRODUCTS

2.01 Lime

Lime shall be agricultural grade dolomitic limestone, ground sufficiently fine so that at least 80 percent will pass through a No. 8 sieve, and it shall contain not less than 80 percent calcium carbonate equivalent. Moisture content at time of delivery shall not exceed 8 percent.

2.02 Fertilizer

Fertilizer shall be a composition recommended by a local County Agricultural Agent or State Agricultural Extension Service or a preformulated 10-6-4 mixture.

2.03 Water

Water shall be free from oil, acid, alkali, salts, and other harmful substances.

2.04 Sod

A. Sod shall be either field or nursery grown sod that is native to the locality of the Project. The Contractor shall obtain Engineer's approval of the source of the sod prior to cutting the sod.

B. Sod grown on soil high in organic matter, such as peat, will not be acceptable. The consistency of sod shall be such that it will not break, crumble or tear during handling and placing. Sod shall be reasonably free of stones, crab grass, noxious weeds, and other objectionable plants or substances injurious to plant growth.

C. Sod shall have at least 1 inch of soil adhering firmly to the roots and cut in rectangular pieces with the shortest side not less than 12 inches. At the time of cutting sod the grass shall be mowed to a height not less than 2 inches nor more than 4 inches.

D. Sod cut for more than 48 hours shall not be used without the approval of the Engineer.

E. Bermuda Sodding shall be Common Bermuda.

2.05 Seed and Mulch

A. Permanent grass seed shall be scarified argentine bahia, in accordance with FDOT specification 981.

B. Temporary grass seed shall be annual rye grass in accordance with FDOT specification 981.

C. Mulch shall be dry mulch in accordance with FDOT specification 981.

PART 3 EXECUTION

3.01 Timing Requirements

A. Grass all disturbed areas, whether temporary or permanent grassing, within 7 days of initial disturbance.

B. Permanently grass disturbed areas after all required testing is complete.

3.02 Regrading of Topsoil

Topsoil shall be graded reasonably smooth and level after final settlement. All humps shall be removed and depressions or eroded areas filled in with additional topsoil before proceeding with seeding or sodding.

3.03 Preparation for Sodding or Seeding

A. Preparation shall not be started until all other site and utility work and finished grading within the areas to be seeded have been completed.

B. Loosen topsoil by tilling it to a depth of at least 3 inches and smooth out all surface resulting irregularities. Leave area free of rocks or hard soil clods that will not pass through the tines of a standard garden rake.

C. At least 7 days before applying fertilizer, spread lime uniformly in sufficient quantity to produce a soil pH of 6.5. Work lime thoroughly into topsoil to a depth of 3 inches.

D. Apply fertilizer uniformly at a rate of 20 pounds per 1000 square feet. Work fertilizer into soil prior to seeding or sodding.

3.04 Sodding

A. Provide sod in areas indicated on the Drawings. Generally, all disturbed areas are to be sodded except for those areas specifically identified to be seeded and mulched or hydroseeded. Sodding shall also be used in ditches and drainage swales and on all embankment slopes steeper than 3 to 1 unless protection is provided against erosion of seeding.

B. Place sod with the edges in close contact and alternate courses staggered. Lightly tamp or roll to eliminate air pockets. On slopes 2 to 1 or steeper, stake sod with not less than 4 stakes per square yard and with at least one stake for each piece of sod. Stakes shall be driven with the flat side parallel to the slope. Do not place sod when the ground surface is frozen or when air temperature may exceed 90 degrees F. Water the sod thoroughly within 8 hours after placement and as often as necessary to become well established.

C. In ditches, the sod shall be placed with the longer dimension perpendicular to the flow of water in the ditch. On slopes, starting at the bottom of the slope, the sod shall be placed with the longer dimension parallel to the contours of the ground.

D. All exposed edges of sod shall be buried flush with the adjacent turf.

3.05 Seeding and Mulching – N/A

3.06 Hydroseeding – N/A

3.07 Watering

Immediately after placing erosion control or mulch, water seeded areas thoroughly with a fine mist spray. Keep soil thoroughly moist until seeds have sprouted and achieved a growth of 1 inch. For sod, immediately begin watering and continually keep moist until the sod has firmly knit itself to the topsoil.

3.08 Protection of Work

Protect newly seeded and sodded areas from all traffic by erecting temporary fences and signs. Protect slopes from erosion. Properly and promptly repair all damaged work when required.

3.09 Application of Fertilizer

Six weeks after completion of seeding or sodding apply granular fertilizer over all areas at the rate of two pounds of nitrogen nutrients per 1000 square feet of area.

3.10 Turf Establishment

A. Any sod that is more than 20% brown and has not become green within 14 calendar days of installation shall be re-sodded as directed by the Owner.

B. Any sod that does not have root establishment (can be pulled up by hand) 14 calendar days or more after installation shall be re-sodded as directed by the Owner.

C. All bare spots larger than 1 square foot shall be re-grassed as directed by the Owner.

D. Any bare areas compromising more than 1% of any given 1000 square foot area shall be re-grassed as directed by the Owner.

E. For the re-grassing, areas that were sodded are to be re-sodded and areas that were seeded are to be re-seeded.

F. Scattered bare spots, none of which is larger than one square foot, will be allowed up to a maximum of 3% of the total area.

G. Except for factors caused by a third party (other than the Contractor, subcontractor or supplier for the project), all re-grassing or repair of washed out and eroded areas shall be at no additional cost to the Owner.

H. Grassed areas not showing a close uniform stand of healthy specified grasses at the time of substantial completion shall be replaced and maintained until final payment is made to the Contractor.

3.11 Clean-Up

At the time of final inspection of work, but before final acceptance, remove from seeded and sodded areas all debris, rubbish, excess materials, tools, and equipment.

END OF SECTION

SECTION 02955

CLEANING AND FLUSHING OF UNDERGROUND PIPING

PART 1 GENERAL

1.01 Section Includes

Water transmission main flushing and cleaning.

1.02 Related Sections

A. Section 02510 - Water Distribution Systems

1.03 References

A. American Water Works Association (AWWA) and American National Standards Institute (ANSI) latest edition:

1. AWWA C651 - Disinfecting Water Mains

1.04 Submittals

Proposed points of connection to water sources.

PART 2 PRODUCTS

2.01 Water Source For Flushing

A. The following water sources can be used for flushing of the main:

1. Existing potable water service onsite

B. Provide all temporary jumpers and taps for connecting the water source to the water main to be flushed.

C. Provide proposed tap locations to the utility for approval prior to placement of taps.

D. Potable water provided by the utility shall be metered and all meter and usage fees shall be paid by the Contractor. Where, in the determination of the utility it is not practical to meter the flushing water, the water volume must be estimated by the Contractor by an approved methodology before the flushing begins.

PART 3 EXECUTION

3.01 General

A. The system shall be thoroughly cleaned of all material, sand, grit, gravel, stones, fluids, construction debris, and other items that can generally be construed as foreign material and that would not be found in a properly cleaned system.

B. Clean the installed water transmission main piping system by conducting a full bore flush.

3.02 Flushing of Pipeline

A. Conduct full diameter flushing of pipeline in sections in order to remove any solids or contaminated material that may have become lodged in the pipe.

B. Obtain a minimum flushing velocity of 2.5 feet per second per AWWA C651.

C. All taps required for flushing and the temporary or permanent release of air as needed for flushing shall be provided by the Contractor.

D. The following Table is from AWWA C651 (Table 3) and is provided as a guideline as to the number of taps or fire hydrant outlets needed to meet the minimum flushing rate based on 40 psi residual pressure. Note that the number of taps and hydrant connections shown is for reference only and may not address all field conditions that could result in the need for additional taps or hydrant connections in order to achieve 2.5 feet per second flow.

MINIMUM FLUSHING RATE					
Pipe Dia. (In)	**Flow Rate For Flushing (GPM)**	**Number of Taps**			**Number of 2½" Fire Hydrant Outlets**
		1"	1½"	2"	
4	100	1	-	-	1
6	200	-	1	-	1
8	400	-	2	1	1
10	600	-	3	2	1
12	900	-	-	3	2
16	1600	-	-	4	2
20	2500	-	-	7	4

END OF SECTION

SECTION 03100

CONCRETE FORMS

PART 1 GENERAL

1.01 Section Includes

General formwork, forms, form liners, and coatings, form ties.

1.02 Related Sections

Section 03150 - Concrete Accessories

1.03 References

A. American Concrete Institute (ACI) latest edition:

1. ACI 301 - Structural Concrete for Buildings
2. ACI 318 - Building Code Requirements for Reinforced Concrete
3. ACI 347 - Guide to Formwork for Concrete
4. ACI SP-4 - Formwork for Concrete

1.04 System Description

Provide formwork to produce members of the size, shape, and exterior finish required, for the structural adequacy of the forms to carry construction loads without excessive deflection, and for the safe use of forms in connection with completion of the concrete work. The Contractor shall be responsible for any injury or damage arising from inadequate forms or from premature removal of formwork.

1.05 Submittals

Submit samples of patterned concrete form liner panels and form ties.

PART 2 PRODUCTS

2.01 Formwork

A. Form ties shall be a watersealing snap-in type. For patterned concrete, use stainless steel snap ties.

B. Plywood forms and liners shall be minimum grade B-B High Density Overlay Concrete Form Panels, Class I.

C. Formwork lumber shall be straight and clean. All nails shall be withdrawn and surfaces in contact with concrete shall be thoroughly cleaned before reuse

D. Metal forms shall be in accordance with ACI SP-4.

2.02 Patterned Concrete Form Liners

A. The special liners shall be configured in such a manner as to produce patterned finish concrete that will duplicate the surface appearance of the cut limestone building panels. The location, extent, and configuration of the surface treatment shall be as indicated on the Drawings. In addition to form release agents, rustication may be slightly beveled, approximately 1 to 8 maximum, to facilitate form release.

B. Produce the patterned concrete with a smooth finish by using either plywood and/or tempered hardboard, complying with requirements for Grade A Forms, in conjunction with finished lumber, or approved fiberglass liners; or an approved equal liner. Liner joint marks shall not be apparent.

PART 3 EXECUTION

3.01 General

A. Coordinate with other trades and properly place and locate in position all necessary dowels, bolts, anchors, anchor slots, inserts, sleeves, openings, hangers, metal ties and other fastening devices required for attachment and support of adjacent work. Securely anchor all embedded items.

B. Formwork shall comply with ACI 347 and to shape, lines and dimensions of the members as indicated on the Drawings. Joints in forms shall be horizontal or vertical. Forms shall be properly braced or tied to maintain position and shape under all dead and live loads and to prevent leakage. Forms shall be assembled so their removal will not damage the concrete. Tolerances for formed surfaces shall be in compliance with ACI 301.

C. Lumber formwork may be used for surfaces which will not be exposed to view. Use plywood or metal forms for exposed surfaces.

D. Provide temporary openings at the base of forms greater than 4 feet high, if necessary, to facilitate cleaning and inspection immediately before depositing concrete.

E. All external corners of concrete exposed to view shall be chamfered by using 3/4 inch by 3/4 inch by 45 degree wood stripping, except as otherwise indicated on the Drawings.

3.02 Grade A Forms

A. Unless otherwise indicated, Grade A forms shall be used for all exposed concrete.

B. Grade A forms shall consist of steel forms lined with 3/16 inch thick tempered hardboard or 1/4 inch thick plywood, or by using plywood forms.

C. Full sized sheets shall be used wherever possible. The edges of all sheets shall be straightened to insure tight, close fitting joints. Bulges or depressions more than 1/8 inch in 4 feet will not be permitted. Open joints which would permit leakage shall be sufficient cause for rejection of forms. Other tolerances shall be as allowed by ACI 347.

3.03 Grade B Forms

A. Use lumber, plywood or metal forms. All joints shall be solidly backed, aligned and made leakproof.

B. Unless otherwise indicated, Grade B Forms are intended for use where concrete will not be exposed to view, such as below grade, below normal liquid levels in water-retaining structures, or inside manholes, boxes, vaults, etc.

3.04 Surface Treatment of Formwork

The inside surface of lumber forms shall be soaked with clean water prior to placing concrete. All other forms shall be treated with an approved form oil or lacquer. If oil is used, all excess oil shall be wiped off.

3.05 Inspection of Formwork

Concrete shall not be placed until the forms have been inspected by the E/A to assure surfaces in conformance with the Drawings and Specifications. The inspection of formwork by the E/A does not relate to the structural adequacy or the safety of the formwork.

3.06 Removal of Forms

Forms shall be removed in accordance with requirements of ACI 318, without damaging the concrete. Leave shoring in place until concrete will safely support its own weight plus any live loads that may be placed upon it.

END OF SECTION

SECTION 03150

CONCRETE ACCESSORIES

PART 1 GENERAL

1.01 Section Includes

Construction joints, anchors and inserts, waterstops

1.02 Related Sections

A. Section 03100 - Concrete Forms

1.03 References

A. American Society for Testing and Materials (ASTM) latest edition:

1. ASTM D1751 - Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Nonextruding and Resilient Bituminous Types)
2. ASTM D1752 - Preformed Sponge Rubber and Cork Expansion Joint Fillers for Concrete Paving and Structural Construction

1.04 Submittals

Provide samples and certifications of all proposed materials.

PART 2 PRODUCTS

2.01 Joint Fillers

A. Joint fillers shall be products of the following manufacturers, or equal

1. W. R. Meadows, Inc., Elgin, Illinois
2. W. R. Grace and Co., Cambridge, Massachusetts

B. Preformed sponge rubber joint filler shall conform to ASTM D1752, Type I.

C. Preformed cork joint filler shall conform to ASTM D1752, Type II.

D. Preformed bituminous fiber joint filler shall be non_extruding type conforming to ASTM D1751.

E. Control joint strips shall have a minimum depth of 25 percent of slab thickness and a minimum thickness of 1/8 inch.

2.02 Joint Sealants

Sealants for joints shall be in accordance with Section 07900.

2.03 Waterstop

A. Waterstop shall be either rubber (SBR or Neoprene) or PVC and shall be dense, homogeneous and uniform. PVC is preferred. Holes and imperfections shall be cause for rejection

B. Waterstops for construction joints shall be 4 inch by 3/16 inch minimum split waterstop or 6 inch by 3/8 inch minimum with hollow center bulb. Waterstops for expansion joints shall be 9 inch by 3/8 inch with 3/4 inch hollow center bulb. Multiple rib type of waterstop is preferred, if available. Where size and type of waterstop are not indicated, 6 inch by 3/8 inch minimum with hollow center bulb shall be used.

C. Provide prefabricated tees, crosses, and other configurations as required for all intersections of waterstop.

PART 3 EXECUTION

3.01 Preparation

Remove existing concrete and provide openings for installation of new work as indicated on Drawings. Repair all damage to existing work caused by concrete removal.

3.02 General

A. Arrange construction joint bulkheads to allow concrete to be placed between construction joints in one continuous operation.

B. Provide construction joints with shear transfer keyways and waterstops as indicated. Unless otherwise indicated on the Drawings, spacing of construction joints for walls shall not exceed 75 feet.

C. Erect bulkheads where shown on the Drawings or where approved by the E/A. Bulkheads shall be at right angles to the main reinforcement and shall produce a tongue and grooved joint of the configuration indicated on the Drawings. Install waterstop as indicated.

D. Obtain the E/A's approval if it becomes necessary to eliminate or relocate construction joints shown on the Drawings.

E. Tops of edge forms, bulkheads and screeds shall be set to the finished elevations and to provide uniform pitch to drains as indicated on Drawings.

3.03 Horizontal Joints

Provide methods of achieving a leakproof joint. No horizontal construction joints will be permitted in slabs, beams, or girders

3.04 Vertical Joints

Joints in reinforced slabs, beams, and girders shall be perpendicular to the axis or plane of the members joined.

3.05 Expansion Joints

A. Provide expansion joints and waterstops where indicated. Joint fillers shall be placed on each side of waterstops.

B. Unless otherwise indicated, provide preformed sponge rubber or preformed cork filler. Allow for installation of two component traffic grade polyurethane sealant

C. For drives, pavements, parking areas, walks and slabs on grade, provide preformed non-extruding asphalt strip or bituminous fiber joint filler set 1/8_inch below finished surface unless otherwise indicated. Tool concrete edges on each side of joint. No sealant is required.

D. Unless otherwise indicated, provide preformed sponge rubber or cork filler with allowance for installation of two-component polysulfide sealant.

E. Unless otherwise indicated, provide preformed sponge rubber or cork filler with allowance for installation of two component polysulfide sealant.

3.06 Waterstops

A. Provide continuous waterstops where so indicated on the Drawings

B. Embed approximately half of the waterstop on each side of the joint. Field splice and joint PVC waterstop by heat sealing butt joints. Rubber waterstop shall be spliced or jointed with solid web rubber unions and the manufacturer's approved cold applied cement.

C. All splices and joints shall be in accordance with the manufacturer's recommendations to produce a water-tight joint. Lap splices will not be permitted. Support and protect the waterstop during construction. Repair or replace all damaged waterstop.

END OF SECTION

SECTION 03200

CONCRETE REINFORCEMENT

PART 1 GENERAL

1.01 Section Includes

Reinforcement for concrete, not including reinforcement for masonry.

1.02 References

A. American Concrete Institute (ACI) latest edition:

1. ACI 315 - Standard Practice for Detailing Reinforced Concrete Structures
2. ACI 318 - Building Code Requirements for Reinforced Concrete

B. American Society for Testing and Materials (ASTM) latest edition:

1. ASTM A36 - Carbon Structural Steel
2. ASTM A185 - Steel Welded Wire Reinforcement, Plain, for Concrete
3. ASTM A615- Deformed and Plain Billet-Steel Bars for Concrete Reinforcement

C. Concrete Reinforcing Steel Institute (CRSI) latest edition:

1. Manual of Standard Practice for Reinforced Concrete Construction

1.03 Submittals

A. Certifications for reinforcement

B. Reinforcement steel shop drawings prepared in accordance with ACI 315. Drawings shall indicate bending diagrams, shapes, dimensions, clearances, splicing and laps, accessories, and installation notes.

PART 2 PRODUCTS

2.01 General

A. Reinforcement bars shall be ASTM A615, Grade 60 deformed bars, except as otherwise indicated.

B. Smooth dowels shall be ASTM A615, Grade 60 plain bars

C. Threaded dowels shall be ASTM A36.

D. Welded wire fabric shall conform to ASTM A185. Where welded wire fabric is shown but not sized on Drawings, use 6" x 6" x W2.9 x W2.9 WWF.

E. Accessories for proper installation of reinforcement shall conform to CRSI "Manual of Standard Practice for Reinforced Concrete Construction". Bar supports at exposed surfaces shall be Class C Plastic Protected.

F. Reinforcement fabrication shall conform to ACI 315 and ACI 318, and approved shop drawings.

PART 3 EXECUTION

3.01 Preparation

A. On porous subgrade or beddings, provide vapor barrier.

B. Coordinate with other trades and properly place and locate in position all necessary reinforcement, dowels, bolts, anchors, anchor slots, inserts, hangers, metal ties, and other fastening devices required for attachment and support to adjacent work. Securely anchor all fixtures and embedded items.

3.02 General

A. The placement of reinforcing steel shall conform to "Placing Reinforcing Bars", as published by the Concrete Reinforcing Steel Institute except as noted.

B. Reinforcement shall be inspected and approved by the E/A before enclosing forms are erected and shall be rechecked immediately prior to depositing concrete.

3.03 Splices, Laps, and Dowels

A. Provide continuous reinforcement or dowels through construction joints. The use of inserts in lieu of dowels shall be subject to the E/A's approval. One half of reinforcement shall be discontinued across control joints unless otherwise indicated. All reinforcement shall be discontinued across expansion joints, except for sleeved or greased dowels, if indicated

B. Splice laps shall be as indicated on the Drawings. Dowels shall be of the same size as the largest bar to which they lap, unless otherwise indicated.

C. Splices for horizontal wall reinforcement of circular tanks shall be staggered so that no more than each fifth bar in each face is spliced within any two feet of wall perimeter. Slab reinforcement splices for circular tanks shall be staggered as indicated on the Drawings. The minimum length of staggered lap splices in circular structures shall be as indicated on the Drawings.

3.04 Fabric Reinforcement for Slabs

A. Fabric reinforcement for slabs shall be overlapped at splices not less than the spacing of the cross wires plus 2 inches. Fabric shall extend to within 4 inches of concrete edges.

B. Unless otherwise shown, place reinforcement 2 to 3 inches below the top of the finished slab. Mesh shall either be sandwiched between two layers of fresh concrete or supported on mesh supports. Supports that may puncture the vapor barrier, if any, shall not be used.

3.05 Reinforcement for Formed Concrete

Secure steel reinforcement to maintain proper position during concrete placement. Concrete protection for reinforcement shall conform to ACI 318, except as otherwise indicated on the Drawings. The distance from the center of reinforcing bars to the opposite face of all structural slabs, walls, columns, or beams shall conform to ACI 318. The distance may be increased provided the required cover is maintained.

END OF SECTION

SECTION 03300

CAST-IN-PLACE CONCRETE

PART 1 GENERAL

1.01 Section Includes

General requirements for formwork, reinforcement, accessories and cast-in-place concrete.

1.02 References

A. American Concrete Institute (ACI) latest edition:

1. ACI 301 - Structural Concrete for Buildings
2. ACI 305 - Hot Weather Concreting
3. ACI 306 - Cold Weather Concreting
4. ACI 315 - Detailing Manual
5. ACI 318 - Building Code Requirements for Structural Concrete
6. ACI 347 - Formwork for Concrete

B. American Association of State Highway and Transportation Officials (AASHTO) latest edition:

1. AASHTO T152 - Air Content of Freshly Mixed Concrete by the Pressure Method

C. American Society for Testing and Materials (ASTM) latest edition:

1. ASTM A185 - Steel Welded Wire Reinforcement, Plain, for Concrete
2. ASTM A615 - Deformed and Plain Billet-Steel Bars for Concrete Reinforcement
3. ASTM C31 - Making and Curing Concrete Test Specimens in the Field
4. ASTM C33 - Concrete Aggregates
5. ASTM C39 - Test Method for Compressive Strength of Cylindrical Concrete Specimens
6. ASTM C94 - Ready-Mixed Concrete
7. ASTM C138 - Test Method for Density (Unit Weight), Yield, and Air Content (Gravimetric) of Concrete
8. ASTM C143 - Test Method for Slump of Hydraulic Cement Concrete
9. ASTM C150 - Portland Cement
10. ASTM C173 - Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method
11. ASTM C231 - Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method
12. ASTM C260 - Air-Entraining Admixtures for Concrete
13. ASTM C309 - Liquid Membrane-Forming Compounds for Curing Concrete

14. ASTM D1751 - Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Nonextruding and Bituminous Types)

1.03 Submittals

A. Submit reinforcement steel shop drawings prepared in accordance with ACI 315, Manual of Standard Practice for Detailing Reinforced Concrete Structures. Drawings shall indicate bending diagrams, shapes, dimensions, clearances, splicing and laps, accessories, and installation notes.

B. Submit manufacturer's literature for all admixtures proposed for the work.

C. Submit delivery tickets in accordance with ASTM C94 for each batch of ready-mixed concrete. Information on the ticket shall include class of concrete, water content, time of loading, truck number, admixtures, and quantity.

D. At least 35 days prior to placing of concrete, the Contractor shall submit proposed mix proportions and samples of proposed materials.

1.04 Quality Control

A. Materials and methods of mixing and placing concrete shall conform to ACI 318, Building Code Requirements for Reinforced Concrete.

B. Tests for slump shall be made when directed by the Engineer in accordance with ASTM C143.

C. Air content tests shall be made, when directed by the Engineer, in accordance with ASTM C138, C173, C231, or AASHTO T-152.

PART 2 PRODUCTS

2.01 Formwork

Formwork lumber shall be straight and clean. All nails shall be withdrawn and surfaces in contact with concrete shall be thoroughly cleaned before reuse.

2.02 Reinforcement

A. Reinforcement bars shall be ASTM A615, Grade 60 deformed bars, except as otherwise indicated.

B. Welded wire fabric shall conform to ASTM A185. Where welded wire fabric is shown but not sized on Drawings, use 6" x 6" x W2.9 x W2.9 WWF.

C. Accessories for proper installation of reinforcement shall conform to CRSI "Manual of Standard Practice for Reinforced Concrete Construction". Bar supports at exposed surfaces shall be Class C-Plastic Protected.

D. Reinforcement fabrication shall conform to ACI 315 and ACI 318, and approved shop drawings.

2.03 Joint Fillers

A. Joint fillers shall be products of the following manufacturers, or equal:

1. W. R. Meadows, Inc., Elgin, Illinois
2. W. R. Grace and Co., Cambridge, Massachusetts.

B. Preformed bituminous fiber joint filler shall be non-extruding type conforming to ASTM D1751.

C. Control joint strips shall have a minimum depth of 25 percent of slab thickness and a minimum thickness of 1/8 inch.

2.04 Concrete Materials

A. Water shall be clean and potable

B. Portland cement shall be ASTM C150 Type I, II or III.

C. Fine and coarse aggregate shall be clean, hard, natural, or manufactured material conforming to ASTM C33.

D. The nominal maximum size of the aggregate shall not be larger than three-fourths of the minimum clear spacing between individual reinforcing bars. Coordinate with maximum aggregate sizes specified hereafter for classes of concrete.

E. Admixtures shall conform to ASTM C260 (air entrainment) or C494 (water reduction) and shall be products of one of the following manufacturers, or equal.

1. Dewey and Almy Chemical Div., W. R. Grace and Co.
2. Euclid Chemical Co.
3. Master Builders Co.
4. Sika Chemical Corp.

2.05 Miscellaneous Materials

A. Vapor barrier shall be polyethylene film 0.006 inches thick and shall conform to Product Standard PS-17.

B. Liquid membrane curing compound shall conform to ASTM C309, Type 1 or Type 2. Type 2 compound shall be used for P.C.C. pavement only. All permanently exposed exterior slabs shall receive clear acrylic curing and sealing compound. Moisture loss shall not be more than 0.055 gr./sq. cm when applied to 200 sq. ft./gal.

C. Liquid membrane curing compound shall be products of one of the following manufacturers, or equal:

1. W.R. Meadows "Curettard"
2. Sonneborn-Contech "Sonsil"
3. Burke Co. "Res-Xnu"
4. Lambert Corp. "Gardseal"

D. Chemical hardener shall be colorless aqueous solution containing a blend of magnesium fluosilicate and zinc fluosilicate combined with a wetting agent, conforming to Federal Specifications TT-C-800A and Corps of Engineers Specification CE 204.

E. Chemical hardener shall be products of one of the following manufacturers, or equal:

1. Euclid Chemical Co. "Surfhard"
2. Sonneborn-Contech "Lapidolith"
3. Master Builders "Saniseal"
4. Lambert Corp. "Solidus"

2.06 Concrete Mixtures

A. Concrete not indicated otherwise shall be Class A concrete.

B. The proportions of cement, aggregate, and water shall be selected by the Contractor in accordance with ACI 318 to provide a plastic and workable mix. Coarse aggregate shall be limited to prevent harshness and honeycombing. Coarse aggregate size shall not be greater than the maximum listed for the various classes of concrete and as previously specified under aggregate.

C. Class A structural concrete shall have a 28 day strength of 4000 psi, shall contain not less than 540 pounds (5-3/4 bags) of cement per cubic yard of concrete, shall have a water-cement ratio of not more than 0.47 (5-1/4 gallons per bag of cement), and shall contain 4 percent to 6 percent entrained air, by volume, except interior slabs subject to abrasion shall not contain more than 3 percent entrained air. In addition, Class A concrete shall contain a water-reducing, densifying admixture and have a maximum slump of 4 inches. The maximum aggregate size for slabs shall be 1 inch.

D. Class B lean concrete shall have a 28 day strength of 3000 psi, it shall contain not less than 420 pounds (4-1/2 bags) of cement per cubic yard of concrete, shall have a water-cement ratio of not more than 0.71 (8 gallons per bag of cement), and shall have a 5 inch maximum slump. The maximum aggregate size shall be 2 inches.

E. Water-reducing densifying admixture added to Class A concrete shall reduce the water-cement ratio while maintaining slump and compressive strength. Use as manufacturer recommends.

F. Other admixtures may be proposed by the Contractor or requested by the Engineer and shall be provided at no additional cost to the Owner. Subject to approval, admixtures may be used for the following:

1. To increase slump up to 50 percent while maintaining compressive strength and water-cement ratio.
2. To retard set during hot weather

G. Calcium chloride, admixtures containing calcium chloride, or admixtures not approved, in writing by the Engineer, are prohibited.

PART 3 EXECUTION

3.01 General

A. Comply with ACI 305 or 306 for hot or cold weather concreting.

B. Do not mix salt, chemicals, or other foreign materials with the concrete to prevent freezing without approval of the Engineer. Maintain the temperature of concrete above 50 degrees F for 5 days after placement. When high early strength Portland cement concrete is used, the temperature shall not be less than 70 degrees F for 2 days or 50 degrees F for 3 days.

C. In no case shall the temperature of concrete exceed 90 degrees F at the time of placement.

3.02 Preparation

A. Remove existing concrete and provide openings for installation of new work as indicated on Drawings. Repair all damage to existing work caused by concrete removal.

B. Coordinate with other trades and properly place and locate in position all necessary dowels, bolts, anchors, anchor slots, inserts, sleeves, openings, hangers, metal ties and other fastening devices required for attachment and support of adjacent work. Securely anchor all embedded items.

C. The subgrade and/or bedding shall be compacted and free of frost. If placement is allowed at temperatures below freezing, provide temporary heat and protection as required to remove all frost. Saturate the subgrade approximately 8 hours before placement and sprinkle ahead of the placement of concrete in areas where vapor barrier is not used. Remove all standing water, ice, mud, and foreign matter before concrete is deposited.

D. On porous subgrade or beddings, or where indicated on the Drawings, provide vapor barrier. Lay vapor barrier sheets with 6 inch edge laps and tape or seal with mastic. Stretch and weight edges and laps to maintain their positions until concrete is placed. Coordinate with placement of reinforcement.

3.03 Formwork Requirements

A. Formwork shall comply with ACI 347 and to shape, lines and dimensions as indicated on the Drawings. Forms shall be properly braced or tied to maintain position and shape under all dead and live loads and to prevent leakage. Forms shall be assembled so their removal will not damage the concrete. Tolerances for formed surfaces shall be in compliance with ACI 301.

B. Lumber formwork may be used for surfaces which will not be exposed to view. Use plywood or metal forms for exposed surfaces.

C. The inside surface of lumber forms shall be soaked with clean water prior to placing concrete. All other forms shall be treated with an approved form oil or lacquer. If oil is used, all excess oil shall be wiped off.

3.04 Reinforcement

A. The placement of reinforcing steel shall conform to "Placing Reinforcing Bars", as published by the Concrete Reinforcing Steel Institute except as noted.

B. Provide continuous reinforcement or dowels through construction joints. One half of reinforcement shall be discontinued across control joints unless otherwise indicated. All reinforcement shall be discontinued across expansion joints.

C. Splice laps shall be as indicated on the Drawings.

D. Fabric reinforcement for slabs shall be overlapped at splices not less than the spacing of the cross wires plus 2 inches. Fabric shall extend to within 4 inches of concrete edges.

E. Unless otherwise shown, place reinforcement 2 to 3 inches below the top of the finished slab. Mesh shall either be sandwiched between two layers of fresh concrete or supported on mesh supports. Supports that may puncture the vapor barrier, if any, shall not be used.

3.05 Joints

A. Provide construction joints with shear transfer keyways as indicated.

B. Tops of edge forms and screeds shall be set to the finished elevations and to provide uniform pitch to drains as indicated on Drawings.

C. For drives, pavements, parking areas, walks and slabs on grade, provide preformed non-extruding asphalt strip or bituminous fiber joint filler set 1/8 inch

below finished surface unless otherwise indicated. Tool concrete edges on each side of joint. No sealant is required.

3.06 Batching

A. Materials for concrete shall be proportioned and batched according to the approved design mix.

B. Water shall be measured to within 1 pint of the total amount required per batch. Admixtures shall be measured by weight or volume to an accuracy of 3 percent.

3.07 Mixing and Transporting Concrete

A. Concrete shall be ready-mixed or job-mixed at the Contractor's option; however, if fibers are used in the concrete, then volumetric trucks may not be used. Ready-mixed concrete shall be mixed and delivered to the project in accordance with ASTM C94. Job-mixed concrete shall be in accordance with the requirements of ACI 318.

B. Concrete shall be in its final position within one hour after the water and aggregate have been added to the cement, except in cool weather (50 degrees F or less).

C. Concrete shall be transported from the mixer to place of final deposit in such manner to prevent separation or loss of ingredients.

3.08 General Concrete Placement Schedule

A. All structural concrete shall be Class A Concrete.

B. Sidewalks, curbing, and driveways shall be Class B Concrete.

3.09 Depositing Concrete

A. Concrete shall be placed in accordance with the requirements of ACI 318 and within 10 feet of its final position. Place concrete only during normal working hours unless the Engineer is notified at least 24 hours in advance. Concrete shall not be placed until the Engineer has approved the formwork, reinforcement, and embedded items and debris has been removed.

B. Whenever new concrete is to be placed against existing surfaces, roughen and clean the surface to improve bond.

C. Provide runways and chutes to discharge concrete close to final position to minimize spreading and segregation.

D. Place slabs-on-grade using formed construction joints. Maximum size of pour shall be 40 feet each way for slabs with wire mesh reinforcement and 75 feet each way for slabs with bar reinforcement. Allow 24 hours between pours of

adjacent slabs. Provide joints as specified or shown. Set continuous joint strips between slabs and abutting vertical surfaces as indicated on the Drawings.

3.10 Finishing Slabs and Flatwork

A. Unless otherwise indicated, provide the following slab finishes:

Description	Concrete Finish
Class B concrete surfaces	Float
Submerged slabs	1 Troweling
Exposed slabs	3 Trowelings
Ramps and walks	Float and broom finish

B. Concrete shall be within ¼ inch of a 10 foot straightedge in all directions except where slabs are dished for drains. Deviations from the elevation indicated shall not exceed ¼ inch.

C. Slabs sloped for drainage shall not have depressions that retain water.

D. Immediately after placement, screed concrete with straightedges or power strikeoffs. Do not use roller screeds or vibrating screeds.

E. Stakes for wet screeds shall be driven down flush with subgrade or pulled out as work progresses to avoid disturbing screeded concrete.

F. For drains in level slabs, form a 5 foot diameter depression approximately ½ inch below the adjacent slab surface.

G. Unless otherwise indicated on the Drawings, slabs sloped for drainage shall be uniformly pitched toward the drains at 1/8 inch per foot. Form a dished depression at drains unless otherwise indicated.

H. Immediately after screeding, darby surface with wood or magnesium darby to eliminate ridges and to fill in voids left by screeding.

3.11 Float Finish

A. Float concrete using magnesium or aluminum hand floats or power floats after the concrete has stiffened to a point where only a ¼ inch indentation can be imparted by normal foot pressure.

B. Float finish shall result in a uniform, smooth, granular texture. After floating, check slab tolerances with 10-foot straightedge. Fill low spots with fresh concrete; do not sprinkle with dry cement.

3.12 Trowel Finish

A. Where scheduled, or indicated, trowel with steel trowels after floating.

B. Initial troweling shall be done either by power or by hand with the trowel blade kept as flat as possible against concrete surface to prevent washboard or chatter effect.

C. Second troweling may be done by power if three trowelings are scheduled. If two trowelings are specified, second troweling shall be done by hand.

D. Third troweling shall be done by hand and shall continue until the concrete is consolidated to a uniform, smooth, dense surface free of trowel marks and irregularities.

E. Allow sufficient time between successive trowelings to allow the concrete to become harder. Each successive troweling shall be done with trowels that are progressively smaller and are tipped more to increase compaction of the concrete surface.

3.13 Brooming

Broom at right angles to direction of traffic to give a non-skid finish. Use a fine, soft-bristled broom for pedestrian ramps and walks, and a coarse, hard-bristled broom for vehicular pavement.

3.14 Control Joints

A. Control joints for non-structural slabs shall consist of partial depth plastic strips set flush with finished surface or 1/8 inch wide joints cut with a diamond saw. Control joints shall be one- quarter to one-third the depth of the slab unless otherwise indicated.

B. Saw joints as soon as concrete has hardened sufficiently so aggregate will not be dislodged but before shrinkage stresses develop cracks. Sawn joints shall be filled with approved joint sealant.

C. Unless otherwise indicated on the Drawings, spacing of control joints shall not exceed 25 feet in each direction.

3.15 Protection and Curing

A. Comply with ACI 305 and 306 for protecting and curing concrete in hot and cold weather. Fresh concrete shall be protected from rain, premature drying and excessively hot or cold temperatures, and shall be maintained with minimal moisture loss for the period of time necessary for the hydration of the cement and proper hardening of the concrete. Cure all concrete for a minimum period of 7 days (3 days for high early strength concrete) after placing.

B. Immediately after finishing, begin curing by covering with constantly saturated moisture retaining fabrics, impervious sheeting, or membrane curing compounds.

Surfaces shall be thoroughly wetted with a fine spray before they are covered with sheeting.

C. Sheeting shall provide complete surface coverage with all joints lapped at least 4 inches and shall be placed and secured in a manner that will not mar or damage the concrete surface.

D. Apply membrane-curing compound in accordance with manufacturer's recommendations. Apply by spraying in a two coat continuous operation. Apply the coats at right angles to each other with a coverage of 200 square feet per gallon per coat. Begin application not later than 4 hours after finishing of the surface. The application shall result in an uninterrupted adherent film free of defects.

E. On surfaces scheduled to receive sealants, paint, seamless flooring, or other adhesive bonded finishes, either the membrane curing compound shall be compatible with the bonding agent or the curing compound shall be removed with sandblasting, acid etching or grinding, to the satisfaction of the installer of the finish surfacing. Bonded surfaces that fail to adhere to the concrete shall be removed and replaced at no additional cost to the Owner.

F. Apply hardener to floors of mechanical and electrical rooms and in other areas as required. Application shall be in strict accordance with the manufacturer's recommendations and as follows:

1. Hardener shall be applied at original container consistency without dilution to dry, clean surfaces no sooner than 30 days following completion of curing. NOTE: Hardener shall not be applied over surfaces covered with membrane curing agent.
2. Application shall generally be a three-coat process adjusted to accommodate extreme concrete densities only if prior review has been obtained from the Engineer. Application coverage shall be made at the approximate rate of one gallon to 100 square feet.
3. Apply first and second coats generously to surface, mop or squeegee standing water to leave a uniformly wet surface, allow to dry. Apply third coat in a manner similar to first two, except that surplus must be scrubbed with stiff bristled broom and flushed from floor surface with clear water. Scrubbing and flushing shall remove all traces of effervescence. Remove excess water and allow to dry.

3.16 Defective Concrete

A. All concrete not formed as indicated on the Drawings within tolerances specified in ACI 347 shall be removed and replaced.

B. Temperature and shrinkage cracks which develop prior to final acceptance of the work shall be repaired.

3.17 Miscellaneous Concrete Work

Provide concrete equipment pads and supports as indicated and conforming to approved shop drawings. Fastening devices and accessories shall be located by templates or setting diagrams furnished by the manufacturer.

3.18 Clean-Up

A. All concrete floor construction shall have the surfaces thoroughly scrubbed and cleaned with clear water. After cleaning, the floors shall be protected until they are accepted.

B. Clean all surfaces affected by the Concrete Work. No extraneous concrete or discoloration shall be left on any construction.

3.19 Concrete Testing

A. Compressive Strength Tests: Conform to ASTM C31 and ASTM C39. One set of four cylinders for each 50 cubic yards or fraction thereof, of each strength concrete placed in any one day. Test one specimens at seven days; test two specimens at 28 days. One specimen shall be retained for 56 days and tested only at the direction of the Engineer.

B. Slump Tests: Conform to ASTM C143. Perform one test for each load point of discharge and one for each set of compressive strength test specimens.

END OF SECTION

APPENDIX A

Geotechnical Data

- **Ardaman & Associates, Inc.**
  Report Dated February 12, 2014

Ardaman & Associates, Inc.

Geotechnical, Environmental and
Materials Consultants

October 25, 2011
File No. 11-7333

TO: Manatee County Property Management Dept.
1112 Manatee Avenue West
Bradenton, FL 34205

Attention: Al Meronek and Drain Cushing

SUBJECT: "Task 2" Subsurface Explorations for Pavement, Stormwater Management and Groundwater Quality at Warner Bayou Boat Ramp, Riverview Boulevard, Bradenton, Manatee County, Florida

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Gentlemen:

As requested and authorized by Work Assignment No. 71, our firm has completed "Task 2" explorations and analysis of the subsurface soil and groundwater conditions at the subject site. This report will present the results of the explorations and our recommendations.

This report was prepared for the exclusive use of Manatee County Government and their consultants, for specific application to the subject site. Our services have been performed in accordance with generally-accepted engineering practices. No other warranty, expressed or implied, is made.

We appreciate the opportunity to be of your service. Please contact our office when we may be of further service or should you have any questions concerning this report.

Very truly yours,

ARDAMAN & ASSOCIATES, INC.
Certificate of Authorization No. 5950

Jerry H. Kuehn, P.E.
Senior Project Engineer
Fl. License No. 35597

Gary H. Schmidt, P.E.
Vice President
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Florida: Bartow, Cocoa, Fort Myers, Miami, Orlando, Port St. Lucie, Sarasota, Tallahassee, Tampa, W. Palm Beach

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1.0 SCOPE

The scope of our services has included the following items:

1. Performing two (2) Standard Penetration Test borings, two (2) auger borings, and one (1) in situ permeability test, to determine the nature of the subsurface soils and existing water table levels.

2. Installing one (1) permanent groundwater monitor well and sampling the well to determine background groundwater quality

3. Reviewing each soil sample obtained in our field exploration program by a geotechnical engineer in the laboratory for further investigation, classification and assignment of laboratory tests.

4. Performing laboratory tests on selected samples.

5. Analyzing the existing subsurface soil and drainage conditions to:
   a. prepare pavement design recommendations,
   b. estimate the seasonal high water table and hydraulic conductivity, and
   c. asses groundwater quality.

6. Preparing this report to document the results of our field exploration program, engineering analyses and recommendations.

Our scope of work also included performing "Task 1" services, which included an assessment of subsurface soil conditions for the proposed restroom structure. These results were presented in a previous report.

2.0 FIELD EXPLORATION

Our field exploration program included conducting two (2) Standard Penetration Test (SPT) borings, two (2) auger borings, installing one (1) piezometer, performing in situ permeability tests in the piezometer, installing one (1) permanent monitor well and collecting groundwater samples from the well. The number and location of these were determined by Manatee County.

The test locations are identified as MW-1, PZ-2, SP-4 and SP-5, and are shown on the attached Figure 1. Also shown on Figure 1 is the location of SP-3 from our "Task 1" explorations. The test borings, piezometer and monitor well were located in the field by visual reference to available site landmarks. The locations should be considered accurate only to the degree implied by the method used. Should more accurate locations be required, a registered land surveyor should be retained.

2.1 Subsurface Soil Borings

The SPT and auger borings were performed to determine the existing water table and subsurface soil conditions to a maximum depth of 15 feet below the existing ground surface. The methods and equipment used in the borings are described in Appendix I of this report.

The soil profiles and water table depths encountered at the time of this exploration are shown on the soil boring logs in Appendix II. The soil descriptions shown on the soil boring logs in Appendix II are based upon the Unified Soil Classification System (ASTM D-2487).

2.2 Permeability Tests

To provide a means of performing in situ horizontal permeability tests, a piezometer was installed at the location of boring PZ-2. Construction details, water level readings and in situ permeability test results for the piezometer are shown on Plate 2 of Appendix III. The in situ permeability tests were performed by the constant-head method, which is described in Appendix I. The test results indicate a saturated horizontal hydraulic conductivity (k_{hs}) of 10 feet/day for the soils within the collection zone (screened interval) of the piezometer. After completion of the test, the piezometer casing was removed from the ground and the hole backfilled with native soil.

2.3 Monitor Well Installation and Sampling

A permanent monitor well was installed at location MW-1, which is shown on the attached Figure 1. A construction diagram for the monitor well is included as Plate 1 of Appendix III and a lithologic log for the well is included in Appendix II.

Our scope of work included obtaining the necessary well construction permit, performing a Standard Penetration Test boring (ASTM D-1586) at the well location, installing the well, developing the well, and sampling the well. Copies of the Southwest Florida Water Management District (SWFWMD) well construction permit and SWFWMD completion report are included in Appendix IV, for your records. The equipment and methods used in the monitor well installation and development are described in Appendix I.

The monitor well was sampled on October 6, 2011. The groundwater sampling was conducted in strict adherence to Florida Department of Environmental Protection Standard Operating Procedures (FDEP SOP-001/01). The samples were collected and placed directly into the laboratory's supplied containers, capped, labeled and packed on ice for transport to the laboratory for analysis. A copy of the field sampling notes, instrument calibration logs, sampling logs and chain-of-custody forms are included in Appendix V. The results will be discussed further in Section 5.3 of this report.

3.0 LABORATORY TESTING

3.1 Soils

Soil samples obtained during our field exploration program were thoroughly examined in our laboratory to obtain an accurate definition of the soil profile. Routine tests were performed on selected samples to aid in classification and to better define the engineering properties. These tests included determining the fines (silt and clay) content. The test results are shown at the respective sample depth on the soil boring logs in Appendix II. Based upon the laboratory test results and visual classification procedures, the soils have been classified in general compliance with the Unified Soil Classification System (ASTM D-2487) by a geotechnical engineer.

In addition, a limerock bearing ratio (LBR) test was performed on a sample of the existing shell material obtained from location SP-4. The test results are included in Appendix III of this report. The results indicate an LBR are value of 174, with a maximum dry density of 129.7 pcf at an optimum moisture content of 7.6%.

3.2 Groundwater

Field measurements of dissolved oxygen, pH, temperature, specific conductance and turbidity were made by Ardaman & Associates at the time of sampling. Laboratory analyses were performed by Test America and included total organic carbon (TOC), mercury, cadmium, copper, lead, zinc, hexavalent chromium, benzene and naphthalene. The results are summarized in the table below and the complete laboratory analytical report is included in Appendix V.

Parameter	MW-1
Dissolved Oxygen (mg/L)	0.18
pH	6.67
Temperature (˚C)	26.9
Specific conductance (µS/cm)	23,910
Turbidity (NTU)	0.20
TOC (mg/L)	20
Mercury (µg/L)	U
Cadmium (µg/L)	U
Copper (µg/L)	3.3
Lead (µg/L)	U
Zinc (µg/L)	U
Hexavalent chromium (µg/L)	U
Benzene (µg/L)	U
Naphthalene (µg/L)	U
Notes: U = compound was analyzed for but not detected.	

4.0 HYDROLOGIC LITERATURE REVIEW

We have reviewed pertinent published literature on surficial soil and hydrologic conditions at and near the site. A discussion of this is presented below, plus a summary of water table definitions.

4.1 Water Table Definitions

The site vicinity is underlain by the unconfined surficial aquifer system, which consists primarily of relatively permeable, sandy sediments overlying an aquiclude that exists at some depth below the ground surface. This aquiclude hydraulically separates the surficial aquifer from the deeper artesian aquifer systems.

The water table in the surficial aquifer generally occurs within a few to several feet below the ground surface. The water table is defined as the surface at which the fluid pressure in the pores of the porous medium (i.e. soil) is equal to atmospheric pressure. The water table level is revealed by the level at which water stands in a shallow open hole (or well) which penetrates into the surficial deposits just deep enough to encounter standing water in the bottom.

Under natural conditions, the water table aquifer is recharged primarily by rainfall and discharges primarily by evapotranspiration and by lateral seepage to surface waters (streams, ditches, etc.). Seasonal variations in rainfall and evapotranspiration cause the water table to

fluctuate. The seasonal high water table is the highest level that is reached during the year. Of course, the seasonal high water table varies from year to year, primarily due to rainfall variations from year to year.

For a typical year in Manatee County, over 60% of the annual rainfall occurs during the four months of June through September. During this period, the water table gradually rises to its highest level, which typically occurs in August to September. During the relatively dry portion of the year (from October to May), the water table recedes to lower levels, typically reaching the lowest level in May.

The U.S. Department of Agriculture, Natural Resources Conservation Service (USDA-NRCS), defines the seasonal high water table as the highest level of a saturated zone in the soil in most years. This definition refers to a saturated zone, rather than the true water table, which is defined above. Due to capillary rise, the saturated zone may extend a few to several inches above the water table. This is because the capillary zone is a saturated zone above the water table where the fluid (pore water) pressure is less than atmospheric pressure. Therefore, water from the capillary zone will not flow into a borehole which penetrates the aquifer. Only in the area below the water table, where the pore water pressure is greater than atmospheric pressure, will the water flow into an open borehole. The height of capillary rise is generally less than six inches above the water table in most of the surficial sandy soils typical of the area, but may be greater if the surficial soils are more silty or clayey. The seasonal high water table may, therefore, be somewhat lower than that reported in the USDA-NRCS soil surveys.

In the USDA-NRCS soil surveys, a range of seasonal high water tables is listed for each of the defined surficial soil types. The water table is estimated to be at or above this level for at least one month during most years. These estimates are based mainly on evidence of a saturated zone (grayish colors or mottles) and are generally applicable to an undrained soil condition (i.e. no artificial drainage).

The Southwest Florida Water Management District (SWFWMD) defines the seasonal high water table as the elevation to which the water table can be expected to rise during a normal wet season. For the purpose of designing stormwater management systems, it is our objective to

estimate the seasonal high water table as the elevation the water table is expected to be at or above for no more than a few (approximately two to four) weeks during a year of average climatic conditions. Our estimated seasonal high water tables for the site will be presented later in this report.

4.2 Review of USDA-NRCS Soil Survey

The United States Department of Agriculture, Natural Resources Conservation Service (NRCS) "Soil Survey of Manatee County, Florida" (issued 1983) indicates the predominant surficial soil type on the site to be Canaveral sand (filled). The NRCS describes this as a nearly level, moderately well trained to somewhat poorly drained soil that consist of sand and shells that have been dredged or excavated from water areas and been leveled and smoothed, mainly for urban use. In general, the fill material ranges from about 20 to more than 80 inches in thickness and ranges from about 10 to 80 percent shell or shell fragments.

The NRCS indicates the seasonal high water table to be at a depth in the range of 1.0 to 3.0 feet below the ground surface. Our site-specific estimate of the seasonal high groundwater table will be presented in Section 5.2 of this report.

5.0 ANALYSES AND RECOMMENDATIONS

Our scope of work included preparing pavement design recommendations, estimating the seasonal high groundwater table and assessing groundwater quality. These will be discussed separately, as follows.

5.1 Pavement Design

The thicknesses of the existing surficial shell materials were measured at locations SP-4 and SP-5, and were found to be approximately 6 inches thick. Laboratory test results indicate the shell at SP-4 to have an LBR value of 174, which would indicate an adequate pavement base material, if adequately compacted.

As requested, we have prepared recommendations for the following pavement options:

- Light duty concrete (automobiles - parking areas)
- Heavy duty concrete (trucks - boat maneuvering areas)
- Heavy duty asphalt (driveway/aprons)

- Shell parking areas and driveways
- Gravel parking areas and driveways

We recommend that the following design criteria be incorporated into the project general specifications.

Light Duty Concrete Pavement

Paving Component	Thickness	Description
Stabilized Subbase	6"	In situ or borrow material stabilized by blending with shell to a minimum LBR of 40%, compacted to 98% of Modified Proctor maximum density (AASHTO T-180), Florida DOT Sec. 160.
Concrete Pavement	4.5"	Minimum 4000 psi 28-day compressive strength, saw cut to minimum 1/4 depth (1 1/8 inches) in 10-foot grid pattern (both directions), Florida DOT Sec. 350.

Heavy Duty Concrete Pavement

Paving Component	Thickness	Description
Stabilized Subbase	8"	In situ or borrow material stabilized by blending with shell to a minimum LBR of 40%, compacted to 98% of Modified Proctor maximum density (AASHTO T-180), Florida DOT Sec. 160.
Concrete Pavement	5.5"	Minimum 4000 psi 28-day compressive strength, saw cut to 1/4 depth (1 3/8 inches) in 12-foot grid pattern (both directions), Florida DOT Sec. 350.

Heavy Duty Asphalt Pavement

Paving Components	Thickness	Description
Stabilized Subbase	6"	In situ or borrow material stabilized by blending with shell to a minimum LBR of 40, compacted to 98% of Modified Proctor maximum density (AASHTO T-180), Florida DOT Sec. 160, Type B.
Base	8"	Shell base or crushed concrete (graded aggregate) base per Florida DOT Sec. 285, minimum LBR = 100. Compacted to 98% of Modified Proctor maximum density.

Asphalt Surface	2"	Type S-1 asphalt, compacted to 95% of laboratory density, as determined by Marshall Stability Test, Florida DOT Sec. 333 (2000 edition).

Shell or Gravel Parking and Driveway

Paving Components	Thickness	Description
Compacted Subgrade	12"	In situ soils compacted to at least 95% of Modified Proctor maximum density (AASHTO T-180)
Surface	6"	Shell base or graded aggregate base per Florida DOT Sec. 285, minimum LBR = 100. Compacted to 98% of Modified Proctor maximum density.

5.2 Seasonal High Groundwater Table and Hydraulic Conductivity

The seasonal high groundwater table was estimated at test location PZ-2, for use in design of the proposed stormwater retention pond. Based upon review of a topographic survey (prepared by George F Young Inc.) of the site, the existing ground surface elevation is approximately 2.1 feet NAVD88 at this location.

On September 14, 2011, the groundwater table was encountered at a depth of 1.4 feet below the ground surface, which would correspond to an elevation of approximately 0.7 feet NAVD88. Based upon our review of the NRCS Soil Survey and our field explorations, we estimate the seasonal high groundwater table elevation to be 0.9 feet NAVD88 at location PZ-2.

The results of the in situ permeability test performed within the piezometer at PZ-2 indicates a saturated horizontal hydraulic conductivity (k_{hs}) of 10 feet/day. Based upon our experience and noting the soil stratification at the site, the unsaturated vertical hydraulic conductivity (k_{vu}) of the near surface soils would likely be in the range of 10 to 30 percent of this, or approximately 1 to 3 feet per day. These values are intended for use in the design of stormwater infiltration systems. Other values may be more suitable for other intents.

5.3 Groundwater Quality Monitoring

The results of the groundwater sampling event on October 6, 2011 were presented in Section 3.2 of this report. The results indicate a total organic carbon (TOC) concentration of 20 mg/L and a copper concentration of 3.3 µg/L at monitor well MW-1. These values are greater than the screening values of 10 mg/L for TOC and 2.9 µg/L for copper from the Florida DEP "Generic Permit for the Discharge of Produced Ground Water from Any Non-Contaminated Site Activity."

We recommend that the monitor well be resampled for copper to verify the above result. We also recommend resampling for TOC, PAH, VOA, EDB and TPH in order to determine if the TOC is naturally occurring and if it is therefore feasible to request an exemption for TOC per paragraph (3)(a) of the Generic Permit. We are proceeding with this resampling and will forward the results, when available.

6.0 CLOSURE

The analyses and recommendations submitted in this report are based upon the results of subsurface borings performed at the locations indicated on the attached Figure 1. This report does not reflect any variations which may occur between the borings. While the borings are representative of the subsurface conditions at the respective locations and for their respective vertical reaches, local variations characteristic of the subsurface materials of the region are anticipated and may be encountered.

The boring logs and related information are based upon the driller's logs and visual examination of selected samples in the laboratory. The delineation between soil types shown on the logs is approximate, and the description represents our interpretation of the subsurface conditions at the designated boring location on the particular date drilled. The absence of a water table listed on a boring log does not indicate that the water table is not within the boring depth, unless expressly stated so.

APPENDIX I

SOIL BORING, SAMPLING & TEST METHODS

SOIL BORING, SAMPLING AND TESTING METHODS

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 long, 2-inch O.D. split-barrel sampler attached to the end of a string of drilling rods is driven 18 inches into the ground by successive blows of a 140-pound hammer freely dropping 30 inches. The number of blows needed for each 6 inches of penetration is recorded. The sum of the blows required for penetration of the second and third 6-inch increments of penetration constitutes the test result or N-value. After the test, the sampler is extracted from the ground and opened to allow visual examination and classification 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:

N-Value	Description
0 to 4	Very loose
4 to 10	Loose
10 to 30	Medium dense
30 to 50	Dense
Above 50	Very dense

Cohesive Soils:

N-Value	Description	Qu (ton/ft^2)
0 to 2	Very soft	Below 0.25
2 to 4	Soft	0.25 to 0.50
4 to 8	Medium stiff	0.50 to 1.0
8 to 15	Stiff	1.0 to 2.0
15 to 30	Very stiff	2.0 to 4.0
Above 30	Hard	Above 4.0

The tests are usually performed at 5-foot intervals. However, more frequent or continuous testing is done by our firm 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 a 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, NX-size 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.

Representative split-spoon samples from each sampling interval and from every different stratum are brought to our laboratory in air-tight jars for further evaluation and testing, if necessary. After thorough examination and testing of the samples, the samples are discarded unless prior arrangements have been made. After completion of a test boring, the hole is kept open until a steady state groundwater level is recorded. The hole is then sealed, if necessary, and backfilled.

Auger Borings

Auger borings are used when a relatively large, continuous sampling of soil strata close to ground surface is desired. A 4-inch diameter, continuous flight, helical auger with a cutting head at its end is screwed into the ground in 5-foot sections. It is powered by the rotating action of the Kelly bar of a 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 and representative samples put in bags or jars and brought back to the laboratory for further classification and testing.

Laboratory Test Methods

Soil samples returned to our laboratory are examined by a geotechnical engineer or geotechnician to obtain more accurate descriptions of the soil strata. Laboratory testing is performed on selected samples as deemed necessary to aid in soil classification and to further 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 described in this report. The soil descriptions shown on the logs are based upon a visual-manual classification procedure in general accordance with the Unified Soil Classification System (ASTM D-2488-84) and standard practice. Following is a list of abbreviations which may be used on the boring logs or elsewhere in this report.

-200 - Fines Content (percent passing the No. 200 sieve); ASTM D1140
DD - Dry Density of Undisturbed Sample; ASTM D2937
Gs - Specific Gravity of Soil; ASTM D854
k - Hydraulic Conductivity (Coefficient of Permeability)
LL - Liquid Limit; ASTM D423
OC - Organic Content; ASTM D2974
pH - pH of Soil; ASTM D2976
PI - Plasticity Index (LL-PL); ASTM D424
PL - Plastic Limit; ASTM D424
Qp - Unconfined Compressive Strength by Pocket Penetrometer;
Qu - Unconfined Compressive Strength; ASTM D2166 (soil), D7012 (rock)
SL - Shrinkage Limit; ASTM D427
ST - Splitting Tensile Strength; ASTM D3967 (rock)
USCS - Unified Soil Classification System; ASTM D2487, D2488
w - Water (Moisture) Content; ASTM D2216

Soil Classifications

The soil descriptions presented on the soil boring logs are based upon the Unified Soil Classification System (USCS), which is the generally accepted method (ASTM D-2487 and D-2488) for classifying soils for engineering purposes. The following modifiers are the most commonly used in the descriptions.

For Sands:	Modifier	Fines, Sand or Gravel Content*
	"with silt" or "with clay"	5% to 12% fines
	"silty" or "clayey"	12% to 50% fines
	"with gravel" or "with shell"	15% to 50% gravel or shell

For Silts or Clays:	Modifier	Fines, Sand or Gravel Content*
	"with sand"	15% to 30% sand and gravel; and % sand > % gravel
	"sandy"	30% to 50% sand and gravel; and % sand > % gravel
	"with gravel"	15% to 30% sand and gravel; and % sand < % gravel
	"gravelly"	30% to 50% sand and gravel; and % sand < % gravel

* may be determined by laboratory testing or estimated by visual/manual procedures. Fines content is the combined silt and clay content, or the percent passing the No. 200 sieve.

Other soil classification standards may be used, depending on the project requirements. The AASHTO classification system is commonly used for highway design purposes and the USDA soil textural classifications are commonly used for septic (on-site sewage disposal) system design purposes.

Well Installation and Development

Monitor well installation using hollow-stem auger is done in the following manner. Before starting, equipment is cleaned so that no oil, grease, cement grout, and/or soil is present on the hollow-stem auger or drill rod string. The bottom of the auger is plugged with a wooden plug and the auger is drilled into the soil to the bottom of the collection zone. The hollow-stem auger is then filled with clean water, the auger pulled up about 0.5 foot and held in place, and the plug pushed or driven from the bottom of the auger using the drill rod string. Water is added to the hollow-stem auger, as needed, to keep the hydraulic head greater than the groundwater table and the depth inside the hollow stem is checked to be sure excessive soil has not come into the auger.

The monitor well casing string consists of flush joint casing, end caps, screen section, and riser pipe, threaded together with 0-ring seals. A centralizer may be attached about midway on the screen section.

A filter pack of graded silica sand is placed in the annular space surrounding the screen, from the well bottom to above the screen. While adding filter pack, the auger is pulled, always keeping about 0.5 foot of filter pack inside the hollow-stem auger. The gradation of the filter material is typically #6-20, although #20-30 silica sand may be used.

Above the filter pack, about 6 inches of bentonite pellets is added to form a seal and/or 3 inches of fine sand is added to prevent grout intrusion. This is then compacted, using a tamper. A second seal layer may be added using the same procedure.

Grouting of annular space between well casing and borehole above the seal is done using a tremie pipe or is poured from the surface if the grout depth is less than about 3 feet. The tremie pipe is

lowered inside the hollow stem auger to about 3 feet above seal so as not to jet the seal away. The auger is removed in 5-foot sections during Grouting, refilling with grout between the removal of each section.

For security, a protective casing or manhole-style cover may be placed over the well casing and a 2-foot square concrete pad poured. Upon completion, the well cover or cap can be locked with a padlock.

Well development is performed at least 24 hours after installation. Development removes silt and finer particles from the water bearing formation around the screen, leaving a zone of coarser particles. The water flows more easily through the larger uniform voids of the developed zone. The well development is done by surging water in and out through the screen openings, bringing fines into the screen and then removing these fines from the well by pumping. For small diameter shallow wells, a bailer can produce very satisfactory results. Rapidly dropping the bailer to the bottom produces the required surge and the extraction of fines from the well is obtained by bailing out the suspended fines produced from the surge. For wells where the water level is less than about 25 feet below ground, pumping can be done with either a peristaltic or a centrifugal pump. A mechanical surge block is used in combination with the peristaltic pump, while with a centrifugal pump a large diameter hose can be used not only for pumping but also for surging by rapid up and down motion of the hose.

In Situ Permeability Test In Piezometers and Monitor Wells (Falling-Head Method)

After allowing the water level within the piezometer (PZ) or monitor well (MW) to stabilize, in situ permeability tests were performed. These tests are used to determine the horizontal or vertical (depending upon the PZ/MW geometry) hydraulic conductivity (k) of the soils below the water table and within the collection zone of the PZ/MW. In general, horizontal permeability tests are performed within PZ/MW's having a collection zone (screened or filter-packed interval) that is long relative to its diameter. Vertical permeability tests are generally performed within a PZ that consists of an open-bottom casing, without a screened section, driven into the soil at the test depth.

The test is performed by either rapidly filling the PZ/MW casing with clear water to create a rise of the water level, or by rapidly removing a volume of water with a bailer or pump to create a drop of the water level within the casing. The latter is also known as a "slug test," referring to the removal of a "slug" of water from the casing. In the case of an environmental water quality monitoring well, the "slug test" would be performed as it does not involve the addition of foreign water to the MW.

The recovery (rise or fall) of the water level is then measured versus time, using either an electronic tape measure or an electronic pressure transducer probe with digital output and/or data logger. This water level data and PZ/MW dimension data is then used to calculate the horizontal or vertical "k" based upon the methods of Hvorslev (1951) or Bouwer and Rice (1976).

Hvorslev, M.J. (1951), "Time Lag and Soil Permeability in Groundwater Observations," U.S. Army Corps of Engineers, Waterways Experiment Station Bulletin 36, Vicksburg, Mississippi.

Bouwer, H., and Rice, R. C. (1976), "A Slug Test for Determining Hydraulic Conductivity of Unconfined Aquifers with Completely or Partially Penetrating Wells," Water Resource Res., Vol 12, No. 3, pp.423-428.

Kruseman, G.P., de Ridder, N.A. (1990), Analysis and Evaluation of Pumping Test Data, Second Edition, International Institute for Land Reclamation Improvement, The Netherlands, pp 244 - 247.

Butler, Jr., James J., (1998), The Design, Performance and Analysis of Slug Tests, Lewis Publishers, Boca Raton, pp 105 - 109.

Andreyev, Nicholas E., and Wiseman, Lee P., (1989), Stormwater Retention Pond Infiltration Analysis in Unconfined Aquifers, Southwest Florida Water Management District, pp 3-7 - 3-9.

In Situ Permeability Test In Piezometers and Monitor Wells (Constant-Head Method)

After allowing the water level within the piezometer (PZ) or monitor well (MW) to stabilize, in situ permeability tests were performed. These tests are used to determine the horizontal or vertical (depending upon the PZ/MW geometry) hydraulic conductivity (k) of the soils below the water table and within the collection zone of the PZ/MW. In general, horizontal permeability tests are performed within PZ/MW's having a collection zone (screened or filter-packed interval) that is long relative to its diameter. Vertical permeability tests are generally performed within a PZ that consists of an open-bottom casing, without a screened section, driven into the soil at the test depth.

The test is performed by filling the PZ/MW casing with clear water and measuring the flow rate required to maintain a constant water level near the top of the PZ/MW casing. The test is continued until the flow rate becomes constant. The water level, flow rate and PZ/MW dimension data are then used to calculate the horizontal or vertical "k."

If the collection zone is entirely below the water table, "k" is calculated based upon the methods of Hvorslev (1951). If the collection zone is partially or entirely above the water table, "k" is calculated based upon the methods of the U.S.B.R. (1977) or Zanger (1953), depending upon test and water table conditions.

The horizontal permeability test geometry and procedure are very similar to the "constant head open-hole test" described in SWFWMD (1988) for exfiltration trench design. The hydraulic conductivity (k) calculated as described in the preceding paragraph is "k" as defined by Darcy's Law (Q=kia) and is not equivalent to the SWFWMD exfiltration trench hydraulic conductivity (K), however. The SWFWMD exfiltration trench "K" is actually a conductance (or leakance) factor and should only be applied accordingly.

Hvorslev, M.J. (1951), "Time Lag and Soil Permeability in Groundwater Observations," U.S. Army Corps of Engineers, Waterways Experiment Station Bulletin 36, Vicksburg, Mississippi.

Southwest Florida Water Management District (1988), "Management and Storage of Surface Waters - Permit Information Manual," Vol. I., SWFWMD, Brooksville, Florida.

U.S. Bureau of Reclamation (1977), Ground Water Manual, U.S. Government Printing Office, Washington D.C.

Zanger, C.N. (1953), "Theory and Problems of Water Percolation," U.S. Bureau of Reclamation, Engineering Nomograph No. 8.

APPENDIX II

SOIL BORING LOGS

BORING LOCATION: see Figure 1

DATE DRILLED: 9/13/11 **START:** **FINISH:**

GROUND SURFACE ELEVATION:

WATER TABLE DEPTH: 2.7 **TIME:** **DATE:** 9/13/11

CLIENT: Manatee County Property Management Dept.
PROJECT: Warner Bayou Boat Ramp
LOCATION: 59th Street, Bradenton, Manatee County, Florida
DRILL CREW: DP/MO **LOGGED BY:** DP

DRILL MAKE & MODEL: CME-45 **BIT:** 4" auger point **DRILLING RODS:**
DRILLING METHOD: auger **WEATHER CONDITIONS:**

DEPTH, FT.	ELEVATION, FT	BLOW COUNTS PER 6-INCHES	SPT N-VALUE	SAMPLE NO.	GRAPHIC LOG	USCS	SOIL DESCRIPTION	PERCENT FINES	ORGANIC CONTENT (%)	WATER CONTENT (%)	LIQUID LIMIT	PLAST. INDEX
0				1		SP	light gray fine sand with shell					
2.5				2		SP	brown fine sand with shell					
5				3		SP	dark brown fine sand with shell					
7.5				4		SP	dark brownish gray fine sand (trace shell)					
10												
12.5				5		SP	dark gray fine sand (trace shell)					
				6		SP	brownish gray fine sand (trace shell)					
15							end of boring					
17.5												

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REVIEWED BY: Jerry H. Kuehn, P.E. **FILE NO:** 11-7333 **BORING NO.:** MW-1

BORING LOCATION: see Figure 1

DATE DRILLED: 9/13/11 **START:** **FINISH:**
GROUND SURFACE ELEVATION:
WATER TABLE DEPTH: N.D. **TIME:** **DATE:**

CLIENT: Manatee County Property Management Dept.
PROJECT: Warner Bayou Boat Ramp
LOCATION: 59th Street, Bradenton, Manatee County, Florida
DRILL CREW: DP/MO **LOGGED BY:** DP

DRILL MAKE & MODEL: CME-45 **BIT:** 4" auger point **DRILLING RODS:**
DRILLING METHOD: auger **WEATHER CONDITIONS:**

DEPTH, FT.	ELEVATION, FT	BLOW COUNTS PER 6-INCHES	SPT N-VALUE	SAMPLE NO.	GRAPHIC LOG	USCS	SOIL DESCRIPTION	PERCENT FINES	ORGANIC CONTENT (%)	WATER CONTENT (%)	LIQUID LIMIT	PLAST. INDEX
0				1		SP	pale grayish brown fine sand (trace shell)	1.1				
2.5												
5				2		SP	dark gray fine sand (trace shell)					
				3		SP	grayish brown fine sand (trace shell)	2.7				
7.5												
10				4		SP	dark gray fine sand with shell	3.7				
12.5				5		SP	dark brownish gray fine sand (trace shell)					
15							end of boring					
17.5												

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REVIEWED BY: Jerry H. Kuehn, P.E. **FILE NO:** 11-7333 **BORING NO.:** PZ-2

BORING LOCATION: see Figure 1 (proposed restroom)
DATE DRILLED: 9/13/11 **START:** **FINISH:**
GROUND SURFACE ELEVATION:
WATER TABLE DEPTH: 2.2 **TIME:** **DATE:** 9/13/11

CLIENT: Manatee County Property Management Dept.
PROJECT: Warner Bayou Boat Ramp
LOCATION: 59th Street, Bradenton, Manatee County, Florida
DRILL CREW: DP/MO **LOGGED BY:** DP

DRILL MAKE & MODEL: CME-45 **BIT:** 2-3/8" tricone **DRILLING RODS:** AW
DRILLING METHOD: rotary with SPT **WEATHER CONDITIONS:**

DEPTH, FT.	ELEVATION, FT	BLOW COUNTS PER 6-INCHES	SPT N-VALUE	SAMPLE NO.	GRAPHIC LOG	USCS	SOIL DESCRIPTION	PERCENT FINES	ORGANIC CONTENT (%)	WATER CONTENT (%)	LIQUID LIMIT	PLAST. INDEX
0				1		SP	dark gray fine sand with organics (topsoil)					
		3-5-12	17	2		SP	pale brown fine sand (trace shell)					
2.5		15-10-10	20	3								
		5-4-5	9									
5				4		SP	brown fine sand (trace shell)					
		7-10-10	20	5		SP	grayish brown fine sand (trace shell)					
		8-8-6	14	6		SP	brown fine sand (trace shell)					
7.5												
		4-3-3	6	7		SP	dark grayish brown fine sand (trace shell)					
10		3-2-3	5									
							end of boring					
12.5												
15												
17.5												

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REVIEWED BY: Jerry H. Kuehn, P.E. **FILE NO:** 11-7333 **BORING NO.:** SP-3

BORING LOCATION: see Figure 1

DATE DRILLED: 9/13/11 **START:** **FINISH:**

GROUND SURFACE ELEVATION:

WATER TABLE DEPTH: 2.7 **TIME:** **DATE:** 9/13/11

CLIENT: Manatee County Property Management Dept.

PROJECT: Warner Bayou Boat Ramp

LOCATION: 59th Street, Bradenton, Manatee County, Florida

DRILL CREW: DP/MO **LOGGED BY:** DP

DRILL MAKE & MODEL: CME-45 **BIT:** 2-3/8" tricone **DRILLING RODS:** AW

DRILLING METHOD: rotary with SPT **WEATHER CONDITIONS:**

DEPTH, FT.	ELEVATION, FT	BLOW COUNTS PER 6-INCHES	SPT N-VALUE	SAMPLE NO.	GRAPHIC LOG	USCS	SOIL DESCRIPTION	PERCENT FINES	ORGANIC CONTENT (%)	WATER CONTENT (%)	LIQUID LIMIT	PLAST. INDEX
0				1		SW-SM	sandy shell with silt					
		9-9-12	21	2		SP	pale brown fine sand (trace shell)					
2.5		11-11-11	22									
		9-10-11	21	3		SP	grayish brown fine sand (trace shell)					
5		5-3-2	5	4		SP	gray fine sand with shell					
							end of boring					
7.5												
10												
12.5												
15												
17.5												

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REVIEWED BY: Jerry H. Kuehn, P.E. **FILE NO:** 11-7333 **BORING NO.:** SP-4

BORING LOCATION: see Figure 1

DATE DRILLED: 9/13/11 **START:** **FINISH:**

GROUND SURFACE ELEVATION:

WATER TABLE DEPTH: 2.7 **TIME:** **DATE:** 9/13/11

CLIENT: Manatee County Property Management Dept.

PROJECT: Warner Bayou Boat Ramp

LOCATION: 59th Street, Bradenton, Manatee County, Florida

DRILL CREW: DP/MO **LOGGED BY:** DP

DRILL MAKE & MODEL: CME-45 **BIT:** 2-3/8" tricone **DRILLING RODS:** AW

DRILLING METHOD: rotary with SPT **WEATHER CONDITIONS:**

DEPTH, FT.	ELEVATION, FT	BLOW COUNTS PER 6-INCHES	SPT N-VALUE	SAMPLE NO.	GRAPHIC LOG	USCS	SOIL DESCRIPTION	PERCENT FINES	ORGANIC CONTENT (%)	WATER CONTENT (%)	LIQUID LIMIT	PLAST. INDEX
0				1		SW-SM	sandy shell with silt					
		12-7-8	15	2		SP	dark brown fine sand (trace shell)					
				3								
2.5		15-24-25	49	4		SP	gray fine sand (trace shell)					
		14-10-11	21	5		SP	grayish brown fine sand					
5		3-5-4	9	6		SP	dark brown fine sand					
							end of boring					
7.5												
10												
12.5												
15												
17.5												

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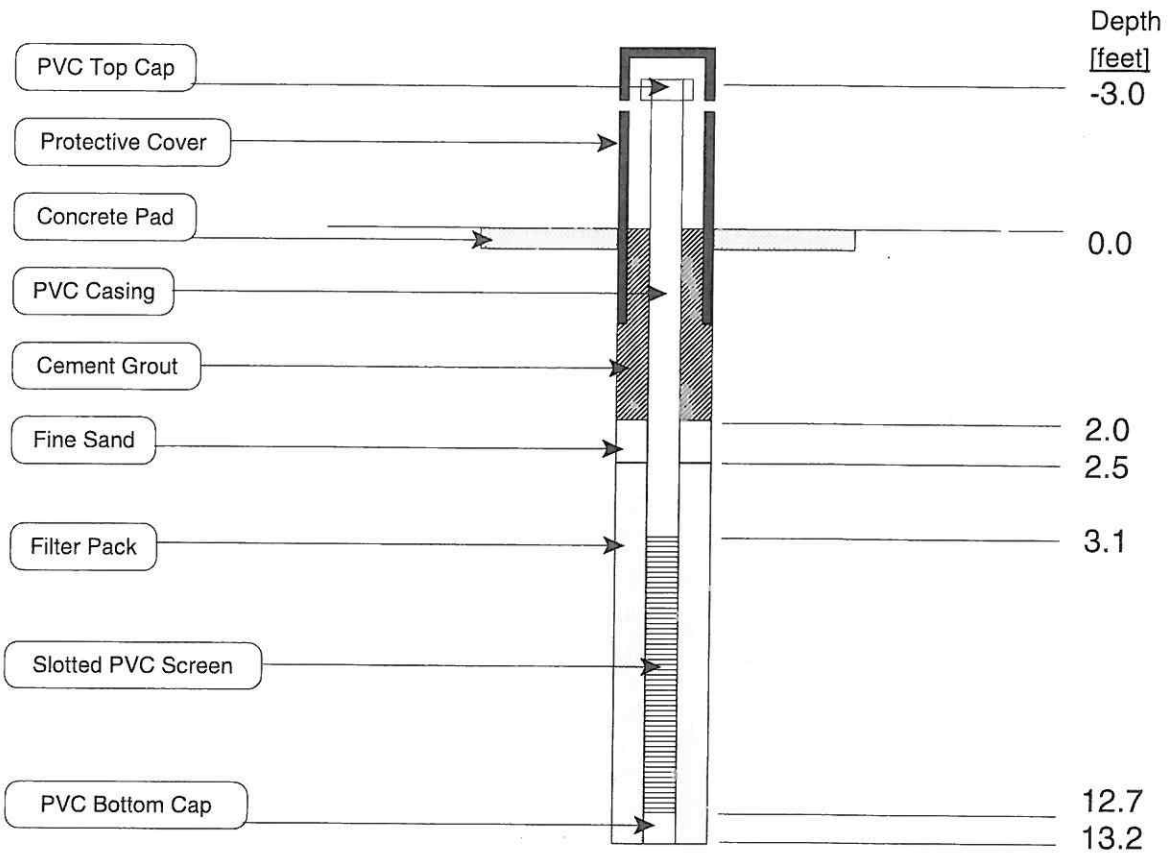
REVIEWED BY: Jerry H. Kuehn, P.E. **FILE NO:** 11-7333 **BORING NO.:** SP-5

APPENDIX III

PLATES

MONITOR WELL INSTALLATION RECORD



Monitor Well No.:	**MW-1**	**Date Installed:**	09/14/11
Borehole Dia. [inch]:	6.00	**Top of Pipe Elev. [ft, NGVD]:**	N.A.
Casing/Screen Dia. [inch]:	2.0	**Ground Elev. [ft, NGVD]:**	N.A.
Casing Type:	Schedule 40 PVC, flush-threaded joints		
Screen Type:	Schedule 40 PVC, flush-threaded joints, 0.010" slots		
Top Cap Type:	Slip-on PVC cap, with vent hole		
Tailpipe Type:	Same as casing, with threaded PVC bottom cap		
Protective Cover Type:	4"x4"x5' aluminum box with hinged, lockable lid		
Concrete Pad Size:	2' x 2' x 4" thick		
Cement Grout Type:	Neat Portland cement grout		
Fine Sand Type:	Washed fine sand from borehole cuttings, approx. 40/140 graded		
Filter Pack Type:	20/30 graded silica sand		

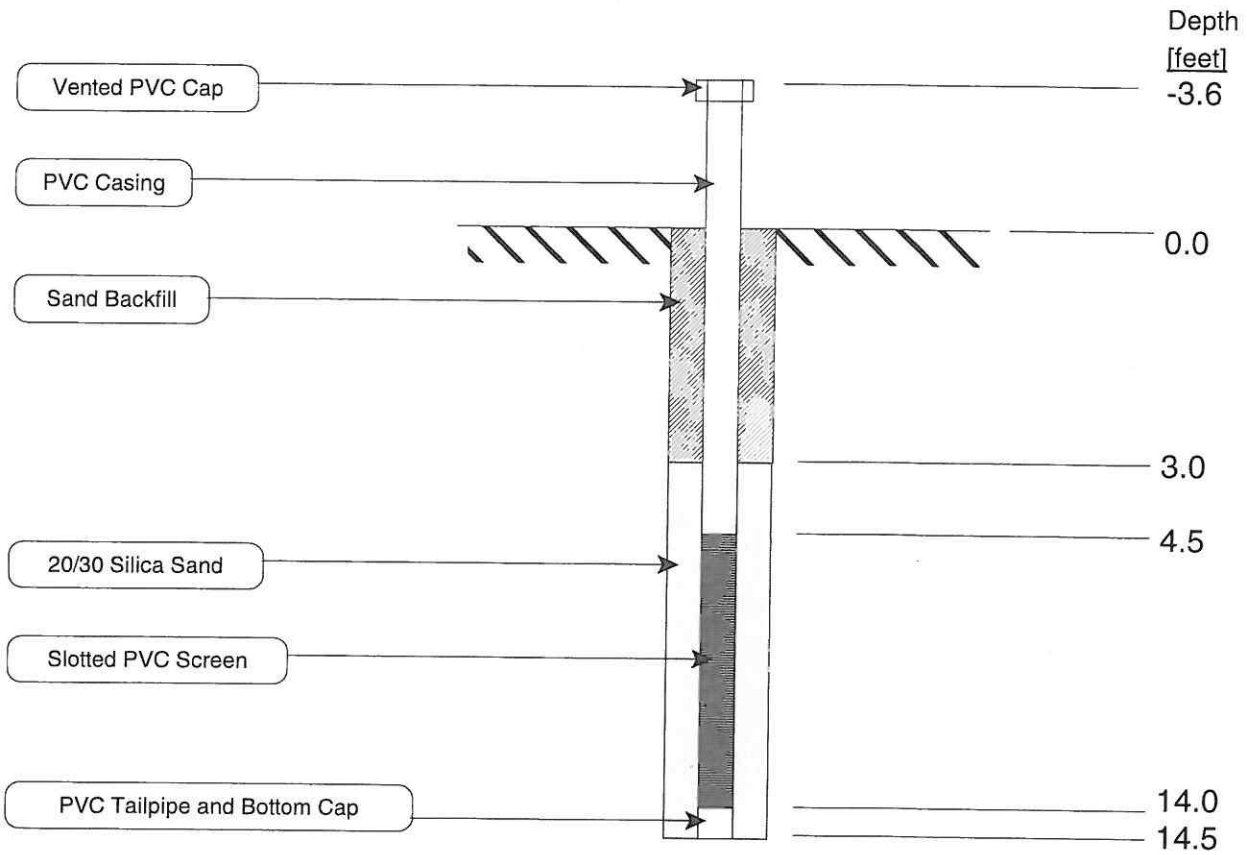
LITHOLOGIC LOG: See attached soil boring log No. MW-1

Ardaman & Associates, Inc.
Geotechnical, Environmental and Materials Consultants

Warner Bayou Boat Ramp,
59th Street, Bradenton,
Manatee County, Florida

DRAWN BY: JK	CHECKED BY:	DATE: 10/21/11
FILE NO. 11-7333	APPROVED BY:	PLATE: 1

IN SITU HORIZONTAL PERMEABILITY TEST



Piezometer No.:	**PZ-2**	**Date Installed:**	09/14/11
Boring Diameter [inch]:	6.0	**Top of Pipe Elev. [ft, NGVD]:**	N.A.
PVC Diameter [inch]:	2.00	**Ground Elev. [ft, NGVD]:**	N.A.
Casing Type:	Schedule 40 PVC		
Screen Type:	Schedule 40 PVC, 0.0010" slots		

HYDRAULIC CONDUCTIVITY (k) of Collection Zone = 10 feet/day
3.7E-03 cm/sec

LITHOLOGIC LOG: See soil boring log PZ-2

WATER LEVEL READINGS		
Date	Below Top [feet]	Water Elev. [ft, NGVD]
09/14/11	5.01	N.A.

Ardaman & Associates, Inc.
Geotechnical, Environmental and Materials Consultants

Warner Bayou Boat Ramp
59th Street, Bradenton,
Manatee County, Florida

DRAWN BY: JK	CHECKED BY:	DATE: 8/21/11
FILE NO. 11-7333	APPROVED BY:	PLATE: 2

Ardaman & Associates, Inc.
78 Sarasota Center Boulevard
Sarasota, Florida 34240
(941)922-3526, Fax (941)377-7659
Florida Certificate of Authorization No. 00005950

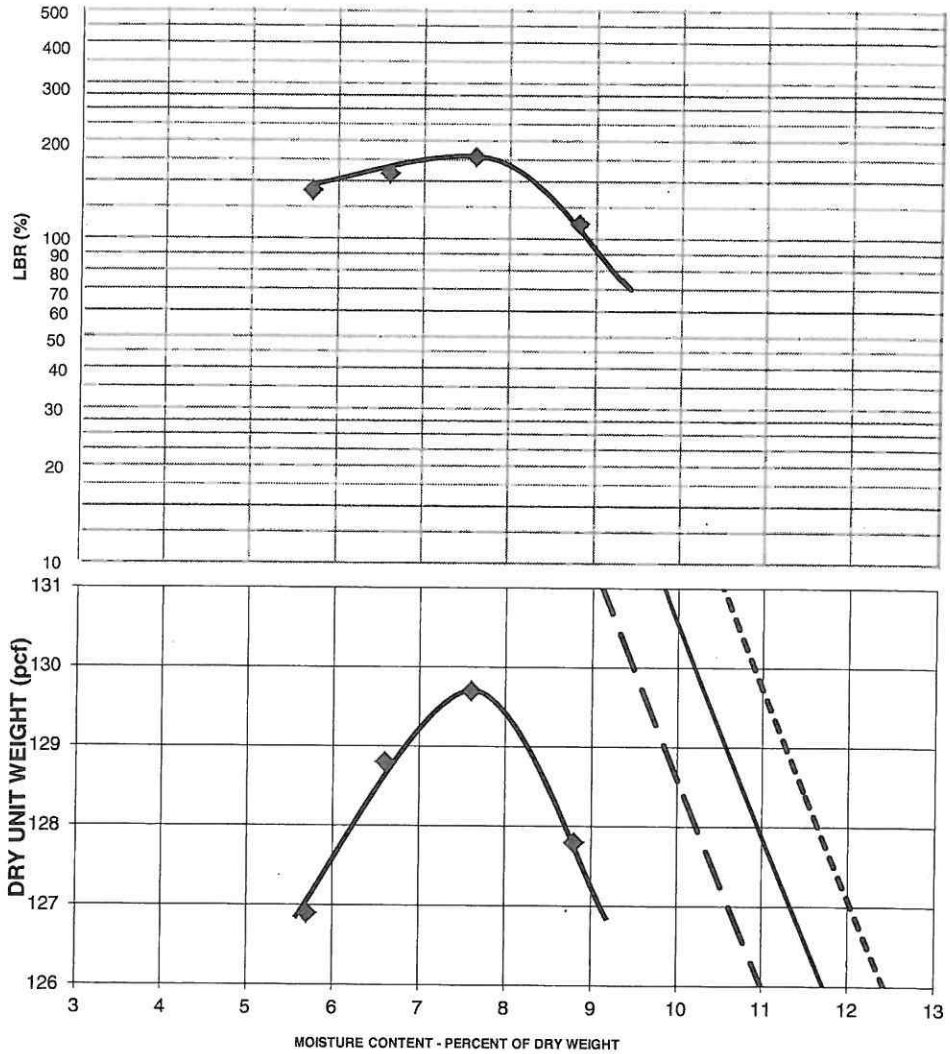
ACCREDITED CMEC LABORATORY

REPORT OF LIMEROCK BEARING RATIO DESIGNATION FM 5-515

Project: Warner Bayou Boat Ramp
Bradenton, Florida

File No.: 11-7333
Copies:

Reported to: Manatee County Property Management Dept.



LBR VALUE
174.0

REMARKS:

% pass 1-1/2":	
% pass 3/4":	
% pass 1/2":	96.5
% pass 3/8":	94.2
% pass No. 4:	87.8
% pass No. 10:	75.4
% pass No. 40:	55.2
% pass No. 50:	
% pass No. 60:	47.3
% pass No. 100:	30.3
% pass No. 200:	12.0

MAX. DRY DENSITY (PCF):
129.7
OPTIMUM MOISTURE (%)
7.6

Curves of 100% Saturation for Specific Gravity Equal to:
- 2.60
- 2.65
- 2.70

Sample No.: LBR-1
Sample Location: SP-4
Description: Brownish gray sandy shell with silt
Proposed use: base
Date Sampled: 9/31/11
By: M. Ochs

Jerry H. Kuehn, P.E.
FL License No. 35557

APPENDIX IV

S.W.F.W.M.D. MONITOR WELL INSTALLATION PERMIT AND COMPETION REPORT

STATE OF FLORIDA PERMIT APPLICATION TO CONSTRUCT, REPAIR, MODIFY, OR ABANDON A WELL

☒ Southwest
☐ Northwest
☐ St. Johns River
☐ South Florida
☐ Suwannee River
☐ DEP
☒ Delegated Authority (If Applicable) MANATEE

PLEASE FILL OUT ALL APPLICABLE FIELDS
(*Denotes Required Fields Where Applicable)

The water well contractor is responsible for completing this form and forwarding the permit application to the appropriate delegated authority where applicable.

Permit No. 815485
Florida Unique ID 2011-4449
Permit Stipulations Required (See Attached)
23, 39, 48, 49
62-524 Quad No. Q2921 Delineation No. _____
CUP/WUP Application No. _____

ABOVE THIS LINE FOR OFFICIAL USE ONLY

1. MANATEE COUNTY PARK (59TH ST EP O BOX 1000 — *Owner, Legal Name if Corporation; *Address
BRADENTON — *City; FL — *State; 34206 — *ZIP; (941) 749-3097 — *Telephone Number
2. 5800 RIVERVIEW BLVD — *Well Location - Address, Road Name or Number, City; N/A
3. 3047600006 — *Parcel ID No. (PIN) or Alternate Key (Circle One); Lot; Block; Unit
4. 20 — *Section or Land Grant; 34 — *Township; 17 — *Range; MANATEE — *County; Subdivision; Check if 62-524: ___ Yes X No
5. Daniel Peace — *Water Well Contractor; 9418 — *License Number; (941) 922-3526 — *Telephone Number; dpeace@ardaman.com — E-mail Address
6. 78 SARASOTA CENTER BLVD — *Water Well Contractor's Address; SARASOTA — City; FL — State; 34240 — ZIP

7. *Type of Work: X Construction ___ Repair ___ Modification ___ Abandonment
*Reason for Repair, Modification, or Abandonment _____
8. *Number of Proposed Wells 1
9. *Specify Intended Use(s) of Well(s):

___ Domestic
___ Bottled Water Supply
___ Public Water Supply (Limited Use/DOH)
___ Public Water Supply (Community or Non-Community/DEP)
___ Class I Injection
___ Landscape Irrigation
___ Recreation Area Irrigation
___ Agricultural Irrigation
___ Livestock
___ Nursery Irrigation
___ Commercial/Industrial
___ Golf Course Irrigation
___ Site Investigation
X Monitoring
___ Test
___ Earth-Coupled Geothermal
___ HVAC Supply
___ HVAC Return

Class V Injection: ___ Recharge ___ Commercial/Industrial Disposal ___ Aquifer Storage and Recovery ___ Drainage

Remediation: ___ Recovery ___ Air Sparge ___ Other (Describe) _____

___ Other (Describe) _____ (Note: Not all types of wells are permitted by a given permitting authority)

Date Stamp
Received:
Sep 8, 2011 10:56 am
Official Use Only

10. *Distance from Septic System if ≤200 ft. _____ 11. Facility Description county park 12. Estimated Start Date 09/08/2011
13. *Estimated Well Depth 15 ft. *Estimated Casing Depth 5.0 ft. *Primary Casing Diameter 2 in. Open Hole: From ___ To ___ ft.
14. Estimated Screen Interval: From 5.0 To 15.0 ft.
15. *Primary Casing Material: ___ Black Steel ___ Galvanized X PVC ___ Stainless Steel ___ Not Cased ___ Other: _____
16. Secondary Casing: ___ Telescope Casing ___ Liner ___ Surface Casing Diameter ___ in.
17. Secondary Casing Material: ___ Black Steel ___ Galvanized ___ PVC ___ Stainless Steel ___ Other _____
18. *Method of Construction, Repair, or Abandonment: X Auger ___ Cable Tool ___ Jetted ___ Rotary ___ Sonic
___ Combination (Two or More Methods) ___ Hand Driven (Well Point, Sand Point) ___ Hydraulic Point (Direct Push)
___ Horizontal Drilling ___ Plugged by Approved Method ___ Other (Describe) _____
19. Proposed Grouting Interval for the Primary, Secondary, and Additional Casing:
From 0.0 To 3.0 Seal Material (___ Bentonite ___ Neat Cement X Other Slurry Grout)
From ___ To ___ Seal Material (___ Bentonite ___ Neat Cement ___ Other ___)
From ___ To ___ Seal Material (___ Bentonite ___ Neat Cement ___ Other ___)
From ___ To ___ Seal Material (___ Bentonite ___ Neat Cement ___ Other ___)
20. Indicate total number of existing wells on site 0 List number of existing unused wells on site 0
21. *Is this well or any existing well or water withdrawal on the owner's contiguous property covered under a Consumptive/Water Use Permit (CUP/WUP) or CUP/WUP Application? ___ Yes X No If yes, complete the following: CUP/WUP No. _____ District Well ID No. _____
22. Latitude 27 30 33.79 Longitude 82 37 01.71
23. Data Obtained From: ___ GPS X Map ___ Survey Datum: ___ NAD 27 X NAD 83 ___ WGS 84

I hereby certify that I will comply with the applicable rules of Title 40, Florida Administrative Code, and that a water use permit or artificial recharge permit, if needed, has been or will be obtained prior to commencement of well construction. I further certify that all information provided in this application is accurate and that I will obtain necessary approval from other federal, state, or local governments, if applicable. I agree to provide a well completion report to the District within 30 days after completion of the construction, repair, modification, or abandonment authorized by this permit, or the permit expiration, whichever occurs first.

I certify that I am the owner of the property, that the information provided is accurate, and that I am aware of my responsibilities under Chapter 373, Florida Statutes, to maintain or properly abandon this well, or, I certify that I am the agent for the owner, that the information provided is accurate, and that I have informed the owner of his responsibilities as stated above. Owner consents to allowing personnel of this WMD or Delegated Authority access to the well site during the construction, repair, modification, or abandonment authorized by this permit.

Digitally Signed — *Signature of Contractor; 9418 — *License No.; Digitally Signed — *Signature of Owner or Agent; 10/20/2011 — *Date

DO NOT WRITE BELOW THIS LINE - FOR OFFICIAL USE ONLY

Approval Granted By Wes Ripperger STATUS: ISSUED Issue Date 09/08/2011 Expiration Date 12/07/2011 Hydrologist Approval _____ Initials
Fee Received $ 145.00 Receipt No. 10273 Check No. _____

THIS PERMIT IS NOT VALID UNTIL PROPERLY SIGNED BY AN AUTHORIZED OFFICER OR REPRESENTATIVE OF THE WMD OR DELEGATED AUTHORITY. THE PERMIT SHALL BE AVAILABLE AT THE WELL SITE DURING ALL CONSTRUCTION, REPAIR, MODIFICATION, OR ABANDONMENT ACTIVITIES.

This permit is valid for 90 days from the date of Issue.

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
2379 BROAD STREET, BROOKSVILLE, FL 34604-6899
PHONE: (352) 796-7211 or (800) 423-1476
WWW.SWFWMD.STATE.FL.US

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT
4049 REID STREET, PALATKA, FL 32178-1429
PHONE: (386) 329-4500
WWW.SJRWMD.COM

NORTHWEST FLORIDA WATER MANAGEMENT DISTRICT
152 WATER MANAGEMENT DR., HAVANA, FL 32333-4712
(U.S. Highway 90, 10 miles west of Tallahassee)
PHONE: (850) 539-5999
WWW.NWFWMD.STATE.FL.US

SOUTH FLORIDA WATER MANAGEMENT DISTRICT
P.O. BOX 24680
3301 GUN CLUB ROAD
WEST PALM BEACH, FL 33416-4680
PHONE: (561) 686-8800
WWW.SFWMD.GOV

SUWANNEE RIVER WATER MANAGEMENT DISTRICT
9225 CR 49
LIVE OAK, FL 32060
PHONE: (386) 362-1001 or (800) 226-1066 (Florida only)
WWW.MYSUWANNEERIVER.COM

Comments:

General Site Map of Proposed Well Location

N

Well location is in Warners Bayou Park, which is along the north side of Riverview Blvd to the east of 59th St West

Identify known roads and landmarks. Give distances from all reference points or structures, septic systems, sanitary hazards, and contamination sources, if applicable.

STATE OF FLORIDA WELL COMPLETION REPORT

☒ Southwest
☐ Northwest
☐ St. Johns River
☐ South Florida
☐ Suwannee River
☐ DEP
☒ Delegated Authority (If Applicable) MANATEE

PLEASE, FILL OUT ALL APPLICABLE FIELDS
(*Denotes Required Fields Where Applicable)

Date Stamp
Received:
Oct 17, 2011 12:55 pm
Official Use Only

1. *Permit Number 815485 *CUP/WUP Number _____ *DID Number _____ 62-524 Delineation No. _____
2. *Number of permitted wells constructed, repaired, or abandoned 1 *Number of permitted wells not constructed, repaired, or abandoned 0
3. *Owner's Name MANATEE COUNTY PARK (59TH ST BOAT RAMP) 4. *Completion Date 09/14/2011 5. Florida Unique ID _____
6. 5800 RIVERVIEW BLVD N/A
*Well Location - Address, Road Name or Number, City, ZIP
7. *County MANATEE *Section 20 Land Grant _____ *Township 34 *Range 17
8. Latitude 27 30 33.79 Longitude 82 37 01.71
9. Data Obtained From: ___ GPS X Map ___ Survey Datum: ___ NAD 27 X NAD 83 ___ WGS 84
10. *Type of Work: X Construction ___ Repair ___ Modification ___ Abandonment
11. *Specify Intended Use(s) of Well(s):
___ Domestic
___ Bottled Water Supply
___ Public Water Supply (Limited Use/DOH)
___ Public Water Supply (Community or Non-Community/DEP)
___ Class I Injection
___ Landscape Irrigation
___ Recreation Area Irrigation
___ Agricultural Irrigation
___ Livestock
___ Nursery Irrigation
___ Commercial/Industrial
___ Golf Course Irrigation
___ Site Investigation
X Monitoring
___ Test
___ Earth-Coupled Geothermal
___ HVAC Supply
___ HVAC Return
Class V Injection: ___ Recharge ___ Commercial/Industrial Disposal ___ Aquifer Storage and Recovery ___ Drainage
Remediation: ___ Recovery ___ Air Sparge ___ Other (Describe) _____
___ Other (Describe) _____
12. *Drill Method: X Auger ___ Cable Tool ___ Rotary ___ Combination (Two or More Methods) ___ Jetted ___ Sonic
___ Horizontal Drilling ___ Hydraulic Point (Direct Push) ___ Other _____
13. *Measured Static Water Level 2.7 ft. Measured Pumping Water Level ___ ft. After ___ Hours at ___ GPM
14. *Measuring Point (Describe) ground lev Which is 0 ft. X Above ___ Below Land Surface *Flowing: ___ Yes ___ No
15. *Casing Material: ___ Black Steel ___ Galvanized X PVC ___ Stainless Steel ___ Not Cased ___ Other _____
16. *Total Well Depth 13.1 ft. Cased Depth 3.1 ft. *Open Hole: From ___ To ___ ft. *Screen: From ___ To ___ ft. Slot Size ___
17. *Abandonment: ___ Other (Explain) _____
From ___ ft. To ___ ft. No. of Bags ___ Seal Material (Check One): ___ Neat Cement ___ Bentonite ___ Other ___
From ___ ft. To ___ ft. No. of Bags ___ Seal Material (Check One): ___ Neat Cement ___ Bentonite ___ Other ___
From ___ ft. To ___ ft. No. of Bags ___ Seal Material (Check One): ___ Neat Cement ___ Bentonite ___ Other ___
From ___ ft. To ___ ft. No. of Bags ___ Seal Material (Check One): ___ Neat Cement ___ Bentonite ___ Other ___
From ___ ft. To ___ ft. No. of Bags ___ Seal Material (Check One): ___ Neat Cement ___ Bentonite ___ Other ___
18. *Surface Casing Diameter and Depth:
Dia ___ in. From ___ ft. To ___ ft. No. of Bags ___ Seal Material (Check One): ___ Neat Cement ___ Bentonite ___ Other ___
Dia ___ in. From ___ ft. To ___ ft. No. of Bags ___ Seal Material (Check One): ___ Neat Cement ___ Bentonite ___ Other ___
19. *Primary Casing Diameter and Depth:
Dia 2.00 in. From 0.00 ft. To 3.10 ft. No. of Bags 1.00 Seal Material (Check One): X Neat Cement ___ Bentonite ___ Other ___
Dia ___ in. From ___ ft. To ___ ft. No. of Bags ___ Seal Material (Check One): ___ Neat Cement ___ Bentonite ___ Other ___
Dia ___ in. From ___ ft. To ___ ft. No. of Bags ___ Seal Material (Check One): ___ Neat Cement ___ Bentonite ___ Other ___
Dia ___ in. From ___ ft. To ___ ft. No. of Bags ___ Seal Material (Check One): ___ Neat Cement ___ Bentonite ___ Other ___
Dia ___ in. From ___ ft. To ___ ft. No. of Bags ___ Seal Material (Check One): ___ Neat Cement ___ Bentonite ___ Other ___
20. *Liner Casing Diameter and Depth:
Dia ___ in. From ___ ft. To ___ ft. No. of Bags ___ Seal Material (Check One): ___ Neat Cement ___ Bentonite ___ Other ___
Dia ___ in. From ___ ft. To ___ ft. No. of Bags ___ Seal Material (Check One): ___ Neat Cement ___ Bentonite ___ Other ___
Dia ___ in. From ___ ft. To ___ ft. No. of Bags ___ Seal Material (Check One): ___ Neat Cement ___ Bentonite ___ Other ___
21. *Telescope Casing Diameter and Depth:
Dia ___ in. From ___ ft. To ___ ft. No. of Bags ___ Seal Material (Check One): ___ Neat Cement ___ Bentonite ___ Other ___
Dia ___ in. From ___ ft. To ___ ft. No. of Bags ___ Seal Material (Check One): ___ Neat Cement ___ Bentonite ___ Other ___
Dia ___ in. From ___ ft. To ___ ft. No. of Bags ___ Seal Material (Check One): ___ Neat Cement ___ Bentonite ___ Other ___
22. Pump Type (If Known):
___ Centrifugal ___ Jet ___ Submersible ___ Turbine
Horsepower ___ Pump Capacity (GPM) ___
Pump Depth ___ ft. Intake Depth ___ ft.
23. Chemical Analysis (When Required):
Iron ___ ppm Sulfate ___ ppm Chloride ___ ppm
___ Laboratory Test ___ Field Test Kit
24. Water Well Contractor:
*Contractor Name Daniel Peace *License Number 9418 E-mail Address dpeace@ardaman.com
*Contractor's Signature Digitally Signed *Driller's Name (Print or Type) Daniel Peace
(I certify that the information provided in this report is accurate and true.)

FORM LEG-R.005.02 (06/10) Rule 40D-3.411 (1)(a), F.A.C. EFFECTIVE DATE: 9/12/2010

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
2379 BROAD STREET, BROOKSVILLE, FL 34604-6899
PHONE: (352) 796-7211 or (800) 423-1476
WWW.SWFWMD.STATE.FL.US

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT
4049 REID STREET, PALATKA, FL 32178-1429
PHONE: (386) 329-4500
WWW.SJRWMD.COM

NORTHWEST FLORIDA WATER MANAGEMENT DISTRICT
152 WATER MANAGEMENT DR., HAVANA, FL 32333-4712
(U.S. Highway 90, 10 miles west of Tallahassee)
PHONE: (850) 539-5999
WWW.NWFWMD.STATE.FL.US

SOUTH FLORIDA WATER MANAGEMENT DISTRICT
P.O. BOX 24680
3301 GUN CLUB ROAD
WEST PALM BEACH, FL 33416-4680
PHONE: (561) 686-8800
WWW.SFWMD.GOV

SUWANNEE RIVER WATER MANAGEMENT DISTRICT
9225 CR 49
LIVE OAK, FL 32060
PHONE: (386) 362-1001 or (800) 226-1066 (Florida only)
WWW.MYSUWANNEERIVER.COM

*DRILL CUTTINGS LOG (Examine cuttings every 20 ft. or at formation changes. Note cavities and depth to producing zone. Grain Size: F=Fine, M=Medium, and C=Coarse)

From	To	Color	Grain Size (F, M, C)	Material
0.0 ft.	2.5 ft.	GRAY	FINE	SAND AND SHELL
2.5 ft.	5.0 ft.	BROWN	FINE	SAND AND SHELL
5.0 ft.	8.0 ft.	BROWN	FINE	SAND
8.0 ft.	13.0 ft.	GRAY	FINE	SAND
ft.	ft.			
ft.	ft.			
ft.	ft.			
ft.	ft.			
ft.	ft.			
ft.	ft.			
ft.	ft.			
ft.	ft.			
ft.	ft.			
ft.	ft.			
ft.	ft.			
ft.	ft.			
ft.	ft.			
ft.	ft.			
ft.	ft.			
ft.	ft.			
ft.	ft.			
ft.	ft.			
ft.	ft.			
ft.	ft.			
ft.	ft.			
ft.	ft.			
ft.	ft.			

Comments:

*Detailed Site Map of Well Location

N

Give distances from all reference points or structures, septic systems, sanitary hazards, and contamination sources within 500 ft. of well.

APPENDIX V

GROUNDWATER SAMPLING AND ANALYSIS FOR MW-1

Location 11-7333 Date 10-06-11

Project / Client Warner Bayou 59th Street Boat Ramp, Riverview Blvd. & 59th St. NW, Bradenton, Manatee Co.

In conjunction with the application for the Generic Permit for proposed dewatering activities, a monitor well was installed on-site 09-14-11.

Collected (1) grab groundwater sample from monitoring well, MW-1.
Sampling was conducted in general accordance with DEP-SOP-001/01.
See Field Calibration Log and Groundwater Sampling Log for details. All field instruments PASSED calibration acceptance criteria. (Quantitative bracketing of conductivity was not achieved. Field measurements were higher than available standard solutions on hand.)
Sampling was for analytes of concern as listed in Table 1 of the Generic Permit
Ultra trace metal protocol "Clean Hands, Dirty Hands" was used for sample collection of Mercury. Equipment blank was also collected for Mercury analysis.
Samples packed on wet ice for transport to Test America in Tampa for lab analysis.
Field work performed by Michael Eggleston and Phil Howe. Notes prepared by M. Eggleston.

Location Date

Project / Client

Ardaman & Associates, Inc.
Geotechnical, Environmental, and Materials Consultants

FIELD CALIBRATION LOG

DEP-SOP-001/01, FT 1000 General Field Testing and Measurement

Project ID: Warner Bayou / 11-7333 Date: 10/06/11

FT 1100 pH	Initials	Date	Time	Standard SU	Exp. Date	Catalog #	Lot #	Reading SU	Pass or Fail
					Acceptance Criteria: +/- 0.2 standard pH units of buffer				
(CAL) ICV CCV			13:11	7.00	10/12	159812	0288-02	7.02	(P) F
CAL (ICV) CCV			13:13	4.00	09/12	159809	0257-04	4.01	(P) F
CAL ICV (CCV)			15:15	7.00				6.97	(P) F
CAL ICV CCV									P F
CAL ICV CCV									P F
CAL ICV CCV									P F
CAL ICV CCV									P F
CAL ICV CCV									P F

FT 1200 Conductivity	Initials	Date	Time	Standard µS/cm	Exp. Date	Catalog #	Lot #	Reading µS/cm	Pass or Fail
					Acceptance Criteria: +/- 5% of standard value				
(CAL) (ICV) CCV			13:18	1409	08/12	LC187780-2	0236-08	1408	(P) F
CAL ICV (CCV)			15:05	1409	"			1444	(P) F
CAL ICV (CCV)			15:11	10000	08/12	LC187772	0221-15	10130	(P) F
CAL ICV CCV									P F
CAL ICV CCV									P F
CAL ICV CCV									P F
CAL ICV CCV									P F
CAL ICV CCV									P F

FT 1500 DO	Initials	Date	Time	Bara. Pres. mBar	Readings mg/L	Readings Temp °C	Readings % DO	Saturation* mg/L	Pass or Fail
					Acceptance Criteria: +/- 0.3 mg/L of theoretical value				
(CAL) (ICV) CCV	MK	10.6.11	13:16	1020	7.54	30.6	100.8	7.48	(P) F
CAL ICV (CCV)			15:02		6.93	34.7	99.2	6.98	(P) F
CAL ICV CCV									P F
CAL ICV CCV									P F
CAL ICV CCV									P F
CAL ICV CCV									P F

FT 1600 Turbidity	Initials	Date	Time	Standard NTU	Exp. Date	Catalog #	Lot #	Reading NTU	Pass or Fail
					Acceptance Criteria: +/- 10% ≤ 10 NTU; +/- 5% > 100 NTU				
(CAL) (ICV) CCV			13:20	1000	12/12	39845	10612	996.8	(P) F
(CAL) (ICV) CCV			13:20	10.0	12/12	39845	10613	9.94	(P) F
(CAL) (ICV) CCV			13:20	0.02	12/12	39845	10605	0.02	(P) F
CAL ICV (CCV)			15:06	10.0				10.04	(P) F
CAL ICV CCV									P F
CAL ICV CCV									P F
CAL ICV CCV									P F
CAL ICV CCV									P F

CAL - Initial Calibration; **ICV** - Initial Calibration Verification; **CCV** - Continuing Calibration Verification

* Theoretical value; interpolated from Table FT 1500-1: Solubility of Oxygen in Water

Note: If calibration verification fails, report readings as estimated noted with a "J" data qualifier on the Groundwater Sampling Log.

Field Instrument Documentation

Description	Manufacturer / Model #	Serial #
Portable pH/Temp. Meter	YSI EcoSense / pH100	JC03145
Portable Conductivity/Temp. Meter	YSI EcoSense / EC300	JC00834
Portable pH/Conductivity/Temp. Meter	Oakton / pH/CON 10 (35630-02)	166655
Portable DO/Temp. Meter	YSI EcoSense / DO200	JC05681
Portable Turbidimeter	HF Scientific / MicroTPW	201002170
Hygro./Therm./Baro./Dew Point Pen	Control Company / 4247	101883793

Comments:

Ardaman & Associates, Inc.
Geotechnical, Environmental, and Materials Consultants

GROUNDWATER SAMPLING LOG

DEP-SOP-001/01, FS 2200 Groundwater Sampling

SITE NAME: Warner Bayou 59th St. Boat Ramp	SITE LOCATION: Riverview Blvd & 59th St NW, Bradenton
WELL NO: MW-1	SAMPLE ID:
DATE: 10/06/11	

PURGING DATA

WELL DIAMETER (inches): 2.0	TUBING DIAMETER (inches): 3/8	WELL SCREEN INTERVAL DEPTH: 8.7 feet to 18.7 feet	STATIC DEPTH TO WATER (feet): 5.48	PURGE PUMP TYPE OR BAILER: Master Flex Low Flow PP

WELL VOLUME PURGE: (only fill out if applicable) **1 WELL VOLUME** = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
= (19.2 feet – 5.48 feet) X 0.16 gallons/foot = 2.20 gallons

EQUIPMENT VOLUME PURGE: (only fill out if applicable) **1 EQUIPMENT VOL.** = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
= gallons + (gallons/foot X feet) + gallons = gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 6.5	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 6.5	PURGING INITIATED AT: 13:02	PURGING ENDED AT: 13:58	TOTAL VOLUME PURGED (gallons): 8.0

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
13:21	2.8	2.8	0.15	5.82	6.65	26.5	23,340	0.32	0.61	Clear, pale yellow	Sulfur
13:38	2.2	5.0	0.15	5.82	6.61	27.0	23,710	0.28	0.60	Same	Same
13:44	1.0	6.0	0.15	5.83	6.65	26.9	23,860	0.21	0.27	Same	Same
13:51	1.0	7.0	0.14	5.83	6.67	26.9	23,900	0.18	0.14	Same	Same
13:58	1.0	8.0	0.14	5.85	6.67	26.9	23,910	0.18	0.20	Same	Same

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

PURGING EQUIPMENT CODES: **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **O** = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Michael Eggleston / Phil Howe / AAI	SAMPLER(S) SIGNATURE(S): [signature] / [signature]	SAMPLING INITIATED AT: 14:00	SAMPLING ENDED AT: 14:30
PUMP OR TUBING DEPTH IN WELL (feet): 6.5	TUBING MATERIAL CODE: PE, S	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP Y (N)	TUBING Y (N) (replaced)	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
	2	AG	1L	4°C	N/A		625-Naphthalene		
	1	PE	250mL	HNO_3 + 4°C	Premeasured		200.7-Cd, Cu, Pb, Zn		
	1	PE	125mL	4°C	N/A		3500_CR_B-Cr(Hexavalent)		
	3	CG	40mL	HCl + 4°C	Premeasured		624_5mL-Benzene		
	3	AG	40mL	H_2SO_4 + 4°C	Premeasured		5310C - TOC		
	5	CG	40mL	4°C	N/A		1631E - Low Level Hg		

REMARKS: Equipment Blank collected for 1631E. "Clean Hands, Dirty Hands" used to collect for 1631E. Purge water reacted with equipment resulting in temporary black staining.

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **O** = Other (Specify)

NOTES: 1. **The above do not constitute all of the information required by Chapter 62-160, F.A.C.**
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

TestAmerica Tampa
6712 Benjamin Road Suite 100
Tampa, FL 33634
Phone (813) 885-7427 Fax (813) 885-7049

COPY

Chain of Custody Record

TestAmerica

Client Information	Sampler: Michael Eggleston	Lab PM: Robertson, Nancy	Carrier Tracking No(s):	COC No: 660-37522-12220.1
Client Contact: Mr. Jerry Kuehn	Phone:	E-Mail: nancy.robertson@testamericainc.com		Page: Page 1 of 1
Company: Ardaman & Associates Inc.				Job #:
Address: 78 Sarasota Center Blvd	Due Date Requested: N/A			
City: Sarasota	TAT Requested (days): STANDARD			
State, Zip: FL, 34240				
Phone: 941-922-3526(Tel)	PO #: Purchase Order not requir			
Email: JKuehn@ardaman.com	WO #:			
Project Name: Warner Bayou / 11-7333	Project #: 66004542			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	5310C - Total Organic Carbon	200.7 - Cadmium, Copper, Lead, Zinc	624_5ml - Benzene	625 - Naphthalene	3500_CR_B - Chromium (hexavalent)	1631E - Low Level Mercury	Total Number of containers	Special Instructions/Note:
			Preservation Code:				S	D	A	N	N	N		
MW-1	10.06.11	14:00	G	Water	N		X	X	X	X	X	X	15	
TRIP BLANK	—	—	—	Water					X				2	
EQUIPMENT BLANK	10.06.11	14:36	G	Water	N							X	3	

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☑ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by: Date: 9/10/11 Time: Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Michael Eggleston AAI	10-7-11 / 0805	AAI	[illegible]	10-7-11 0805	TA TBA

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

Bottle Order Information

Bottle Order: *Warner Bayou*
Bottle Order #: *12220*
Date Order Posted: *9/30/2011 3:47:42PM*
Order Status: *Ready To Process*
Prepared By: *Nancy Robertson*
Deliver By Date: ***10/3/2011 9:00:00AM***
Lab Project Number: *66004542*

Order Completion Information

Filled by:
Sent Date:
Sent Via:
Tracking #:

Sets	Bottles/Set	Qty	Bottle Type Description	Preservative	Method	Matrix	Sample Type	Comments	Lot #
~~1~~	~~3~~	~~3~~	~~Voa Vial 40ml Amber - with~~ Sulfuric Acid	~~Sulfuric Acid~~	~~5310C - Total Organic Carbon~~	~~Water~~	~~Normal~~		
1	1	1	Plastic 250ml - with Nitric Acid	Nitric Acid	200.7 - Cadmium, Copper, Lead, Zinc	Water	Normal		
1	3	3	Voa Vial 40ml - Hydrochloric Acid	Hydrochloric Acid	624_5ml - Benzene	Water	Normal		
1	2	2	Amber Glass 1 liter - unpreserved	None	625 - Naphthalene	Water	Normal		
1	1	1	Plastic 125mL - unpreserved	None	3500_CR_B - Chromium (hexavalent)	Water	Normal		
1	0	0	Voa Vial 40ml - unpreserved	None	1631E - Low Level Mercury	Water	Normal	Low Level Mercury kit	
1	2	2	Voa Vial 40ml - Hydrochloric Acid	Hydrochloric Acid	624_5ml - Benzene	Water	Trip Blank		

Notes to Field Staff:

Health and Safety Notes:

Preservative	Comment
Hydrochloric Acid	CAUTION! CONTAINS 1:1 HYDROCHLORIC ACID. Avoid skin and eye contact. If contact is made, FLUSH IMMEDIATELY with water.
Nitric Acid	CAUTION! STRONG OXIDIZER! CONTAINS 1:1 NITRIC ACID. Avoid skin and eye contact. If contact is made, FLUSH IMMEDIATELY with water.
Sulfuric Acid	CAUTION! CONTAINS 1:1 SULFURIC ACID. Avoid skin and eye contact. If contact is made, FLUSH IMMEDIATELY with water.

Relinquished By	Company	Date	Time	Received By	Company	Seal #:
Relinquished By	Company	Date	Time	Received By	Company	Seal #:

Please notify us immediately if an error is found in shipment

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Tampa
6712 Benjamin Road
Suite 100
Tampa, FL 33634
Tel: (813)885-7427

TestAmerica Job ID: 660-43968-1
Client Project/Site: Warner Bayou-11-7333

For:
Ardaman & Associates Inc.
78 Sarasota Center Blvd
Sarasota, Florida 34240

Attn: Mike Eggleston

Authorized for release by:
10/20/2011 12:00:51 PM

Nancy Robertson
Project Manager II
nancy.robertson@testamericainc.com

Table of Contents

Definitions/Glossary

Client: Ardaman & Associates Inc.
Project/Site: Warner Bayou-11-7333

TestAmerica Job ID: 660-43968-1

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Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Indicates that the compound was analyzed for but not detected.

GC/MS Semi VOA

Qualifier	Qualifier Description
U	Indicates that the compound was analyzed for but not detected.
J1	Estimated value; value may not be accurate. Surrogate recovery outside of criteria.

Metals

Qualifier	Qualifier Description
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.
U	Indicates that the compound was analyzed for but not detected.
V	Indicates the analyte was detected in both the sample and the associated method blank.
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.

General Chemistry

Qualifier	Qualifier Description
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.
U	Indicates that the compound was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DL, RA, RE, IN	Indicates a Dilution, Reanalysis, Re-extraction, or additional Initial metals/anion analysis of the sample
EDL	Estimated Detection Limit
EPA	United States Environmental Protection Agency
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
RL	Reporting Limit
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Job ID: 660-43968-1

Laboratory: TestAmerica Tampa

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Narrative

Job Narrative
660-43968-1

Comments
No additional comments.

Receipt
All samples were received in good condition within temperature requirements.

GC/MS VOA
No analytical or quality issues were noted.

GC/MS Semi VOA
Method 625: Surrogate recovery for the following sample was outside control limits: MW-1 (660-43968-1). Evidence of matrix interference is present; therefore, re-extraction and re-analysis was not performed. The sample is flagged with J1.

No other analytical or quality issues were noted.

Metals
Method 1631E: The method blank for batch 141830 had an estimated result at the MDL.

Method 1631E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for batch 141830 were outside control limits. The associated laboratory control sample and duplicate (LCS/LCSD) recoveries met acceptance criteria.

Method 1631E: Routine preservation and digestion of samples analyzed by EPA 1631E consists of the addition of 0.6mL bromine monochloride (BrCl) solution. Additional BrCl and a dilution was required to ensure complete sample oxidation for the following sample: MW-1 (660-43968-1). An additional method digestion blank, with like amounts of BrCl, was prepared and analyzed with the samples. The mercury concentration in this additional method blank is less than the reporting limit.

No other analytical or quality issues were noted.

General Chemistry
Method SM 3500 CR B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries associated with batch 116165 could not be calculated due to matrix interference. (660-43968-1 MS), (660-43968-1 MSD). The sample is flagged with J3.

No other analytical or quality issues were noted.

Detection Summary

Client: Ardaman & Associates Inc.
Project/Site: Warner Bayou-11-7333

TestAmerica Job ID: 660-43968-1

Client Sample ID: MW-1

Lab Sample ID: 660-43968-1

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Copper	3.3	I	10	2.9	ug/L	1		200.7 Rev 4.4	Total Recovera
Total Organic Carbon	20		1.0	0.35	mg/L	1		5310 C	Total/NA

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Client Sample ID: Trip Blank

Lab Sample ID: 660-43968-2

No Detections

Client Sample ID: MW-1 Field Blank

Lab Sample ID: 660-43968-3

No Detections

Client Sample Results

Client: Ardaman & Associates Inc.
Project/Site: Warner Bayou-11-7333

TestAmerica Job ID: 660-43968-1

Client Sample ID: MW-1

Date Collected: 10/06/11 14:00
Date Received: 10/07/11 08:05

Lab Sample ID: 660-43968-1

Matrix: Water

Method: 624 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.50	U	1.0	0.50	ug/L			10/10/11 10:28	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*103*		*70 - 130*		*10/10/11 10:28*	*1*
Dibromofluoromethane	*99*		*70 - 130*		*10/10/11 10:28*	*1*
Toluene-d8 (Surr)	*95*		*70 - 130*		*10/10/11 10:28*	*1*

Method: 625 - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	0.22	U	9.6	0.22	ug/L		10/10/11 13:27	10/12/11 17:29	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*51*		*34 - 130*	*10/10/11 13:27*	*10/12/11 17:29*	*1*
2-Fluorobiphenyl	*50*		*36 - 124*	*10/10/11 13:27*	*10/12/11 17:29*	*1*
Terphenyl-d14	*11*	*J1*	*14 - 148*	*10/10/11 13:27*	*10/12/11 17:29*	*1*

Method: 1631E - Mercury, Low Level (CVAFS)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0010	U	0.0025	0.0010	ug/L		10/12/11 10:50	10/17/11 10:22	1

Method: 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	1.0	U	4.0	1.0	ug/L		10/07/11 11:08	10/10/11 10:39	1
Copper	3.3	I	10	2.9	ug/L		10/07/11 11:08	10/10/11 10:39	1
Lead	2.0	U	10	2.0	ug/L		10/07/11 11:08	10/10/11 10:39	1
Zinc	5.0	U	20	5.0	ug/L		10/07/11 11:08	10/10/11 10:39	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	20		1.0	0.35	mg/L			10/17/11 21:12	1
Chromium (hexavalent)	5.0	U J3	10	5.0	ug/L			10/07/11 13:00	1

Client Sample Results

Client: Ardaman & Associates Inc.
Project/Site: Warner Bayou-11-7333

TestAmerica Job ID: 660-43968-1

Client Sample ID: Trip Blank

Date Collected: 10/06/11 00:00
Date Received: 10/07/11 08:05

Lab Sample ID: 660-43968-2

Matrix: Water

Method: 624 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.50	U	1.0	0.50	ug/L			10/10/11 13:17	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*108*		*70 - 130*		*10/10/11 13:17*	*1*
Dibromofluoromethane	*104*		*70 - 130*		*10/10/11 13:17*	*1*
Toluene-d8 (Surr)	*96*		*70 - 130*		*10/10/11 13:17*	*1*

Client Sample Results

Client: Ardaman & Associates Inc.
Project/Site: Warner Bayou-11-7333

TestAmerica Job ID: 660-43968-1

Client Sample ID: MW-1 Field Blank

Date Collected: 10/06/11 14:36
Date Received: 10/07/11 08:05

Lab Sample ID: 660-43968-3

Matrix: Water

Method: 1631E - Mercury, Low Level (CVAFS)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00020	U	0.00050	0.00020	ug/L		10/12/11 10:50	10/17/11 10:30	1

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Surrogate Summary

Client: Ardaman & Associates Inc.
Project/Site: Warner Bayou-11-7333

TestAmerica Job ID: 660-43968-1

Method: 624 - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	(70-130)
660-43968-1	MW-1	103	99	95
660-43968-1 MS	MW-1	100	104	98
660-43968-2	Trip Blank	108	104	96
660-43987-A-1 DU	Duplicate	103	99	96
LCS 660-116097/3	Lab Control Sample	99	101	99
MB 660-116097/5	Method Blank	103	100	98

Surrogate Legend

BFB = 4-Bromofluorobenzene

DBFM = Dibromofluoromethane

TOL = Toluene-d8 (Surr)

Method: 625 - Semivolatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
		NBZ	FBP	TPH
Lab Sample ID	Client Sample ID	(34-130)	(36-124)	(14-148)
660-43901-D-2-B MS	Matrix Spike	67	60	31
660-43968-1	MW-1	51	50	11 J1
660-43968-1 DU	MW-1	65	60	14
LCS 660-116073/2-A	Lab Control Sample	55	54	62
MB 660-116073/1-A	Method Blank	63	61	66

Surrogate Legend

NBZ = Nitrobenzene-d5

FBP = 2-Fluorobiphenyl

TPH = Terphenyl-d14

QC Sample Results

Client: Ardaman & Associates Inc.
Project/Site: Warner Bayou-11-7333

TestAmerica Job ID: 660-43968-1

Method: 624 - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 660-116097/5
Matrix: Water
Analysis Batch: 116097

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.50	U	1.0	0.50	ug/L			10/10/11 08:48	1

Surrogate	*MB % Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*103*		*70 - 130*		*10/10/11 08:48*	*1*
Dibromofluoromethane	*100*		*70 - 130*		*10/10/11 08:48*	*1*
Toluene-d8 (Surr)	*98*		*70 - 130*		*10/10/11 08:48*	*1*

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Lab Sample ID: LCS 660-116097/3
Matrix: Water
Analysis Batch: 116097

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Benzene	20.0	19.8		ug/L		99	37 - 151

Surrogate	*LCS % Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*99*		*70 - 130*
Dibromofluoromethane	*101*		*70 - 130*
Toluene-d8 (Surr)	*99*		*70 - 130*

Lab Sample ID: 660-43968-1 MS
Matrix: Water
Analysis Batch: 116097

Client Sample ID: MW-1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	% Rec	% Rec. Limits
Benzene	0.50	U	20.0	20.9		ug/L		105	37 - 151

Surrogate	*MS % Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene	*100*		*70 - 130*
Dibromofluoromethane	*104*		*70 - 130*
Toluene-d8 (Surr)	*98*		*70 - 130*

Lab Sample ID: 660-43987-A-1 DU
Matrix: Water
Analysis Batch: 116097

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Benzene	0.50	U	0.50	U	ug/L		NC	31

Surrogate	*DU % Recovery*	*DU Qualifier*	*Limits*
4-Bromofluorobenzene	*103*		*70 - 130*
Dibromofluoromethane	*99*		*70 - 130*
Toluene-d8 (Surr)	*96*		*70 - 130*

QC Sample Results

Client: Ardaman & Associates Inc.
Project/Site: Warner Bayou-11-7333

TestAmerica Job ID: 660-43968-1

Method: 625 - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 660-116073/1-A
Matrix: Water
Analysis Batch: 116226

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 116073

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	0.23	U	10	0.23	ug/L		10/10/11 13:27	10/12/11 14:29	1

Surrogate	*MB % Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*63*		*34 - 130*	*10/10/11 13:27*	*10/12/11 14:29*	*1*
2-Fluorobiphenyl	*61*		*36 - 124*	*10/10/11 13:27*	*10/12/11 14:29*	*1*
Terphenyl-d14	*66*		*14 - 148*	*10/10/11 13:27*	*10/12/11 14:29*	*1*

Lab Sample ID: LCS 660-116073/2-A
Matrix: Water
Analysis Batch: 116226

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 116073

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Naphthalene	100	45.8		ug/L		46	21 - 133

Surrogate	*LCS % Recovery*	*LCS Qualifier*	*Limits*
Nitrobenzene-d5	*55*		*34 - 130*
2-Fluorobiphenyl	*54*		*36 - 124*
Terphenyl-d14	*62*		*14 - 148*

Lab Sample ID: 660-43901-D-2-B MS
Matrix: Water
Analysis Batch: 116226

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 116073

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	% Rec	% Rec. Limits
Naphthalene	0.23	U	99.0	57.0		ug/L		58	21 - 133

Surrogate	*MS % Recovery*	*MS Qualifier*	*Limits*
Nitrobenzene-d5	*67*		*34 - 130*
2-Fluorobiphenyl	*60*		*36 - 124*
Terphenyl-d14	*31*		*14 - 148*

Lab Sample ID: 660-43968-1 DU
Matrix: Water
Analysis Batch: 116226

Client Sample ID: MW-1
Prep Type: Total/NA
Prep Batch: 116073

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Naphthalene	0.22	U	0.22	U	ug/L		NC	36

Surrogate	*DU % Recovery*	*DU Qualifier*	*Limits*
Nitrobenzene-d5	*65*		*34 - 130*
2-Fluorobiphenyl	*60*		*36 - 124*
Terphenyl-d14	*14*		*14 - 148*

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QC Sample Results

Client: Ardaman & Associates Inc.
Project/Site: Warner Bayou-11-7333

TestAmerica Job ID: 660-43968-1

Method: 1631E - Mercury, Low Level (CVAFS)

Lab Sample ID: MB 400-141830/1-A
Matrix: Water
Analysis Batch: 141888

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 141830

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000252	I	0.00050	0.00020	ug/L		10/17/11 07:51	10/17/11 08:28	1

Lab Sample ID: LCS 400-141830/2-A
Matrix: Water
Analysis Batch: 141888

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 141830

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Mercury	0.00500	0.00475		ug/L		95	79 - 121

Lab Sample ID: LCSD 400-141830/3-A
Matrix: Water
Analysis Batch: 141888

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 141830

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Mercury	0.00500	0.00471		ug/L		94	79 - 121	1	20

Lab Sample ID: 400-59990-B-1-A MS
Matrix: Water
Analysis Batch: 141888

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 141830

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	% Rec	% Rec. Limits
Mercury	0.0012	V J3	0.00500	0.00331	J3	ug/L		42	71 - 125

Lab Sample ID: 400-59990-C-1-A MSD
Matrix: Water
Analysis Batch: 141888

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 141830

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Mercury	0.0012	V J3	0.00500	0.00317	J3	ug/L		40	71 - 125	4	24

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 660-115993/1-A
Matrix: Water
Analysis Batch: 116068

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 115993

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	1.0	U	4.0	1.0	ug/L		10/07/11 11:08	10/10/11 09:59	1
Copper	2.9	U	10	2.9	ug/L		10/07/11 11:08	10/10/11 09:59	1
Lead	2.0	U	10	2.0	ug/L		10/07/11 11:08	10/10/11 09:59	1
Zinc	5.0	U	20	5.0	ug/L		10/07/11 11:08	10/10/11 09:59	1

Lab Sample ID: LCS 660-115993/2-A
Matrix: Water
Analysis Batch: 116068

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 115993

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Cadmium	1000	1010		ug/L		101	85 - 115
Copper	1000	1000		ug/L		100	85 - 115
Lead	1000	1040		ug/L		104	85 - 115
Zinc	1000	1030		ug/L		103	85 - 115

Lab Sample ID: 660-43882-D-2-B MS
Matrix: Water
Analysis Batch: 116068

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 115993

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	% Rec	% Rec. Limits
Cadmium	1.0	U	1000	1020		ug/L		102	85 - 115
Copper	2.9	U	1000	1000		ug/L		100	85 - 115
Lead	2.0	U	1000	1040		ug/L		104	85 - 115
Zinc	5.0	U	1000	1030		ug/L		103	85 - 115

Lab Sample ID: 660-43882-D-2-C MSD
Matrix: Water
Analysis Batch: 116068

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 115993

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Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Cadmium	1.0	U	1000	1010		ug/L		101	85 - 115	1	20
Copper	2.9	U	1000	1000		ug/L		100	85 - 115	0	20
Lead	2.0	U	1000	1040		ug/L		104	85 - 115	1	20
Zinc	5.0	U	1000	1030		ug/L		103	85 - 115	1	20

Method: 5310 C - Total Organic Carbon - SM 20th Ed.

Lab Sample ID: MB 640-86098/6
Matrix: Water
Analysis Batch: 86098

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	0.35	U	1.0	0.35	mg/L			10/17/11 13:39	1

Lab Sample ID: LCS 640-86098/7
Matrix: Water
Analysis Batch: 86098

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Total Organic Carbon	10.0	8.97		mg/L		90	80 - 120

Lab Sample ID: LCSD 640-86098/8
Matrix: Water
Analysis Batch: 86098

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Total Organic Carbon	10.0	9.07		mg/L		91	80 - 120	1	25

Lab Sample ID: 640-35589-F-1 MS
Matrix: Water
Analysis Batch: 86098

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	% Rec	% Rec. Limits
Total Organic Carbon	4.9		5.00	9.65		mg/L		96	80 - 120

Lab Sample ID: 640-35589-G-1 MSD
Matrix: Water
Analysis Batch: 86098

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Total Organic Carbon	4.9		5.00	9.47		mg/L		92	80 - 120	2	25

Method: 5310 C - Total Organic Carbon - SM 20th Ed. (Continued)

Lab Sample ID: 660-43968-1 DU
Matrix: Water
Analysis Batch: 86098

Client Sample ID: MW-1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Organic Carbon	20		19.4		mg/L		1	25

Method: SM 3500 CR B - Chromium, Hexavalent

Lab Sample ID: MB 660-116165/3
Matrix: Water
Analysis Batch: 116165

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium (hexavalent)	5.0	U	10	5.0	ug/L			10/07/11 13:00	1

Lab Sample ID: LCS 660-116165/4
Matrix: Water
Analysis Batch: 116165

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Chromium (hexavalent)	20.0	19.0		ug/L		95	85 - 115

Lab Sample ID: 660-43968-1 MS
Matrix: Water
Analysis Batch: 116165

Client Sample ID: MW-1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	% Rec	% Rec. Limits
Chromium (hexavalent)	5.0	U J3	20.0	5.0	U J3	ug/L		0	85 - 115

Lab Sample ID: 660-43968-1 MSD
Matrix: Water
Analysis Batch: 116165

Client Sample ID: MW-1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Chromium (hexavalent)	5.0	U J3	20.0	5.0	U J3	ug/L		0	85 - 115	NC	20

QC Association Summary

Client: Ardaman & Associates Inc.
Project/Site: Warner Bayou-11-7333

TestAmerica Job ID: 660-43968-1

GC/MS VOA

Analysis Batch: 116097

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-43968-1	MW-1	Total/NA	Water	624	
660-43968-1 MS	MW-1	Total/NA	Water	624	
660-43968-2	Trip Blank	Total/NA	Water	624	
660-43987-A-1 DU	Duplicate	Total/NA	Water	624	
LCS 660-116097/3	Lab Control Sample	Total/NA	Water	624	
MB 660-116097/5	Method Blank	Total/NA	Water	624	

GC/MS Semi VOA

Prep Batch: 116073

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-43901-D-2-B MS	Matrix Spike	Total/NA	Water	3520C	
660-43968-1	MW-1	Total/NA	Water	3520C	
660-43968-1 DU	MW-1	Total/NA	Water	3520C	
LCS 660-116073/2-A	Lab Control Sample	Total/NA	Water	3520C	
MB 660-116073/1-A	Method Blank	Total/NA	Water	3520C	

Analysis Batch: 116226

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-43901-D-2-B MS	Matrix Spike	Total/NA	Water	625	116073
660-43968-1	MW-1	Total/NA	Water	625	116073
660-43968-1 DU	MW-1	Total/NA	Water	625	116073
LCS 660-116073/2-A	Lab Control Sample	Total/NA	Water	625	116073
MB 660-116073/1-A	Method Blank	Total/NA	Water	625	116073

Metals

Prep Batch: 115993

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-43882-D-2-B MS	Matrix Spike	Total Recoverable	Water	200.7	
660-43882-D-2-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.7	
660-43968-1	MW-1	Total Recoverable	Water	200.7	
LCS 660-115993/2-A	Lab Control Sample	Total Recoverable	Water	200.7	
MB 660-115993/1-A	Method Blank	Total Recoverable	Water	200.7	

Analysis Batch: 116068

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-43882-D-2-B MS	Matrix Spike	Total Recoverable	Water	200.7 Rev 4.4	115993
660-43882-D-2-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.7 Rev 4.4	115993
660-43968-1	MW-1	Total Recoverable	Water	200.7 Rev 4.4	115993
LCS 660-115993/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	115993
MB 660-115993/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	115993

Prep Batch: 141830

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-59990-B-1-A MS	Matrix Spike	Total/NA	Water	1631E	
400-59990-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	1631E	
660-43968-1	MW-1	Total/NA	Water	1631E	
660-43968-3	MW-1 Field Blank	Total/NA	Water	1631E	
LCS 400-141830/2-A	Lab Control Sample	Total/NA	Water	1631E	
LCSD 400-141830/3-A	Lab Control Sample Dup	Total/NA	Water	1631E	
MB 400-141830/1-A	Method Blank	Total/NA	Water	1631E	

QC Association Summary

Client: Ardaman & Associates Inc.
Project/Site: Warner Bayou-11-7333

TestAmerica Job ID: 660-43968-1

Metals (Continued)

Analysis Batch: 141888

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-59990-B-1-A MS	Matrix Spike	Total/NA	Water	1631E	141830
400-59990-C-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	1631E	141830
660-43968-1	MW-1	Total/NA	Water	1631E	141830
660-43968-3	MW-1 Field Blank	Total/NA	Water	1631E	141830
LCS 400-141830/2-A	Lab Control Sample	Total/NA	Water	1631E	141830
LCSD 400-141830/3-A	Lab Control Sample Dup	Total/NA	Water	1631E	141830
MB 400-141830/1-A	Method Blank	Total/NA	Water	1631E	141830

General Chemistry

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Analysis Batch: 86098

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
640-35589-F-1 MS	Matrix Spike	Total/NA	Water	5310 C	
640-35589-G-1 MSD	Matrix Spike Duplicate	Total/NA	Water	5310 C	
660-43968-1	MW-1	Total/NA	Water	5310 C	
660-43968-1 DU	MW-1	Total/NA	Water	5310 C	
LCS 640-86098/7	Lab Control Sample	Total/NA	Water	5310 C	
LCSD 640-86098/8	Lab Control Sample Dup	Total/NA	Water	5310 C	
MB 640-86098/6	Method Blank	Total/NA	Water	5310 C	

Analysis Batch: 116165

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-43968-1	MW-1	Total/NA	Water	SM 3500 CR B	
660-43968-1 MS	MW-1	Total/NA	Water	SM 3500 CR B	
660-43968-1 MSD	MW-1	Total/NA	Water	SM 3500 CR B	
LCS 660-116165/4	Lab Control Sample	Total/NA	Water	SM 3500 CR B	
MB 660-116165/3	Method Blank	Total/NA	Water	SM 3500 CR B	

Lab Chronicle

Client: Ardaman & Associates Inc.
Project/Site: Warner Bayou-11-7333

TestAmerica Job ID: 660-43968-1

Client Sample ID: MW-1

Date Collected: 10/06/11 14:00
Date Received: 10/07/11 08:05

Lab Sample ID: 660-43968-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	624		1	116097	10/10/11 10:28	EC	TAL TAM
Total/NA	Prep	3520C			116073	10/10/11 13:27	BK	TAL TAM
Total/NA	Analysis	625		1	116226	10/12/11 17:29	SCC	TAL TAM
Total/NA	Prep	1631E			141830	10/12/11 10:50	BG	TAL PEN
Total/NA	Analysis	1631E		1	141888	10/17/11 10:22	BG	TAL PEN
Total Recoverable	Prep	200.7			115993	10/07/11 11:08	SR	TAL TAM
Total Recoverable	Analysis	200.7 Rev 4.4		1	116068	10/10/11 10:39	GF	TAL TAM
Total/NA	Analysis	5310 C		1	86098	10/17/11 21:12	AJN	TAL TAL
Total/NA	Analysis	SM 3500 CR B		1	116165	10/07/11 13:00	TS	TAL TAM

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Client Sample ID: Trip Blank

Date Collected: 10/06/11 00:00
Date Received: 10/07/11 08:05

Lab Sample ID: 660-43968-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	624		1	116097	10/10/11 13:17	EC	TAL TAM

Client Sample ID: MW-1 Field Blank

Date Collected: 10/06/11 14:36
Date Received: 10/07/11 08:05

Lab Sample ID: 660-43968-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	1631E			141830	10/12/11 10:50	BG	TAL PEN
Total/NA	Analysis	1631E		1	141888	10/17/11 10:30	BG	TAL PEN

Laboratory References:
TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001
TAL TAL = TestAmerica Tallahassee, 2846 Industrial Plaza Drive, Tallahassee, FL 32301, TEL (850)878-3994
TAL TAM = TestAmerica Tampa, 6712 Benjamin Road, Suite 100, Tampa, FL 33634, TEL (813)885-7427

Certification Summary

Client: Ardaman & Associates Inc.
Project/Site: Warner Bayou-11-7333

TestAmerica Job ID: 660-43968-1

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica Tampa	Alabama	State Program	4	40610
TestAmerica Tampa	Florida	NELAC	4	E84282
TestAmerica Tampa	Georgia	State Program	4	905
TestAmerica Tampa	USDA	USDA		P330-11-00177
TestAmerica Pensacola	Alabama	State Program	4	40150
TestAmerica Pensacola	Arizona	State Program	9	AZ0710
TestAmerica Pensacola	Arkansas	State Program	6	88-0689
TestAmerica Pensacola	Florida	NELAC	4	E81010
TestAmerica Pensacola	Georgia	Georgia EPD	4	N/A
TestAmerica Pensacola	Illinois	NELAC	5	200041
TestAmerica Pensacola	Iowa	State Program	7	367
TestAmerica Pensacola	Kansas	NELAC	7	E-10253
TestAmerica Pensacola	Kentucky	Kentucky UST	4	53
TestAmerica Pensacola	Louisiana	NELAC	6	30976
TestAmerica Pensacola	Maryland	State Program	3	233
TestAmerica Pensacola	Massachusetts	State Program	1	M-FL094
TestAmerica Pensacola	Michigan	State Program	5	9912
TestAmerica Pensacola	New Hampshire	NELAC	1	2505
TestAmerica Pensacola	New Jersey	NELAC	2	FL006
TestAmerica Pensacola	North Carolina	North Carolina DENR	4	314
TestAmerica Pensacola	Oklahoma	State Program	6	9810
TestAmerica Pensacola	Pennsylvania	NELAC	3	68-00467
TestAmerica Pensacola	Rhode Island	State Program	1	LAO00307
TestAmerica Pensacola	South Carolina	State Program	4	96026
TestAmerica Pensacola	Tennessee	State Program	4	TN02907
TestAmerica Pensacola	Texas	NELAC	6	T104704286-11-3
TestAmerica Pensacola	USDA	USDA		P330-10-00407
TestAmerica Pensacola	Virginia	NELAC	3	918
TestAmerica Pensacola	Washington	State Program	10	C915
TestAmerica Pensacola	West Virginia	West Virginia DEP	3	136
TestAmerica Tallahassee	Florida	NELAC	4	E81005
TestAmerica Tallahassee	Louisiana	NELAC	6	30663
TestAmerica Tallahassee	New Jersey	NELAC	2	FL012
TestAmerica Tallahassee	Oklahoma	State Program	6	9986
TestAmerica Tallahassee	Texas	NELAC	6	T104704459-11-2
TestAmerica Tallahassee	USDA	USDA		P330-08-00158

Accreditation may not be offered or required for all methods and analytes reported in this package. Please contact your project manager for the laboratory's current list of certified methods and analytes.

Method Summary

Client: Ardaman & Associates Inc.
Project/Site: Warner Bayou-11-7333

TestAmerica Job ID: 660-43968-1

Method	Method Description	Protocol	Laboratory
624	Volatile Organic Compounds (GC/MS)	40CFR136A	TAL TAM
625	Semivolatile Organic Compounds (GC/MS)	40CFR136A	TAL TAM
1631E	Mercury, Low Level (CVAFS)	EPA	TAL PEN
200.7 Rev 4.4	Metals (ICP)	EPA	TAL TAM
5310 C	Total Organic Carbon - SM 20th Ed.	SM20	TAL TAL
SM 3500 CR B	Chromium, Hexavalent	SM	TAL TAM

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.
EPA = US Environmental Protection Agency
SM = "Standard Methods For The Examination Of Water And Wastewater",
SM20 = "Standard Methods For The Examination Of Water And Wastewater", 20th Edition."

Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001
TAL TAL = TestAmerica Tallahassee, 2846 Industrial Plaza Drive, Tallahassee, FL 32301, TEL (850)878-3994
TAL TAM = TestAmerica Tampa, 6712 Benjamin Road, Suite 100, Tampa, FL 33634, TEL (813)885-7427

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Sample Summary

Client: Ardaman & Associates Inc.
Project/Site: Warner Bayou-11-7333

TestAmerica Job ID: 660-43968-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
660-43968-1	MW-1	Water	10/06/11 14:00	10/07/11 08:05
660-43968-2	Trip Blank	Water	10/06/11 00:00	10/07/11 08:05
660-43968-3	MW-1 Field Blank	Water	10/06/11 14:36	10/07/11 08:05

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TestAmerica Tampa
6712 Benjamin Road Suite 100
Tampa, FL 33634
Phone (813) 885-7427 Fax (813) 885-7049

660-43968

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Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

10/20/2011

Client Information	Sampler: Michael Eggleston	Lab PM: Robertson, Nancy	Carrier Tracking No(s):	COC No: 660-37522-12220.1
Client Contact: Mr. Jerry Kuehn	Phone:	E-Mail: nancy.robertson@testamericainc.com		Page: Page 1 of 1
Company: Ardaman & Associates Inc.				Job #:
Address: 78 Sarasota Center Blvd	Due Date Requested: N/A			
City: Sarasota	TAT Requested (days): STANDARD			
State, Zip: FL, 34240				
Phone: 941-922-3526(Tel)	PO #: Purchase Order not requir			
Email: JKuehn@ardaman.com	WO #:			
Project Name: Warner Bayou / 11-7333	Project #: 66004542			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	5310C - Total Organic Carbon	200.7 - Cadmium, Copper, Lead, Zinc	624_5ml - Benzene	825 - Naphthalene	3500_CR_B - Chromium (hexavalent)	1631E - Low Level Mercury	Total Number of containers	Special Instructions/Note:
			Preservation Code:				S	D	A	N	N	N		
MW-1	10.06.11	14:00	G	Water	N		X	X	X	X	X	X	5	
TRIP BLANK	—	—	—	Water					X				2	
EQUIPMENT BLANK	10-06-11	14:36	G	Water	N							X	3	

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☑ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date: 9/30/11	Time:	Method of Shipment:		
Relinquished by: Michael Eggleston AAI	Date/Time: 10-7-11 / 0805	Company: AAI	Received by: [illegible]	Date/Time: 10-7-11 0805	Company: TA TPA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No
Custody Seal No.:
Cooler Temperature(s) °C and Other Remarks: 3.7-C CW07

Login Sample Receipt Checklist

Client: Ardaman & Associates Inc.

Job Number: 660-43968-1

Login Number: 43968
List Number: 1
Creator: Redding, Charles S

List Source: TestAmerica Tampa

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	3.7 degrees C Cu-07
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	True	

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Login Sample Receipt Checklist

Client: Ardaman & Associates Inc.

Job Number: 660-43968-1

Login Number: 43968
List Number: 1
Creator: Chea, Vanda

List Source: TestAmerica Pensacola
List Creation: 10/12/11 09:13 AM

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.0°C
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	True	

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Login Sample Receipt Checklist

Client: Ardaman & Associates Inc.

Job Number: 660-43968-1

Login Number: 43968
List Number: 1
Creator: Mitchell, Travis X

List Source: TestAmerica Tallahassee
List Creation: 10/11/11 10:37 AM

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	N/A	
Residual Chlorine Checked.	N/A	

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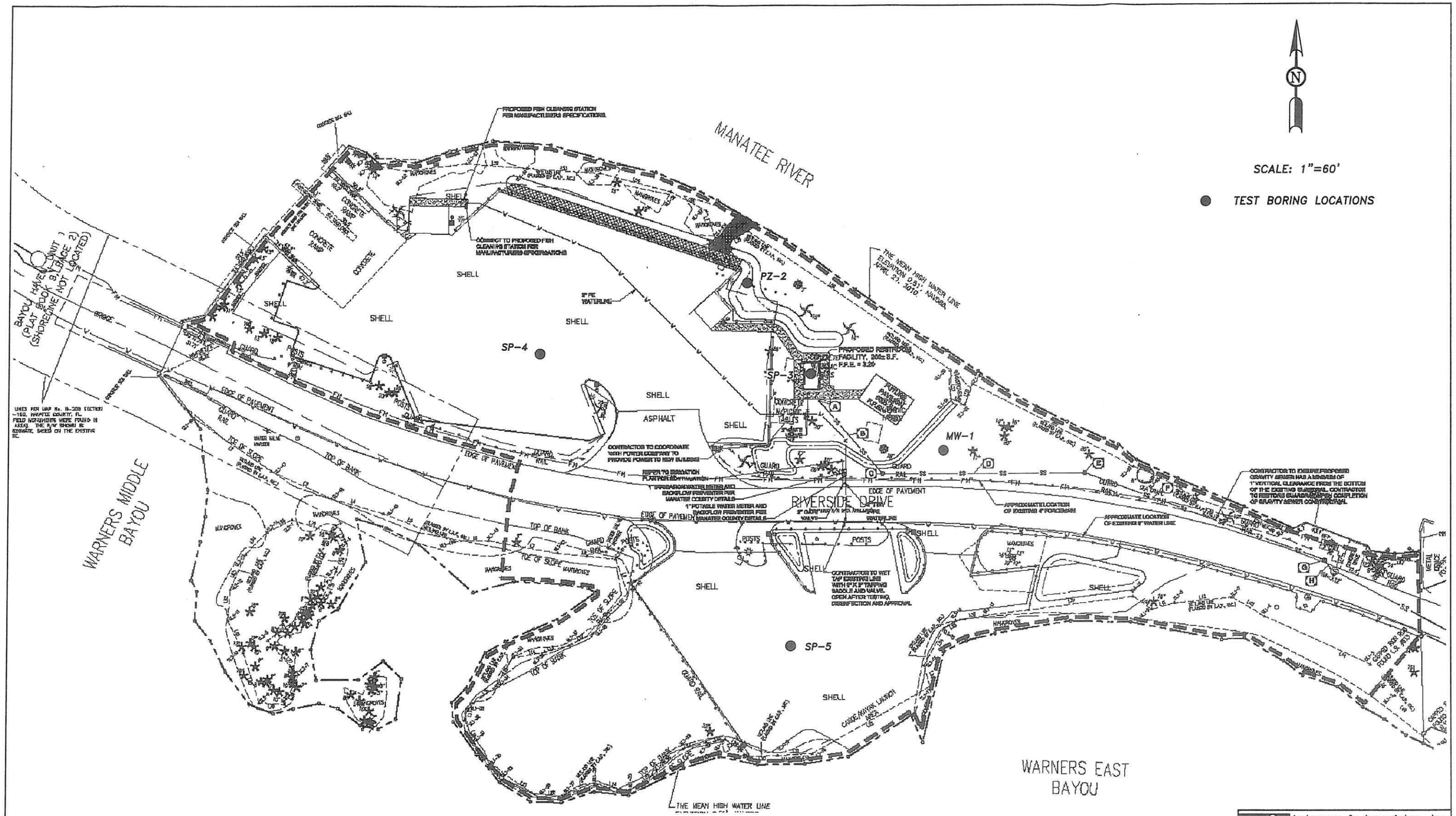

Ardaman & Associates, Inc.
Geotechnical, Environmental and Materials Consultants

Test Locations
Warner Bayou 59th St. Boat Ramp
Manatee County, Florida

DRAWN BY: KGS	CHECKED BY:	DATE: 9/14/11
FILE NO. 11-7333	APPROVED BY:	FIGURE: 1

Base PDF Image By: CPH

APPENDIX B

Permits

- FDEP ERP PERMIT
- MANATEE COUNTY SITE PERMIT

Florida Department of Environmental Protection

Southwest District Office
13051 North Telecom Parkway, Suite 101
Temple Terrace, FL 33637-0926

Rick Scott
Governor

Carlos Lopez-Cantera
Lt. Governor

Noah Valenstein
Secretary

August 02, 2018

Manatee County Government
c/o Charlie Hunsicker, Parks & Recreation Director
5502 33rd Ave. Dr. West
Bradenton, FL, 34209
charlie.hunsicker@mymanatee.org

Dear Mr. Hunsicker:

Enclosed is the Environmental Resource Permit, DEP Project No. 41-0306686-007-EI, issued pursuant to Part IV of Chapter 373, Florida Statutes, and Title 62, Florida Administrative Code.

Appeal rights for you and for any affected third party are described in the text of the permit along with conditions that must be met when authorized activities are undertaken.

You, as the applicant, are responsible for all aspects of permit compliance. You should therefore review this permit document carefully to ensure compliance with the general conditions and specific conditions contained herein.

Please be aware of permit General Condition Number 4, which states, "At least 48 hours prior to beginning the authorized activities, the permittee shall submit to the Agency a fully executed Form 62-330.350(1), "Construction Commencement Notice"."

If you have any questions about this document, please contact me at veronica.l.robinson@dep.state.fl.us or (813) 470-5748.

Thank you for your participation in the permit process and in managing the natural resources of the State of Florida.

Sincerely,

Veronica Robinson, P.E., CFM, PMP
Professional Engineer I
Permitting and Waste Cleanup Program

cc: Daniel Moyer, P.E., CPH, Inc., dmoyer@cphcorp.com

Enclosure: Environmental Resource Permit with Attachments (36 pages)

Florida Department of Environmental Protection

Southwest District Office
13051 North Telecom Parkway, Suite 101
Temple Terrace, FL 33637-0926

Permittee/Authorized Entity:
Manatee County Government
c/o Charlie Hunsicker
5502 33rd Ave. Dr. West
Bradenton, FL, 34209

Warner's Bayou Boat Ramp

Authorized Agent:
CPH, Inc.
c/o Daniel Moyer, P.E.
3277A Fruitville Road, Suite 2
Sarasota, Florida, 34237

Individual Environmental Resource Permit

State-owned Submerged Lands Authorization – Not Applicable

U.S. Army Corps of Engineers Authorization – Not Approved

Permit No.: 41-0306686-007-EI

Permit Issuance Date: August 02, 2018
Permit Construction Phase Expiration Date: August 02, 2023

Florida Department of Environmental Protection

Southwest District Office
13051 North Telecom Parkway, Suite 101
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Environmental Resource Permit

Permittee: Manatee County Government
Permit No: 41-0306686-007-EI

PROJECT LOCATION
The activities authorized by this permit are in Section 20, Township 34 South, Range 17 East, at 5800 Riverview Boulevard, Bradenton, Manatee County, Florida. The Warner's Bayou Boat Ramp site is located within a 3.5-acre area at latitude 27° 30' 33.0" and longitude -82° 37' 3.4".

PROJECT DESCRIPTION
The permittee is authorized to construct improvements to an off-street parking lot at the Warner's Bayou Boat Ramp. Off-street parking on the site is bisected by Riverview Boulevard into north and south project areas. The project was previously authorized by Permit No. 41-0306686-001-EI to construct the existing boat ramp and parking areas to the north and overflow parking to the south.

Proposed improvements in this authorization include re-grading and concrete-surfacing of approximately 1.2 acres of the south area for parking and access to a kayak launch. The existing stormwater pond (East Pond) has been redesigned to provide additional water quality treatment for the first half-inch of runoff from impervious areas draining from the eastern portion of the site. The new West Pond provides water quality treatment for areas draining to the proposed stormwater collection system and overland flow in the western portion. Both dry retention ponds are designed to recover their total treatment volumes within 72 hours via infiltration. A pre-development and post-development match is not required for water quantity attenuation due to direct discharges from the stormwater management system (SWMS) to Warner Bayou East, a tidally-influenced waterbody.

The remainder of the site consists of open space that will remain undeveloped with no wetland impacts proposed. Although site construction is fully within the 100-year floodplain (Zone AE), volumetric compensation is not required due to the minimal re-grading proposed and coastal proximity of the project. No net loss or other adverse impacts to the floodplain are proposed or authorized. Authorized activities are depicted on the attached exhibits.

AUTHORIZATIONS
Warner's Bayou Boat Ramp
Environmental Resource Permit
The Department has determined that the activity qualifies for an Environmental Resource Permit. Therefore, the Environmental Resource Permit is hereby granted, pursuant to Part IV of Chapter 373, Florida Statutes (F.S.), and Chapter 62-330, Florida Administrative Code (F.A.C.).

Sovereignty Submerged Lands Authorization
As staff to the Board of Trustees of the Internal Improvement Trust Fund (Board of Trustees), the Department has determined the activity is not on submerged lands owned by the State of Florida. Therefore, your project is not subject to the requirements of Chapter 253, F.S., or Rule 18-21, F.A.C

Federal Authorization
This permit does not include federal authorization or imply the presence or limits of Waters of the United States (WOTUS) on the subject property. Activities that may impact WOTUS shall require a separate permit from the Corps. It is recommended that you contact your local Corps office to determine whether your project site contains WOTUS and/or if a Department of the Army permit is needed. A map of local Corps offices and the federal application form (ENG 4345) are available online at the Jacksonville District Regulatory Division website.

Authority for review - an agreement with the USACOE entitled "Coordination Agreement Between the U. S. Army Corps of Engineers (Jacksonville District) and the Florida Department of Environmental Protection, or Duly Authorized Designee, State Programmatic General Permit", Section 10 of the Rivers and Harbor Act of 1899, and Section 404 of the Clean Water Act.

Coastal Zone Management
Issuance of this authorization also constitutes a finding of consistency with Florida's Coastal Zone Management Program, as required by Section 307 of the Coastal Zone Management Act.

Water Quality Certification
This permit also constitutes a water quality certification under Section 401 of the Clean Water Act, 33 U.S.C. 1341

Other Authorizations
You are advised that authorizations or permits for this activity may be required by other federal, state, regional, or local entities including but not limited to local governments or municipalities. This permit does not relieve you from the requirements to obtain all other required permits or authorizations.

The activity described may be conducted only in accordance with the terms, conditions and attachments contained in this document. Issuance and granting of the permit and authorizations herein do not infer, nor guarantee, nor imply that future permits, authorizations, or modifications will be granted by the Department.

PERMIT CONDITIONS
The activities described must be conducted in accordance with:

- **The Specific Conditions**
- **The General Conditions**
- **The limits, conditions and locations of work shown in the attached drawings**
- **The term limits of this authorization**

You are advised to read and understand these conditions and drawings prior to beginning the authorized activities, and to ensure the work is conducted in conformance with all the terms,

conditions, and drawings herein. If you are using a contractor, the contractor should also read and understand these conditions and drawings prior to beginning any activity. Failure to comply with these conditions, including any mitigation requirements, shall be grounds for the Department to revoke the permit and authorization and to take appropriate enforcement action. Operation of the facility is not authorized except when determined to be in conformance with all applicable rules and this permit, as described.

SPECIFIC CONDITIONS

1. Submittals required herein for compliance (e.g. as-built drawings, etc.) shall be submitted electronically (via e-mail, CD or DVD, or through a file transfer site) when practicable and shall include the permittee's name and permit number (41-0306686-007-EI). Email submittals shall be sent to SW_ERP@floridadep.gov with a subject line of "Compliance: Permit Number 41-0306686-007-EI", or by mail to:

   Department of Environmental Protection
   Southwest District
   ATTN: Compliance Assurance (ERP)
   13051 North Telecom Parkway, Suite 101
   Temple Terrace, FL 33637-0926

2. The work authorized by this permit shall not be placed/conducted on any property other than that owned by the permittee, without the prior written approval of that property owner.

3. In the event the permittee files for bankruptcy prior to completion of work permitted and required by this permit, the permittee must notify the Department within 30 days of filing. The notification shall identify the bankruptcy court and case number and shall include a copy of the bankruptcy petition.

SPECIFIC CONDITIONS - PRIOR TO ANY CONSTRUCTION

4. Prior to construction, the limits of impact shall be clearly marked in a way which is visible and obvious to anyone performing work on-site, including someone operating heavy equipment. Orange construction fence or tall flagged stakes along the construction limits are possible methods.

5. Best management practices for erosion control shall be implemented prior to construction commencement and shall always be maintained during construction to prevent siltation and turbid discharges in excess of State water quality standards pursuant to Rule 62-302, F.A.C. Methods may include, but are not limited to, the use of staked hay bales, staked filter cloth, sodding, seeding, staged construction and the installation of turbidity screens around the immediate project site. Erosion control methods shall be implemented as depicted on Sheets C1.1 and C1.2 in the attached permit drawings.

6. Prior to initiation of any work authorized by this permit, all wetlands and surface waters outside the specific limits of construction authorized by this permit shall be protected from erosion, siltation, sedimentation, and/or scouring, including the placement of staked erosion control devices around the project area and staging area(s) that are located outside of any authorized impact areas.

SPECIFIC CONDITIONS – CONSTRUCTION ACTIVITIES

7. Areas of exposed soils shall be isolated from wetlands or other surface waters to prevent erosion and deposition of these soils into wetlands or other surface waters during permitted activities.

8. The permittee shall be responsible for ensuring erosion control devices/procedures are inspected and maintained daily during all phases of construction authorized by this permit until areas disturbed during construction are sufficiently stabilized to prevent erosion, siltation, and turbid discharges.

9. Staked filter cloth shall be positioned at the edge of the permitted fill slopes adjacent to wetlands to prevent turbid run-off and erosion.

10. Grass seed, or sod shall be installed and maintained on exposed slopes and disturbed soil areas within 48 hours of completing final grade, and at other times as necessary, to prevent erosion, sedimentation or turbid discharges into waters of the state and adjacent wetlands. A vegetative cover that stabilizes and prevents erosion of the fill material shall be established within 60 days of sodding or seeding. Turbidity barriers/erosion control devices shall be removed upon establishment of a substantial vegetative cover.

11. The following measures shall be taken immediately by the permittee when turbidity levels within waters of the State surrounding the project site exceed 29 NTUs above background:

    a. Immediately cease work contributing to the water quality violation.

    b. Stabilize exposed soils contributing to the violation. Modify the work procedures responsible for the violation, install additional turbidity containment devices and repair non-functioning turbidity containment devices.

    c. Notify the Department within 24 hours of the time the violation is first detected.

12. Wetland areas or waterbodies that are outside the specific limits of construction authorized by this permit, must be protected from erosion, sedimentation, siltation, scouring, excess turbidity, and/or dewatering. There shall be no discharge in violation of the water quality standards in Chapter 62-302, F.A.C. Turbidity/erosion controls shall be installed prior to clearing, excavation or placement of fill material, shall be maintained until construction is completed, disturbed areas are stabilized, and turbidity levels have fallen to less than 29 NTU's above background. The turbidity and erosion control devices shall be removed within 14 days once these conditions are met.

13. The following construction sequence and reporting requirements shall be followed for temporary placement of fill in laydown areas or other stockpile areas:

    a. Prior to the placement of fill material for temporary access, the permittee shall flag and stake the areas to be filled and photograph the areas to show the pre-construction conditions. Photograph locations shall be identified on a permit drawing. The

photographs and location drawing shall be submitted to the Department prior to placement of fill in these areas.

b. Prior to placement of the temporary fill, best management practices (i.e., hay bales, silt fences, etc.) shall be installed along the perimeter of the fill area to prevent erosion of the material into surface waters or wetlands.

c. Within 14 days of the completion of construction, the temporary fill shall be removed, and the ground elevation contours shall be restored to pre-existing elevations to promote natural re-vegetation of the area.

d. Photographs of the area shall be taken from the same locations as required in (a) within 72 hours of grading of the fill area. These photographs shall be combined with the photographs required in (a) and the location map required in (a) and shall be submitted to the Department within 14 days of the completion of the regrading.

e. Photographs of the area shall be taken from the same locations as required in (a), to show the condition of vegetation and substrate within the temporary fill areas one year after grading has been completed. The photographs and a map showing the photograph locations shall be submitted to the Department within 14 days of being taken.

14. Unauthorized impacts to wetlands resulting from authorized construction shall be reported to the Department within 24 hours.

15. This permit does not authorize the installation of water, sewer, cable or utility lines within wetlands or waterbodies.

16. Storage or stockpiling of tools and materials (i.e., lumber, pilings, debris) within wetlands or other surface waters is prohibited.

17. The constructed swales shall have a top width to depth ratio of the cross-section equal to or greater than 6:1 or side slopes equal to 3:1 (horizontal to vertical) or flatter.

18. The following construction procedures shall be implemented to avoid degradation of the swale system infiltration capacity:

a. During initial construction, swales shall be constructed to rough grade by under-excavating the swale bottom and sides.

b. After the drainage area contributing to the swale system has been fully stabilized, the interior side slopes and swale bottoms shall be excavated to final design specifications. The excess soil and undesirable material must be carefully excavated and removed from the swales so that all accumulated silts, clays, organics, and other fine sediment material has been removed. The excavated material shall be disposed of in a manner that prevents re-introduction of the material into the stormwater treatment system.

c. Once the swale system has been excavated to final grade, the entire swale bottom shall be deep-raked and loosened for optimal infiltration.

d. The swale system shall be stabilized with vegetative cover suitable for soil stabilization, stormwater treatment, and nutrient uptake.

19. The swale system shall be maintained in a vegetated state and mowed regularly in order to be kept at a manageable length, as required for system functionality, maintenance, and safety.

20. Excavation of dry retention areas is limited to permitted design specifications as depicted on Sheets C1.5, C5.1 and C5.2 in the attached permit drawings. If limestone bedrock is encountered during construction, the permittee shall notify the Department immediately and shall cease construction in the affected area. The permittee shall submit a design revision to the Department for review and approval that will demonstrate compliance with Rule 5.4.1.b. of the SWFWMD Applicant's Handbook, Volume II prior to proceeding with construction.

21. The permittee shall notify the Department of any sinkhole development in the stormwater management system within 24 hours after discovery and must submit a detailed sinkhole evaluation and repair plan for Department approval within 30 days of discovery.

22. The authorized stormwater management system shall be completed prior to or simultaneously with associated upland development.

SPECIFIC CONDITIONS- CONSTRUCTION COMPLETION

23. All temporary laydown areas must be reclaimed (as applicable), decompacted, and seeded.

24. The permittee shall submit one set of signed, dated and sealed as-built drawings to the Department via email at SW_ERP@dep.state.fl.us for review and approval within 30 days of completion of construction. (Please contact the Department for files that are too large to email for alternative means of submitting electronically.) The as-built drawings shall be based on the Department permitted construction drawings and any pertinent specific conditions, which should be revised to reflect changes made during construction. Both the original design and constructed elevations must be clearly shown. The plans must be clearly labeled as "as-built" or "record" drawings. Surveyed dimensions and elevations required shall be verified and signed, dated and sealed by a Florida registered professional. *As-builts shall be submitted to the Department regardless of whether deviations are present or not. In addition, the permittee shall submit the "As-Built Certification and Request for Conversion to Operation Phase" form (Ch. 62-330.310(1), F.A.C.); as required in General Condition #6.*

The following information shall be verified on the as-built drawings from the engineering drawings signed and sealed by Daniel P. Moyer, P.E., #69057, on June 28, 2018:

Plan View/Cross Section Name	Sheet No.
Site Dimension Plan	C1.3

Grading and Storm Drainage Plan	C1.4
Construction Details Sheets	C5.1 – C5.3

SPECIFIC CONDITIONS – OPERATION AND MAINTENANCE ACTIVITIES

25. The retention ponds are intended to become dry within 72 hours after a rainfall event. A system that is regularly wet shall not be considered in compliance with this permit and possible modifications to the system may be required.

26. The SWMS conveyance pipes shall be maintained free of blockage and the pond must be kept free of obstructions or blockage by sediment. Any scouring or erosion at these locations must be repaired.

27. All swales from the point at which they receive runoff from the project area and through their entire downstream length shall be well maintained and stabilized to ensure that they are not subject to erosion.

28. The permitted stormwater management system shall only be used for the purpose of controlling surface water runoff from the site and shall not be used to dispose of or store any solid/liquid waste or products generated or used during operation or construction of the facility.

29. Required inspections by the permittee.

    a. The stormwater system shall be inspected periodically for accumulation of debris and trash. Accumulations of debris and trash that negatively affect the function of the system shall be removed upon discovery.

    b. The stormwater system shall be inspected periodically for silt accumulation. Accumulations of silt that negatively affect the function of the system shall be removed.

30. Percolation performance shall be evaluated within retention areas at least every third year. If there is evidence of inadequate percolation, retention area bottoms must be re-scarified or deep-raked to restore percolation characteristics. If reworking the bottom fails to restore adequate percolation, additional retention area restoration shall be performed as follows:

    a. Remove the top layer of retention area bottom material to a depth of 2 to 3 inches and scarify or deep-rake the excavated bottom.

    b. Replace excavated bottom material with suitably permeable material and restore the pond bottom to design grade.

31. The stormwater management system shall be inspected by a registered professional to evaluate whether the system is functioning as designed and permitted. Percolation performance should specifically be addressed. The registered professional may record his inspection on Form No. 62-330.311(1), Operation and Maintenance Inspection Certification or may provide his evaluation in any other format; however, any report must be signed and

sealed by the registered professional. Submittal of the inspection report to the Department is not required; but the report shall be made available to the Department upon request. Inspections shall be made by the registered professional in accordance with this schedule:

a. On the first anniversary of the date of conversion to Operation and Maintenance Phase.

b. Every fifth year on the anniversary of conversion to Operation and Maintenance phase, after the first year of successful operation.

32. Within 30 days of any failure of a stormwater management system or deviation from the permit, a report shall be submitted to the Department on Form 62-330.311(1), Operation and Maintenance Inspection Certification, describing the remedial actions taken to resolve the failure of deviation. This report shall be signed and sealed by a registered professional.

33. Once project construction has been deemed complete, including the re-stabilization of all side slopes, embankments, and other disturbed areas, and before the transfer to the Operation and Maintenance phase, all obsolete erosion control materials shall be removed.

34. The permittee shall be responsible for keeping records documenting that relevant permit conditions are met. This documentation shall include, at a minimum, the date of each inspection, the name and qualifications of the inspector, any maintenance actions taken, and a determination by the inspector as to whether the system is operating as intended. Inspection documentation must be readily available and shall be provided at the Department's request. Submittal of the inspection documentation to the Department is not required.

35. In addition to these conditions, the permittee shall comply with all maintenance and inspection requirements prescribed in the Maintenance and Operation Plan developed by the registered professional who designed the system

GENERAL CONDITIONS FOR INDIVIDUAL PERMITS

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 Agency 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 Agency a fully executed Form 62-330.350(1), "Construction Commencement Notice," [October 1, 2013], which is incorporated by reference in paragraph 62-330.350(1)(d), F.A.C., indicating the expected start and completion dates. A copy of this form may be obtained from the Agency, as described in subsection 62-330.010(5), F.A.C. If available, an Agency website that fulfills this notification requirement may be used in lieu of the form.

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 Operational 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 12.3.3 of Volume I) as filed with the 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 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 Agency in writing of changes required by any other regulatory agency 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 Agency 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 Agency 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, Agency 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 any prehistoric or historic artifacts, such as pottery or ceramics, stone tools or metal implements, dugout canoes, or any other physical remains that could be associated with Native American cultures, or early colonial or American settlement are encountered at any time within the project site area, work involving subsurface disturbance in the immediate vicinity of such discoveries shall cease. The permittee or other designee shall contact the Florida Department of State, Division of Historical Resources, Compliance and Review Section, at (850) 245-6333 or (800) 847-7278, as well as the appropriate permitting agency office. Such subsurface work 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 notification shall be provided in accordance with Section 872.05, F.S.

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 Agency 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 subsection 62-330.090(7), F.A.C. Such notice is not an encumbrance upon the property.

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 Rule 28-106.201, 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 email address, any facsimile number, 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. 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 must be filed within 21 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 21 days of publication of the notice or within 21 days of receipt of the written notice, whichever occurs first. Under Section 120.60(3), F.S., however, any person who has asked the Department for notice of agency action may file a petition within 21 days of receipt of such notice, regardless of the date of publication. 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, before the applicable 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 Rules 9.110 and 9.190, Florida Rules

of Appellate Procedure, with the Clerk of the Department in the Office of General Counsel, 3900 Commonwealth Boulevard, M.S. 35, 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 of Appeal must be filed within 30 days from the date this action is filed with the Clerk of the Department.

Executed in Hillsborough County, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

Pamala Vazquez
Program Administrator
Permitting and Waste Cleanup Program
Southwest District

Attachments:
Project Drawings and Design Specifications (12 pages)
Florida State Historic Preservation Office Review Letter (1 page)
Operation and Maintenance Plan (1 page)
Construction Commencement Notice/Form 62-330.350(1) (1 page)
Operation and Maintenance Inspection Certification 62-330.311(1) (2 pages)
As-built Certification & Request for Conversion to Operational Phase/Form 62-330.310(1) (2 pages)
Request for Transfer to the Perpetual Operation Entity/Form 62-330.310(2) (1 page)
Request to Transfer Permit/Form 62-330.340(1) (2 pages)

Copies furnished to:
Daniel Moyer, P.E., CPH, Inc., dmoyer@cphcorp.com

CERTIFICATE OF SERVICE

The undersigned hereby certifies that this permit, including all copies, were mailed before the close of business on August 2, 2018 to the above listed persons.

FILING AND ACKNOWLEDGMENT

FILED, on this date, under 120.52(7) of the
Florida Statutes, with the designated Department Clerk,
receipt of which is hereby acknowledged.

Elizabeth Williamson

Clerk August 2, 2018
Date

Building and Development Services
Development Review/Zoning
1112 Manatee Ave West, 4th FL Ste. 408
Bradenton, FL 34205
Phone: (941) 749-3070
www.mymanatee.org

October 26, 2018

Mr. Daniel Moyer, P.E.
CPH, Inc.
3277-A Fruitville Rd.
Sarasota, FL 34237

RE:	Case Number:	OP-18-03
	PLN#:	PLN1804-0064
	Case Name:	Warner's Bayou South Parking Lot Improvements
	PIN:	4920800002
	Zoning:	GC
	FLUC:	ROR
	Flood zone:	Zone AE per FIRM Panel 12081C0163E, 3/17/14
	Location:	5800 Riverview Blvd. Bradenton, FL 34209
	Uses:	Proposed improvements include parking lot, driveway/access and stormwater modifications.
	Setbacks:	N/A

Dear Dan:

The application for Final Site Plan for the project referenced above has been reviewed by the appropriate reviewing agencies and is found to be in compliance with the Manatee County Land Development Code and Comprehensive Plan. This plan is approved by the Planning Director under the provisions of Section 324 of the Land Development Code and shall expire after four (4) years. Prior to this expiration the developer may pursue Building Permits.

The applicant's signature at the end of this letter shall constitute written consent to such stipulations and make this approval complete. Please return a signed copy of this letter to my attention at the above address or to my email address – james.rigo@mymanatee.org

Stipulations – This approval incorporates the following stipulations or conditions required by the respective reviewing agencies:

A. **Development Review/Planning & Zoning:**

1. The Site Plan submitted with this application shall be part of the approval.

2. Any new or temporary use proposed at this property, other than those approved with this application, shall be required to apply for a new permit through Building and Development Services-Planning & Zoning and Public Works. Any accessory uses/ structures associated with special events and their use limitations shall comply with the requirements of Land Development Code Section 521. Fees for the temporary use must be paid in full upon application and the proper approvals from all applicable departments must be obtained, and the permit issued prior to commencing of the event.

3. All other required federal, state, or local building permits shall be obtained before commencement

of the project.

Stipulated by reviewer Jim Rigo. Contact (941) 748-4501, x6905 or james.rigo@mymanatee.org

B. **Public Works - Transportation Planning/Concurrency**

1. A Certificate of Level of Service, CLOS #18-080, was issued on 11/2/18 and shall expire **11/2/2021**. Applicant is advised that all building permits for this project must be issued prior to the expiration of the Certificate of Level of Service (CLOS). Construction may continue after the CLOS expiration if the building permit(s) remain valid and do not expire. Otherwise, each site plan will be subject to a full concurrency review.

Stipulated by reviewer Susan Barfield. Contact (941) 708-7450 x7218 or Susan.Barfield@mymanatee.org

C. **Public Works - Stormwater Management:**

Please be advised that we have reviewed the Revised Off-Street Parking Plan dated October 10, 2018 and have no further objections. Our no objection refers to stormwater engineering related information on the sheets and latest revision dates listed below:

Sheet:	Date:
C0.1 (Cover)	06/22/18
C0.2	09/25/17
C0.3	09/25/17
C0.4	09/25/17
C1.1	08/23/18
C1.2	08/23/18
C1.3	08/23/18
C1.4	10/09/18
C5.1	10/09/18
C5.2	10/09/18
C5.3	10/09/18
C5.4	06/22/18

Please be advised this no objection is valid with respect to the referenced sheets and dates listed above. Staff has the option to require a re-submittal of the plans should there be any later revisions, additions, or deletions that impact any of the above listed sheets.

Stipulated by reviewer Tom Gerstenberger. Contact (941) 708-7450, x7228 or tom.gerstenberger@mymanatee.org

D. **Public Works - Growth Management Engineering:**

Contact Ken LaBarr, Infrastructure Inspections Division Manager prior to the start of construction (941) 7087450, Ext 7323 or email kenneth.labarr@mymanatee.org

Contact Brittany Serafin, Environmental Technician, prior to erosion control staking (941) 748-4501, Ext 6204 or email brittany.serafin@mymanatee.org

1. Pursuant to Section 801.3.W of the LDC, sediment and erosion control measures are required for the development in order to control and minimize damage to downstream and adjacent property, the conveyance system, and to preserve water quality. No grading, and or clearing, except brush removal for surveying, or filling shall be commenced until all erosion and sedimentation measures

have been applied to all the disturbed areas and specifically around any water bodies, watercourses, or wetlands.

2. Prior to C.O. it must be demonstrated that any "Roadway Improvements" and/or "Storm Water Improvements", including roadway and storm water installations have been installed and accepted by all entities. This includes final infrastructure inspection approval for the roadway improvement and storm water facilities. Contact Mr. Ken LaBarr at 708-7450, Ext. #7323, Infrastructure Inspection Division of the Public Works Department to discuss all infrastructure inspection criteria.

3. A "Right Of Way Use Permit" shall be required for any directional bore/open cut and utility main installation construction within the Right of Way. This said permit shall be issued and all work associated with said permit shall be inspected and approved by Mr. Matt Merucci with the Manatee County Inspection Department prior to the release of any form of C.O. Contact Mr. Merucci at (941) 708-7450, Ext. #7342 for issuance and inspection procedures.

4. "Wheel Stops" are required when the sidewalk is five (5') in width and the front of a vehicle encroaches any interior landscaped area or walkway in front of building without a raised curb.

5. For "Certification", a letter (signed and sealed) or a letter requesting final zoning inspection approval (aka) "Certificate of Completion" (COC) approval from the property owner shall be submitted to Mr. Ken LaBarr with the Public Works Department once the project is 100% complete and meets substantial compliance with the approved plans. A Final Zoning Inspection will be completed within 48 hours. (two working days) If inadequate, a Deficiency Notice will be forwarded to the Engineer of record and or the owner noting same. Certifications or letters of inspection request listing outstanding construction or substantial deviations are considered STATUS/PROGRESS reports.

RECORD DRAWINGS:

1. See Public Works Transportation Standards Section 3.10 DRAINAGE, PAVING and GRADING RECORD DRAWINGS for instructions and submittal procedures. To assist in expediting the "Paving, Grading and Drainage" "Record Drawing" FINAL Submittal and "Final Acceptance Letter", please provide two (2) sets of As-Built plans; one (1) set of As-Built Mylars; and one (1) CD Rom; directly to John Pari, P.E. Public Works Stormwater Engineering Section. Contact info: john.pari@mymanatee.org or (941) 708-450 ext. 7610.

Stipulated by reviewer Karla Ripley. Contact (941) 708-7450 x7337 or karla.ripley@mymanatee.org

E. Environmental Review Section

1. A total of three separate inspections by ERS Staff are required: two (2) separate inspections by ERS staff are required prior to authorization of construction and/or land clearing activities and one (1) final site inspection for removal of Erosion and Sediment Control (ESC) devices:

i. You are authorized to stake erosion and sediment control (ESC) device locations. After staking ESC measures, ERS staff must be contacted to inspect the staked locations.

ii. After the installation of ESC devices has been completed, a second inspection is required to ensure adequacy.

Per Section 355.3 MLDC the applicant shall schedule an on-site meeting with staff from the Building and Development Services Department (ERS) and the Public Works Department, as well as the engineer of record and the contractor. Final approval of the ESCP and authorization of construction will be granted only after an on-site meeting has been conducted. The second inspection can be incorporated into the onsite meeting required by MCLDC Section 355.3.

iii. After construction is complete, a third inspection is required to inspect that the area has been stabilized and all ESC devises have been removed from the project site.

When ready for silt fence staking and installation inspections, contact Brittany Serafin at Brittany.Serafin@mymanatee.org (941) 748-4501 ext. 6204

Note: Approval of erosion control measures by Manatee County staff other than the Environmental Review Section does not constitute approval for construction to begin.

CONSTRUCTION IS NOT AUTHORIZED WITHOUT ENVIRONMENTAL REVIEW SECTION APPROVAL

2. Tree barricades for trees to be preserved during construction shall be located at the drip line, unless otherwise approved by the Environmental Review staff, prior to commencement of construction. The drip line shall be defined as the outer branch edge of the tree canopy. The area within the drip line shall remain undisturbed. The following activities are prohibited within the drip line of preserved trees: improvements, fill, machinery and vehicle travel or parking; underground utilities; grade changes, compaction of soil, or excavation; storage or construction materials. The tree protection barricades shall consist of chain link fence (new or used) with a minimum 5' height, unless otherwise approved by the Planning Department.

3. If wells are encountered, a Well Management Plan for the proper protection and abandonment of existing wells shall be submitted to the ERS for review and approval prior to recommencing construction activities. The Well Management Plan shall include the following information:

- Digital photographs of the well along with nearby reference structures (if existing);
- GPS coordinates (latitude/longitude) of the well;
- The methodology used to secure the well during construction (e.g. fence, tape); &
- The final disposition of the well - used, capped, or plugged.

Stipulated by reviewer Dana Parkinson. Contact (941) 748-4501 x6863 or dana.parkinson@mymanatee.org

The owner's agent must present a copy of this letter and a copy of the site plan, both fully signed, when applying for a building permit.

Sincerely,

James B. Rigo

James B. Rigo
Principal Planner
Building & Development Services Department
(941) 748-4501 ext. 6905

Applicant's Consent: I have read and understand this letter. I will provide a copy of this letter and approved Site Plan to the General Contractor prior to commencement of construction for this Project.

10/25/18 _____
Date Applicant or Agent for Property Owner

APPENDIX C

CONSTRUCTION PLANS

VERTICAL DATUM: NAVD '88

DATUM CONVERSION
+0.298' NGVD

WARNER'S BAYOU BOAT RAMP
SOUTH PARKING LOT IMPROVEMENTS

5800 RIVERVIEW BLVD.
MANATEE COUNTY, FLORIDA
SECTION 20 - TOWNSHIP 34 SOUTH - RANGE 17 EAST
PARCEL ID: 3047600006

CONSULTANTS

OWNER / DEVELOPER
MANATEE COUNTY
5502 33rd AVE. DRIVE WEST
BRADENTON, FLORIDA 34209
(941) 792-8784
ATTN: ALAN MERONEK

ENGINEER
CPH, INC.
3277A FRUITVILLE ROAD
SARASOTA, FLORIDA 34237
ATTN: DANIEL P. MOYER, P.E.
(941) 365-4771

SURVEYOR
GEORGE F. YOUNG, INC.
10540 PORTAL CROSSING, SUITE 105
BRADENTON, FLORIDA 34211
(941) 747-2981
ATTN: F. PETER LUTZ, JR.

LANDSCAPE ARCHITECT
CPH, INC.
500 WEST FULTON STREET
SANFORD, FLORIDA 32771
ATTN: MAXWELL D. SPANN, R.L.A.
(407) 322-6841

ENVIRONMENTAL SCIENTIST
CPH, INC.
500 WEST FULTON STREET
SANFORD, FLORIDA 32771
ATTN: DAVID A. LANDERS
(407) 322-6841

NOTE:
NO WELLS EXIST CURRENTLY ON THIS SITE.

BEFORE YOU DIG !
CALL SUNSHINE STATE ONE CALL OF FLORIDA
AT LEAST TWO FULL BUSINESS DAYS BEFORE DIGGING OR DISTURBING EARTH
Sunshine State One Call 811
www.callsunshine.com
Know what's below. Call before you dig.

NOTICE
THE SIZE OF THESE PLANS MAY HAVE BEEN SLIGHTLY ALTERED BY REPRODUCTION PROCESSES. THIS MUST BE CONSIDERED WHEN SCALING ANY REPRODUCED PLANS FOR THE PURPOSE OF COLLECTING DATA.

UTILITY PROVIDERS

ELECTRIC
FLORIDA POWER & LIGHT
303 HASTINGS ROAD
ST. AUGUSTINE, FLORIDA 32084
(800) 868-9554
ATTN: TRACY STERN

TELEPHONE
VERIZON FLORIDA INC.
1909 US HWY. 301 N.
TAMPA, FLORIDA 33619
(813) 627-8343
ATTN: DAVID WYNNS

WATER / SEWER
MANATEE COUNTY UTILITY OPERATIONS
4422 - C 66TH STREET WEST
BRADENTON, FLORIDA 34210
(941) 792-8811, EXT. 5002
ATTN: KATHY MCMAHON

CABLE
BRIGHT HOUSE NETWORKS TAMPA BAY
5413 SR 64 E.
BRADENTON, FLORIDA 34208
(941) 345-1348 EXT. 21348
ATTN: TOM WRIGHT

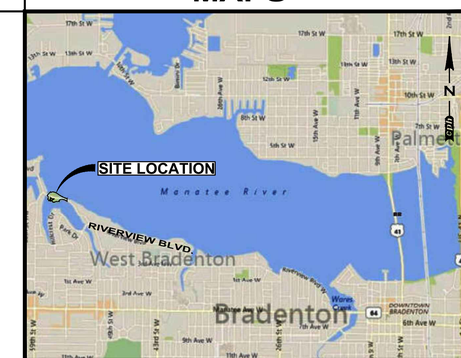
APPROVAL AGENCIES

MANATEE COUNTY
MANATEE COUNTY
5502 33rd AVE. DRIVE WEST
BRADENTON, FLORIDA 34209
(941) 792-8784
ATTN: ALAN MERONEK

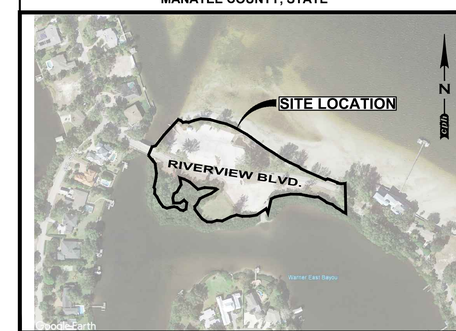
FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
SOUTHWEST DISTRICT
13051 N. TELECOM PARKWAY
TEMPLE TERRACE, FLORIDA 33637
PHONE: (813) 470-5700

INDEX OF SHEETS

MAPS



VICINITY MAP
SCALE: 1" = 3,000'
MANATEE COUNTY, STATE



LOCATION MAP
SCALE: 1" = 300'
MANATEE COUNTY, STATE

Approval Type: OFF-STREET PARKING PLAN Project Name: WARNER'S BAYOU BOAT RAMP
Approved: _____ (Date) PLN1804-0064 (File Number)

PROJECT PLANNER (PD) _____
PROJECT ENGINEER (PW) _____
CONCURRENCY (PD) _____
ENVIRONMENTAL PLANNING (PD) _____
ENVIRONMENTAL HEALTH _____
FIRE DISTRICT _____
OWNER / AGENT _____

Attention: The combination of this signed plan and accompanying approval letter constitutes the complete approval document. Both documents should be provided to interested parties and submitted with any building permit application.

cph
www.cphcorp.com
A Full Service A & E Firm
3277A Fruitville Road, Suite 2
Sarasota, FL 34237
Ph: 941.365.4771
Plans Prepared By:
CPH ,Inc.
State of Florida Licenses:
Engineer No. 3215
Surveyor No. LB7143
Architect. No. AA26000926
Landscape No. LC000298

DANIEL P. MOYER LICENSE No. 69057 STATE OF FLORIDA PROFESSIONAL ENGINEER

No.	Date	Revision
	10/26/18	OUT TO BID

Designed: K. Upp
Drawn: K. Upp
Checked: D. Moyer
Job No.: M13104.2
Date: 09/25/17

COVER SHEET

PARKING LOT IMPROVEMENT PLANS FOR WARNER'S BAYOU
MANATEE COUNTY / FLORIDA

THIS SHEET NOT VALID FOR CONSTRUCTION WITHOUT COMPLETE SET OF PLANS. SEE GENERAL NOTES FOR MASTER LEGEND.

Sheet No.
C0.1

Summary of Pay Items - Warner's Bayou South Improvements

Manatee County

PAY ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT	QUANTITY	
			PLAN	FINAL
2.01	Mobilization	LS	1	
2.02	Maintenance of Traffic	LS	1	
2.03	Survey and Control Layout by Contractor	LS	1	
2.04	As-Built Survey	LS	1	
2.05	Prevention, Control, and Abatement of Erosion and Water Pollution	LS	1	
2.06	Remove and Dispose of Exist. Site Items	LS	1	
2.07	Remove and Dispose of, Exist. Trees (8-Inch and Greater)	EA	2	
2.08	Clearing and Grubbing	LS	1	
2.09	Grading and Fill	LS	1	
2.10	Stormwater Pond Outall	LS	1	
2.11	Pavement Cement Concrete and Base (5-Inch Thick Min., 3000 PSI), including WWR and 12" Base	SY	2400	
2.12	Pavement Cement Concrete and Base (6-Inch Thick Min., 3000 PSI), including WWR and 12" Base	SY	175	
2.13	Concrete Sidewalk offsite (FDOT index 310)	SY	56	
2.14	FDOT Type C Inlet	EA	2	
2.15	12" Storm Pipe	LF	87	
2.16	Concrete Flume	EA	1	
2.17	Type F Curb and Gutter	LF	120	
2.18	Type D Vertical Curb	LF	385	
2.19	Wooden Post	EA	32	
2.20	Post / Rope	LF	225	
2.21	Wheel Stops	EA	24	
2.22	Bollard (Galvanized Steel, Painted)	EA	1	
2.23	Bollard (Removable)	EA	1	
2.24	Signage	LS	1	
2.25	Detectable Warning Mats	SF	30	
2.26	Traffic Stripes and Markings	LS	1	
2.27	Bike Rack	EA	1	
2.28	Conduit for future water service	LF	120	
2.29	Conduit to future light pole	LF	150	
2.30	Irrigation	LS	1	
2.31	Tree Protection	EA	1	
2.32	Trees, Green Buttonwood	EA	18	
2.33	Trees, Cabbage Palm	EA	6	
2.34	Shrubs, Silver Buttonwood	EA	161	
2.35	Shrubs, Indian Hawhthorn	EA	48	
2.36	Groundcover, Sea Oxeye Daisy	EA	427	
2.37	Groundcover, Sand Cordgrass	EA	239	
2.38	Groundcover, Muhly Grass	EA	452	
2.39	Sod, Seashore Paspalum	SY	1000	
3.01	Discretionary Funds (Testing)	LS	1	
3.02	Discretionary Funds (10% Contingency)	LS	1	
4.00	Bid As Alternative			
4.01	Kayak Launch (flexipave and ribbon curb)	LS	1	
4.02	New Light Pole, Fixture, Service	EA	1	
4.03	New Fixture	EA	1	
4.04	Broadcast Shell	SY	2631	

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Architect. No. AA26000926
Landscape No. LC000298

DANIEL P. MOYER
LICENSE
No. 69057
STATE OF
Florida
PROFESSIONAL ENGINEER

No.	Date	Revision
1	10/26/18	OUT TO BID
2		
3		
4		
5		
6		
7		

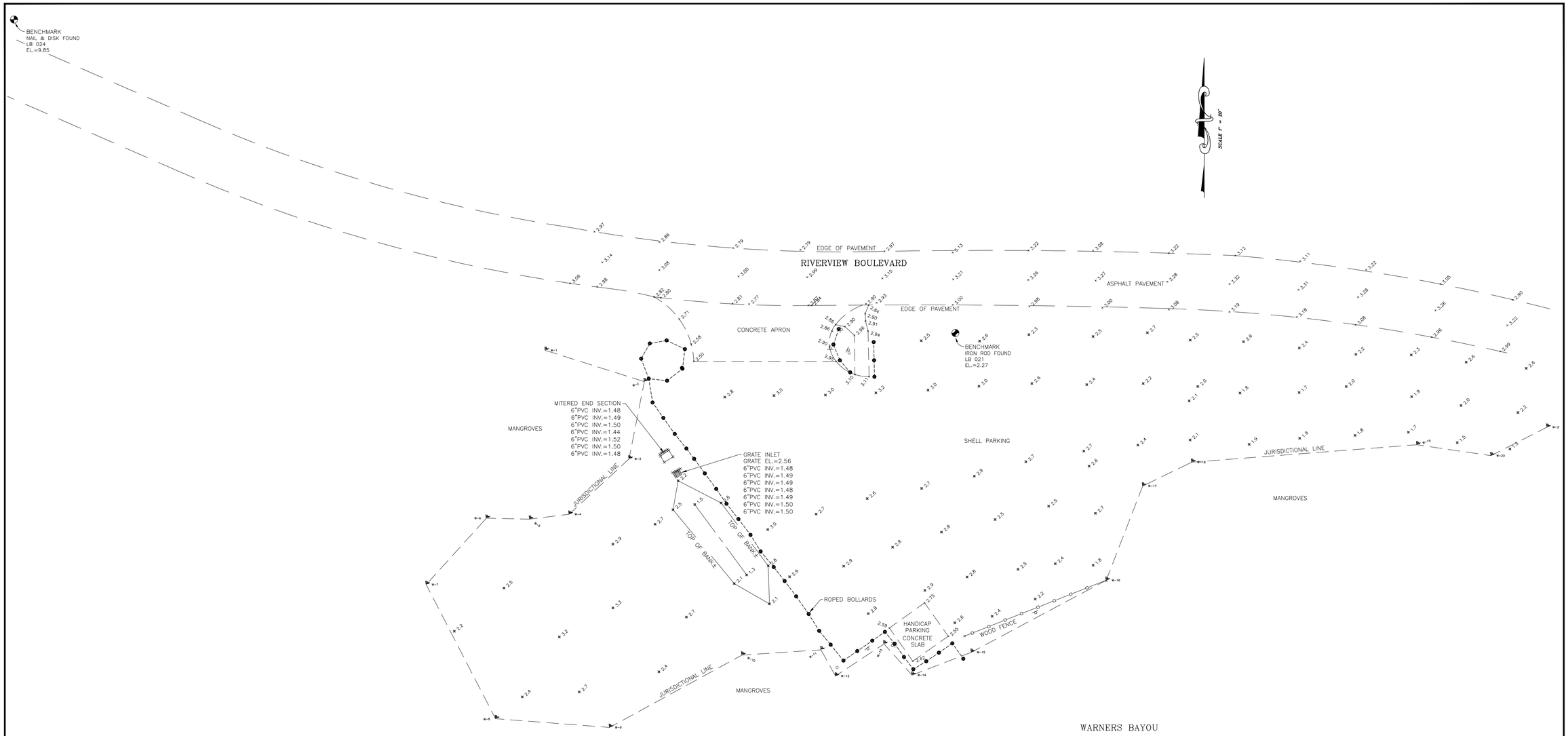
Designed: K. Upp
Drawn: K. Upp
Checked: D. Moyer
Job No.: M13104.2
Date: 09/25/17

SUMMARY OF PAY ITEMS

PARKING LOT IMPROVEMENT PLANS FOR
WARNER'S BAYOU
MANATEE COUNTY / FLORIDA

THIS SHEET NOT VALID FOR CONSTRUCTION WITHOUT COMPLETE SET OF PLANS. SEE GENERAL NOTES FOR MASTER LEGEND.

Sheet No.
C0.1A



SPECIFIC PURPOSE SURVEY

OF A PORTION OF

59th STREET BOAT RAMP (SOUTH SIDE)

LOCATED IN

SECTION 20, TOWNSHIP 34 SOUTH, RANGE 17 EAST MANATEE COUNTY, FLORIDA

1. ELEVATIONS SHOWN WERE BASED ON FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION (F.D.E.P.) BENCH MARK "P 689", BEING A DISK LOCATED 40 FEET EAST OF THE APPROXIMATE CENTERLINE OF 75th STREET N.W., AND 132 FEET NORTH OF THE APPROXIMATE CENTERLINE OF 16th AVE. N.W., HAVING A PUBLISHED ELEVATION OF 16.34' PER NORTH AMERICAN VERTICAL DATUM OF 1988.
2. HORIZONTAL COORDINATE VALUES ARE EXPRESSED IN STATE PLANE COORDINATES [FLORIDA WEST ZONE] NORTH AMERICAN DATUM 1983 (2011 ADJUSTMENT). THE CONTROL WAS ESTABLISHED BY GPS SURVEY AND THE REFERENCE STATION USED WAS NATIONAL GEODETIC POINT 175-84-A42, PUBLISHED COORDINATES (N: 1162205.87, E: 491431.95).

NOTE: THIS SURVEY IS NOT VALID WITHOUT THE SIGNATURE AND ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER.

REVISION	BY	DATE

CERTIFICATE OF SURVEYOR

I, THE UNDERSIGNED PROFESSIONAL SURVEYOR & MAPPER, HEREBY CERTIFY THAT THIS RECORD OF LAND SURVEY WAS PREPARED UNDER MY DIRECT SUPERVISION THAT TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF IS A TRUE AND CORRECT REPRESENTATION OF THE LAND AS SHOWN AND DESCRIBED HEREON, AND THAT IT MEETS THE REQUIREMENTS FOR LAND SURVEYING IN THE STATE OF FLORIDA, CHAPTER 5J-17.050, OF THE FLORIDA ADMINISTRATIVE CODE.

FLORIDA CERTIFICATE No. LS 4295
DATE OF CERTIFICATION 10/16/17
DATE OF FIELD SURVEY 10/11/17

ZNS ENGINEERING
LAND PLANNERS ENGINEERS SURVEYORS LANDSCAPE ARCHITECTS
EB 0027426 LC 0000080
201 5th AVENUE DRIVE EAST BRADENTON, FL 34208
E-MAIL: ZNS@ZNSENG.COM TELEPHONE (941) 748-8080 FAX (941) 748-3316

DRAWING: T:\WARNERS BAYOU\59thBoatRamp-TS.dwg DATE 10/11/17 SCALE 1" = 20'
DRAWN GB JOB NO. 00-44149 FIELD BOOK 670 PAGE 41 SHEET 1 OF 1

GENERAL PROVISIONS

1. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL MAKE A PRE-CONSTRUCTION VIDEO (DVD FORMAT) ALONG THE PROPOSED ROUTE IN ACCORDANCE WITH THE SPECIFICATIONS. IN PARTICULAR, THE VIDEO SHALL DOCUMENT THE CONDITION OF EXISTING DRIVEWAYS, BUILDINGS, STRUCTURES, MAILBOXES, SIGNS, FENCES, AND LANDSCAPING ALONG PROPOSED CONSTRUCTION AREAS.

2. THE CONTRACTOR SHALL RECOGNIZE AND ABIDE BY ALL OSHA EXCAVATION SAFETY STANDARDS, INCLUDING THE FLORIDA TRENCH SAFETY ACT (FS 553.60-553.64). ANY MATERIAL, CONSTRUCTION METHODS, OR MATERIAL COST TO COMPLY WITH THESE LAWS SHALL BE INCIDENTAL TO THE CONTRACT.

3. THE CONTRACTOR SHALL OBTAIN FROM THE OWNER COPIES OF ALL AVAILABLE REGULATORY AGENCY PERMITS AND LOCAL AGENCY PERMITS.

4. ALL CONSTRUCTION PROJECTS 1 OR MORE ACRES IN SIZE THAT DISCHARGE TO OFFSITE AREAS ARE REQUIRED TO COMPLY WITH THE REQUIREMENTS OF THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) GENERAL PERMIT FOR STORMWATER DISCHARGE FROM SMALL AND LARGE CONSTRUCTION ACTIVITIES. IN ORDER TO MEET NPDES REQUIREMENTS, THE CONTRACTOR IS RESPONSIBLE FOR PREPARING A STORMWATER POLLUTION PREVENTION PLAN (SWPPP), IMPLEMENTING, INSPECTING, MAINTAINING, AND REPORTING ON ALL ELEMENTS OF THE SWPPP, COMPLETING AND SUBMITTING THE REQUIRED NOTICE OF INTENT (NOI) AND NOTICE OF TERMINATION (NOT) FORMS AS THE OPERATOR, AND PAYING ALL ASSOCIATED FEES.

5. THE EROSION AND SEDIMENT CONTROL MEASURES SHOWN ON THE PLANS REPRESENT A MINIMUM REQUIREMENT. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES NEEDED IN ORDER TO PREVENT THE TRANSFER OF SEDIMENT FROM THE PROJECT AREA AND PREVENT THE EROSION OF SURFACES DURING CONSTRUCTION, AS NEEDED TO PROTECT ADJACENT PROPERTIES AND WATER BODIES.

6. IN THE EVENT THAT WATER IS ENCOUNTERED DURING CONSTRUCTION, DEWATERING SHALL BE CONDUCTED. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE DESIGN, INSTALLATION, OPERATION, AND SUBSEQUENT REMOVAL OF DEWATERING SYSTEMS AND THEIR SAFETY AND CONFORMITY WITH LOCAL CODES AND REGULATIONS. IF DEWATERING EQUIPMENT NEEDED EXCEEDS ANY OF THE FOLLOWING: 1) 6" PUMP VOLUTE; 2) 100,000 GPD TOTAL 24 HOUR (1 DAY) DEWATERING, AND; 3) 1,000,000 GPD PUMP CAPACITY, THE CONTRACTOR SHALL BE REQUIRED TO PERMIT THE DEWATERING SYSTEM WITH THE ST. JOHNS RIVER WATER MANAGEMENT DISTRICT (SJRWMD). THE ENGINEER AND/OR OWNER SHALL BE NOTIFIED IMMEDIATELY IF ANY OF THE ABOVE THRESHOLDS ARE EXCEEDED.

7. DEWATERING DISCHARGE FROM THE SITE SHALL COMPLY WITH ALL NPDES GENERAL PERMIT REQUIREMENTS AND STATE WATER QUALITY STANDARDS. PROVIDE ALL TESTING AND PERMITTING REQUIRED AND COMPLY WITH ALL TREATMENT OR DISPOSAL METHODS REQUIRED TO MEET ALL LOCAL, STATE AND FEDERAL REQUIREMENTS.

8. UNLESS OTHERWISE DIRECTED BY THE OWNER OR ENGINEER, THE CONTRACTOR IS EXPECTED TO CONTAIN ALL CONSTRUCTION ACTIVITIES WITHIN THE PROPERTY BOUNDARY, RIGHT-OF-WAY AND EASEMENTS, AND OTHER AREAS SPECIFICALLY DESIGNATED FOR CONSTRUCTION. AT NO TIME SHALL THE CONTRACTOR DISTURB SURROUNDING PROPERTIES OR TRAVEL ON SURROUNDING PROPERTIES WITHOUT WRITTEN CONSENT FROM THE PROPERTY OWNER. ANY REPAIR OR RECONSTRUCTION OF DAMAGED AREAS IN SURROUNDING PROPERTIES SHALL BE REPAIRED BY THE CONTRACTOR ON AN IMMEDIATE BASIS. ALL COSTS FOR REPAIRS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND NO EXTRA COMPENSATION SHALL BE PROVIDED.

9. UNLESS OTHERWISE NOTED ON THE PLANS, THE CONTRACTOR SHALL USE THE GEOMETRY PROVIDED ON THE CONSTRUCTION PLANS. BENCHMARK INFORMATION SHALL BE PROVIDED TO THE CONTRACTOR BY THE OWNER OR OWNER'S SURVEYOR. ANY DISCREPANCIES BETWEEN FIELD MEASUREMENTS AND CONSTRUCTION PLAN INFORMATION SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY.

10. BASE SURVEY INFORMATION INCLUDING BUT NOT LIMITED TO ELEVATIONS, EASEMENTS, RIGHTS OF WAY, AND OTHER TOPOGRAPHIC INFORMATION HAS BEEN PREPARED BY OTHER PROFESSIONALS. CPH, INC. ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THIS INFORMATION.

11. THIS SET OF PLANS MAY CONTAIN DRAWINGS PREPARED BY OTHER PROFESSIONALS, WHICH CONTAIN THE NAME, ADDRESS, AND LOGO OF THE PROFESSIONAL. CPH, INC. IS NOT RESPONSIBLE FOR DRAWINGS PREPARED BY OTHER PROFESSIONALS.

12. THE ENTIRE PROJECT SITE SHALL BE THOROUGHLY CLEANED AT THE COMPLETION OF THE WORK. CLEAN ALL INSTALLED PIPELINES, STRUCTURES, SIDEWALKS, PAVED AREAS, ACCUMULATED SILT IN PONDS, PLUS ALL ADJACENT AREAS AFFECTED BY CONSTRUCTION, AS DIRECTED BY THE OWNER OR JURISDICTIONAL AGENCY. EQUIPMENT TO CLEAN THESE SURFACES SHALL BE SUBJECT TO APPROVAL BY THE OWNER.

UTILITY GENERAL NOTES

1. THE UTILITY DATA SHOWN ON THESE PLANS WAS LOCATED BY THE RESPECTIVE UTILITY, OR IS BASED ON UTILITY DRAWINGS, MAPS, OR FIELD RECONNAISSANCE.

2. THE LOCATION, MATERIAL TYPE, AND SIZE OF ALL EXISTING UTILITIES SHOWN ON THE PLANS HAVE BEEN DETERMINED FROM THE BEST INFORMATION AVAILABLE AND ARE GIVEN FOR THE CONVENIENCE OF THE CONTRACTOR. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THEIR ACCURACY. PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITY, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE VARIOUS UTILITIES AND TO MAKE THE NECESSARY ARRANGEMENTS FOR ANY RELOCATIONS OF THESE UTILITIES WITH THE OWNER OF THE UTILITY. THE CONTRACTOR SHALL EXERCISE CAUTION WHEN CROSSING AN UNDERGROUND UTILITY, WHETHER SHOWN ON THE PLANS OR LOCATED BY THE UTILITY COMPANY. ANY UTILITIES, WHETHER SHOWN ON THESE PLANS OR NOT, THAT INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE CLOSELY COORDINATED WITH THE ENGINEER AND THE RESPECTIVE UTILITY COMPANY FOR RELOCATION OR PROPER INSTRUCTION.

3. A SINGLE POINT UTILITY IDENTIFICATION SERVICE HAS BEEN SET UP FOR EXISTING UTILITIES. THE CONTRACTOR IS TO CONTACT THE SUNSHINE STATE ONE CALL CENTER BY DIALING "811" AT LEAST TWO (2) AND NO MORE THAN FIVE (5) WORKING DAYS PRIOR TO THE SPECIFIC CONSTRUCTION ACTIVITY FOR FIELD LOCATION. NOTE THAT NOT ALL UTILITIES PARTICIPATE IN THIS PROGRAM. THE CONTRACTOR SHOULD CONTACT ALL NON-PARTICIPATING UTILITIES SEPARATELY FOR FIELD LOCATION OF THEIR FACILITIES AT LEAST TWO (2) WORKING DAYS PRIOR TO CONSTRUCTION.

4. REFER TO THE COVER SHEET FOR UTILITIES THAT HAVE PREVIOUSLY INDICATED THAT THEY MAY HAVE FACILITIES IN THE VICINITY OF THE CONSTRUCTION AREA:

5. THE CONTRACTOR SHALL KEEP LOCATE TICKETS UP TO DATE AT ALL TIMES.

6. THE CONTRACTOR IS RESPONSIBLE FOR ALL COORDINATION WITH EACH UTILITY AND ALL COSTS ASSOCIATED WITH THE PROTECTION OF EXISTING FACILITIES DURING CONSTRUCTION. THE CONTRACTOR SHALL ALSO COORDINATE NECESSARY RELOCATIONS OR OTHER CONSTRUCTION RELATED MATTERS WITH EACH UTILITY.

7. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN IN SERVICE ALL EXISTING PIPING ENCOUNTERED DURING CONSTRUCTION UNLESS OTHERWISE INDICATED IN THE DRAWINGS. ANY PIPING WHICH CAN BE REMOVED DURING CONSTRUCTION WITHOUT UNDUE INTERRUPTION OF SERVICE MAY BE REMOVED AND REPLACED BY THE CONTRACTOR WITH THE PERMISSION OF THE OWNER AND THE ENGINEER.

8. THE CONTRACTOR SHALL FIELD LOCATE ALL WATER AND SEWER SERVICES AND LATERALS WITHIN THE PROPOSED CONSTRUCTION AREA PRIOR TO CONSTRUCTION AND ADJUST THE PROPOSED CONSTRUCTION AS NEEDED TO ACCOMMODATE THESE EXISTING LINES.

9. TYPICAL DETAILS AND PROPOSED CONSTRUCTION AS SHOWN ILLUSTRATE THE ENGINEER'S INTENT AND ARE NOT PRESENTED AS A SOLUTION TO ALL CONSTRUCTION PROBLEMS ENCOUNTERED IN THE FIELD. THE CONTRACTOR MAY ALTER THE PROPOSED CONSTRUCTION TO SUIT FIELD CONDITIONS, PROVIDED IT COMPLIES WITH THE PROJECT SPECIFICATIONS AND APPROVAL IS RECEIVED FROM THE ENGINEER. WHERE SUCH PROPOSED REVISIONS DEVIATE FROM THE FDEP CONSTRUCTION PERMIT, THEN SUCH REVISIONS WILL ALSO REQUIRE APPROVAL FROM FDEP.

10. FOR EACH RESPECTIVE PIPELINE CONSTRUCTION REQUIRED, THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION, DEPTH, SIZE, MATERIAL TYPE, AND ALIGNMENT OF ALL EXISTING PIPES, CABLES, ETC. TO BE CROSSED OR CONNECTED TO. IF THE CONTRACTOR DEEMS NECESSARY (A) A CHANGE IN ALIGNMENT OR DEPTH, OR THE NEED FOR ADDITIONAL FITTINGS, BENDS, OR COUPLINGS, WHICH REPRESENT A DEPARTURE FROM THE CONTRACT DRAWING, OR (B) A NEED FOR RELOCATION OF EXISTING UTILITIES, THEN DETAILS OF SUCH DEPARTURES, RELOCATIONS, OR ADDITIONAL FITTINGS, INCLUDING CHANGES IN RELATED PORTIONS OF THE PROJECT AND THE REASONS THEREFORE, SHALL BE SUBMITTED WITH SHOP DRAWINGS. APPROVED DEPARTURES FOR THE CONTRACTOR'S CONVENIENCE SHALL BE MADE AT NO ADDITIONAL COST TO THE OWNER.

11. THE CONTRACTOR SHALL PROVIDE AT HIS OWN EXPENSE ALL NECESSARY TEST PUMPING EQUIPMENT, WATER, WATER METERS, PRESSURE GAUGES, AND OTHER EQUIPMENT, MATERIAL AND FACILITIES REQUIRED FOR ALL HYDROSTATIC, LEAKAGE, AND PRESSURE TESTING. THE CONTRACTOR SHALL CONTACT THE ENGINEER AND THE OWNER IN WRITTEN FORM, FORTY-EIGHT (48) HOURS IN ADVANCE OF PROPOSED TESTING. THE CONTRACTOR SHALL PERFORM SATISFACTORY PRETESTING PRIOR TO NOTIFICATION.

TRAFFIC CONTROL

1. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING A MAINTENANCE OF TRAFFIC (M.O.T.) PLAN PRIOR TO CONSTRUCTION. THE M.O.T. PLAN SHALL SHOW ALL PROPOSED TRAFFIC CONTROL SIGNS, PAVEMENT MARKINGS, AND BARRICADES, AND SHALL DETAIL ALL PROPOSED CONSTRUCTION SEQUENCING. THE M.O.T. PLAN AND INSTALLED TRAFFIC CONTROL MEASURES SHALL BE APPROVED BY THE ENGINEER, OWNER, AND ROADWAY JURISDICTIONAL AGENCY PRIOR TO CONSTRUCTION. IN GENERAL, ROADWAY AND DRIVEWAY LANE CLOSURES ARE PROHIBITED DURING CONSTRUCTION UNLESS SPECIFICALLY DETAILED ON THESE PLANS. IN THE EVENT IT IS DETERMINED THAT ROADWAY AND DRIVEWAY LANE CLOSURES WILL BE ALLOWED, THE CLOSURES SHALL BE RESTRICTED TO THE HOURS BETWEEN 9:00 A.M. AND 4:00 P.M. UNLESS OTHERWISE AUTHORIZED IN THE APPROVED M.O.T.

2. ALL TRAFFIC CONTROL MEASURES SHALL BE IN ACCORDANCE WITH FDOT STANDARD PLANS FOR ROAD CONSTRUCTION, INDEX NO. 102-600 AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL TRAFFIC CONTROL MEASURES SHALL BE INSTALLED PRIOR TO CONSTRUCTION AND MAINTAINED DURING CONSTRUCTION.

3. INSPECT TRAFFIC CONTROL DEVICES ON A DAILY BASIS TO ENSURE PLACEMENT OF BARRICADES AND FUNCTION OF LIGHTS IS MAINTAINED THROUGHOUT CONSTRUCTION.

4. CONTACT PROPERTY OWNERS AFFECTED BY CONSTRUCTION. COORDINATE TEMPORARY DRIVEWAY CLOSURES AND SEQUENCING. MAINTAIN ACCESS FOR ALL PROPERTY OWNERS DURING CONSTRUCTION.

5. WET UNSTABILIZED AREAS AS NECESSARY TO CONTROL DUST.

6. ADJUST TRAFFIC CONTROL DEVICES AS REQUIRED UNDER EMERGENCY CONDITIONS.

7. THE CONTRACTOR IS EXPECTED TO COORDINATE ITS ACTIVITIES WITH OTHER CONTRACTORS WHO MAY BE WORKING IN THE IMMEDIATE VICINITY.

8. WHEN WORK OCCURS WITHIN 15-FT OF ACTIVE ROAD TRAVEL WAY BUT NO CLOSER THAN 2-FT FROM THE TRAVEL WAY, SIGNAGE AND WARNING DEVICES ARE TO BE INSTALLED IN ACCORDANCE WITH FDOT INDEX NO. 102-600 AND 102-602. WHEN WORK OCCURS BETWEEN THE ROAD CENTERLINE AND A LINE 2-FT OUTSIDE THE EDGE OF THE TRAVEL WAY, SIGNAGE AND WARNING DEVICES ARE TO BE INSTALLED IN ACCORDANCE WITH FDOT INDEX NO. 102-600 AND 102-603.

9. TYPE I OR TYPE II BARRICADES AT 20-FT CENTERS SHALL BE PLACED AND MAINTAINED ALONG THE EDGE OF THE ROAD WHEREVER HAZARDS EXIST AND TO BLOCK ENTRANCE INTO COMPLETED OR PARTIALLY COMPLETED PAVEMENTS UNTIL SUCH PAVEMENTS ARE OPEN TO PUBLIC USE.

10. WHERE A DROP-OFF CONDITION IN THE WORK ZONE OCCURS, IT SHALL BE MITIGATED IN ACCORDANCE WITH FDOT INDEX 102-600. REFER TO FDOT INDEX NO. 102-600 FOR THE DEFINITION OF A DROP-OFF.

SYMBOLS:

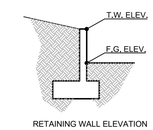
- XX.XX / XX.XX — TOP OF CURB ELEV. / PAVEMENT ELEV.
- XX.XX — PAVEMENT ELEV.
- 10 — PARKING SPACE COUNT
- DIRECTION OF FLOW
- X.X% — SLOPE OF FLOW
- RR — RIP RAP - GROUTED
- C.O. — CLEAN OUT
- D.S. — DOWN SPOUT
- STORM / SANITARY MANHOLE
- DITCH BOTTOM INLET
- MITERED END SECTION
- FLARED END SECTION
- "U" TYPE END WALL
- FLUME
- CURB INLETS
- NYLOPLAST DRAIN BASIN
- RETAINING WALL
- FIRE HYDRANT
- FIRE DEPARTMENT CONNECTION
- WATER LINE FITTINGS
- GATE VALVE
- REDUCER
- PC1 — PIPE CROSSING
- UTILITY POLE
- SITE LIGHTING
- FLAG POLE
- TRANSFORMER
- A A — CROSS SECTION (SEE CONSTRUCTION DETAILS SHEET)

ABBREVIATIONS:

A/C	- AIR CONDITIONER
APPROX	- APPROXIMATE
ASPH	- ASPHALT
AVG	- AVERAGE
BFP	- BACK FLOW PREVENTER
BLK	- BLOCK
BLDG	- BUILDING
BOC	- BACK OF CURB
BOW	- BACK OF WALL
C & G	- CURB & GUTTER
CE	- CONSTRUCTION ENTRANCE
C/L	- CENTERLINE
CMP	- CORRUGATED METAL PIPE
CO	- CLEAN OUT
CONC	- CONCRETE
DEPT	- DEPARTMENT
DS	- DOWN SPOUT
ELEC	- ELECTRIC
EM	- ELECTRICAL METER
ELEV	- ELEVATION
EOP	- EDGE OF PAVEMENT
FDC	- FIRE DEPARTMENT CONNECTION
FDOT	- FLORIDA DEPARTMENT OF TRANSPORTATION
FF	- FINISH FLOOR
FG	- FINISH GRADE
FH	- FIRE HYDRANT
FM	- FORCE MAIN
FOC	- FACE OF CURB
FP&L	- FLORIDA POWER AND LIGHT
GOV'T	- GOVERNMENT
HB	- HOSE BIB
HC	- ADA ACCESSIBLE
HDPE	- HIGH DENSITY POLYETHYLENE PIPE
INV	- INVERT
IRR	- IRRIGATION
ME	- MATCH EXISTING ELEVATION
MES	- MITERED END SECTION
MH	- MANHOLE
PVC	- POLYVINYL CHLORIDE PIPE
PVMT	- PAVEMENT
R	- RADIUS
RCP	- REINFORCED CONCRETE PIPE
REV	- REVISION
R/W	- RIGHT-OF-WAY
SF	- SQUARE FEET
S/W	- SIDEWALK
TOB	- TOP OF BANK
TOE	- TOE OF SLOPE
TW	- TOP OF WALL
TYP	- TYPICAL
UNK	- UNKNOWN
UTL	- UNDERGROUND TELEPHONE LINES
W/	- WITH
WV	- WATER VALVE

PAINT STRIPING ABBREVIATIONS:

SWSL	- SINGLE WHITE SOLID LINE
SYSL	- SINGLE YELLOW SOLID LINE
DYSL	- DOUBLE YELLOW SOLID LINE
SWDL	- SINGLE WHITE DASHED LINE
SBYL	- SINGLE BROKEN YELLOW LINE



RETAINING WALL ELEVATION

LINE TYPES:

- GUIDE RAIL
- BASIN LINE
- BUILDING SETBACK LINE
- FENCE (AS NOTED ON PLAN)
- CATV — CABLE TELEVISION
- EC — CONDUIT ELECTRIC
- TC — CONDUIT TELEPHONE
- DC — CONDUIT DATA
- CN-F — CONSTRUCTION FENCE (AS NOTED ON PLAN)
- XX — CONTOUR ELEVATION
- EASEMENT
- E — ELECTRIC LINE
- FO — FIBER OPTIC
- FW — FIRE WATER
- FM — FORCE MAIN
- G — GAS LINE
- H.P. — HIGH POINT
- IC — IRRIGATION LINE
- LANDSCAPE BUFFER
- LOD — LIMITS OF DISTURBANCE
- OHE — OVERHEAD ELECTRIC
- PROPERTY LINE
- RAILROAD
- RWM — RECLAIM WATER
- S — SANITARY SEWER
- STORM PIPE
- TS — TAMPER SWITCH
- T — TELEPHONE LINE
- SF — TEMPORARY SILT FENCE
- UB — UTILITY BOLLARD CONDUIT
- W — WATER MAIN
- WALL (AS NOTED ON PLAN)

SIGNS:

(B)	BUS STOP (R7-7)
(DNE)	DO NOT ENTER (R5-1)
(FL)	NO PARKING - FIRE LANE (R7-94)
(HC)	HANDICAP (FTP-25)
(KR)	KEEP RIGHT (R4-7A)
(KL)	KEEP LEFT (R4-8A)
(LTO)	LEFT TURN ONLY (R3-5L)
(ME)	MEDIAN (R4-7) (R4-8)
(ND)	NO DUMPING
(NL)	NO LEFT TURN (R3-2)
(NLI)	NO LITTERING
(NOR)	NO RIGHT TURN (R3-1)
(NOT)	NO TRUCKS (R5-2A)
(NP)	NO PARKING (R7-1)
(NPLZ)	NO PARKING LOADING ZONE (R7-6)
(1W)	ONE WAY (R6-1L) (R6-1R)
(PE)	PEDESTRIAN CROSSING (W11-2)
(RTO)	RIGHT TURN ONLY (R3-5R)
(R1)	ROW NUMBER
(SL)	SPEED LIMIT (R2-X)
(ST)	STOP (R1-1)
(TZ)	TOW AWAY ZONE (R7-201)
(TE)	TRUCK ENTRANCE
(WL)	WEIGHT LIMIT (R12-5)
(WW)	WRONG WAY (R5-1A)
(Y)	YIELD (R1-2)
(DT)	RESERVED DRIVE-THRU PARKING

NOTE:
ITEMS SHOWN DASHED / SCREENED REPRESENT EXISTING CONDITIONS. ITEMS SHOWN SOLID / BOLD REPRESENT PROPOSED CONDITIONS.

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Engineer No. 3215
Surveyor No. LB7143
Architect. No. AA26000926
Landscape No. LC000298

PHILIP P. MOYER LICENSE No. 69057 STATE OF Florida PROFESSIONAL ENGINEER

No.	Date	Revision
1	10/26/18	OUT TO BID

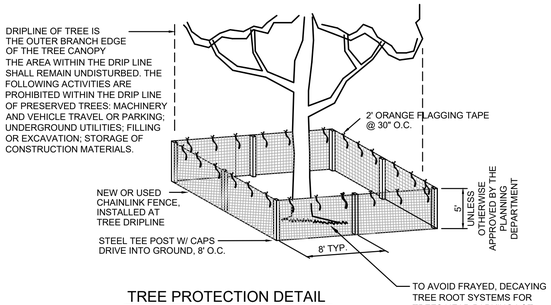
Designed: K. Upp
Drawn: K. Upp
Checked: D. Moyer
Job No.: M13104.2
Date: 09/25/17

GENERAL NOTES, LEGENDS AND SYMBOLS SHEET

PARKING LOT IMPROVEMENT PLANS FOR WARNER'S BAYOU
MANATEE COUNTY / FLORIDA

THIS SHEET NOT VALID FOR CONSTRUCTION WITHOUT COMPLETE SET OF PLANS. SEE GENERAL NOTES FOR MASTER LEGEND.

Sheet No.
C0.2



TREE PROTECTION DETAIL

N.T.S.

NOTE: ALL TREES WITHIN THE AREA PROPOSED FOR CONSTRUCTION ACTIVITIES THAT ARE TO BE PRESERVED SHALL HAVE PROTECTIVE BARRICADES CONSTRUCTED AT THEIR DRIPLINES PRIOR TO COMMENCEMENT OF CONSTRUCTION. NO IMPROVEMENTS, FILL, GRADE CHANGES OR COMPACTION OF SOIL DUE TO HEAVY MACHINERY WILL BE PERMITTED WITHIN THE DRIPLINE OF TREES PROPOSED TO BE PRESERVED.

NOTES:

BEST MANAGEMENT PRACTICES FROM THE FLORIDA DEPARTMENT OF TRANSPORTATION INCLUDE THE FOLLOWING:

- PLACE WEATHER RESISTANT SIGN EVERY 50' ALONG THE BARRIER, WITH 6" MINIMUM TEXT HEIGHT AND PROVIDE TEXT IN ENGLISH AND IN SPANISH. SIGN SHOULD READ "KEEP OUT TREE PROTECTION AREA".
- AVOIDING PLACEMENT OF SILT FENCE UNDER TREE DRIP LINES. IF UNAVOIDABLE, FOLLOW INSTRUCTIONS BELOW:

  NOTE TO SILT FENCE INSTALLER: TO FACILITATE "EFFECTIVE" PRESERVATION OF TREES (THOSE WITH DRIP LINES DEPICTED ON PLAN) SILT FENCE SHALL NOT BE TRENCHED IN WITHIN DRIP LINES OF TREES WHERE AVOIDABLE. IF UNAVOIDABLE THEN INSTALL SILT FENCE AT GRADE (NO TRENCHING).

LEGEND:

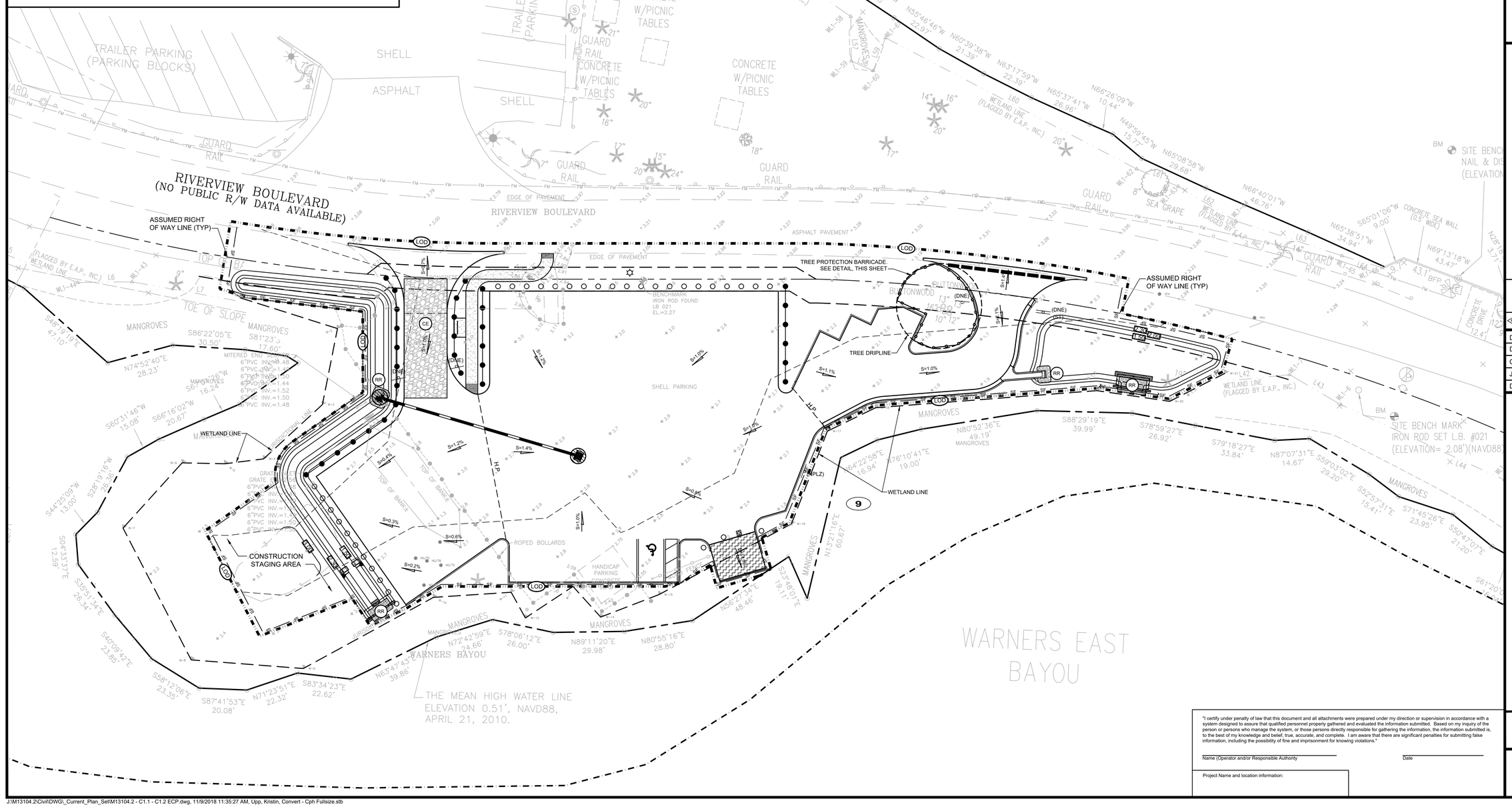
- LOD — LIMITS OF DISTURBANCE
- SOIL BOUNDARY
- SF — SILT FENCE PER STATE OF FLORIDA EROSION AND SEDIMENT CONTROL MANUAL (LATEST EDITION)
- BARRICADE (AT ALL ENTRANCE LOCATIONS W/O TEMPORARY CONSTRUCTION ACCESS)
- INLET / FLUME PROTECTION
- CE — CONSTRUCTION ENTRANCE PER STATE OF FLORIDA EROSION AND SEDIMENT CONTROL MANUAL (LATEST EDITION)
- RR — RIPRAP - 1 ~ CY OF RUBBLE RIP RAP PER FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, SPECIFICATION NO. 530
- 9 — SOIL TYPE: CANAVERAL SAND, FILLED

ACREAGE SUMMARY	
TOTAL SITE AREA	3.50 A.C.
TOTAL DISTURBED AREA	1.10 A.C.

N

20 0 20 40

Graphic Scale in Feet



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1	10/26/18	OUT TO BID
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3		
4		
5		
6		

Designed: K. Upp
Drawn: K. Upp
Checked: D. Moyer
Job No.: M13104.2
Date: 09/25/17

STORMWATER POLLUTION PREVENTION PLAN

PARKING LOT IMPROVEMENT PLANS FOR WARNER'S BAYOU

MANATEE COUNTY / FLORIDA

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Name (Operator and/or Responsible Authority

Date

Project Name and location information:

THIS SHEET NOT VALID FOR CONSTRUCTION WITHOUT COMPLETE SET OF PLANS. SEE GENERAL NOTES FOR MASTER LEGEND.

Sheet No.
C1.1

STORMWATER POLLUTION PREVENTION NOTES

THESE PLANS HAVE BEEN PREPARED TO ASSIST THE CONTRACTOR IN OBTAINING COVERAGE UNDER THE FDEP GENERIC PERMIT FOR STORMWATER DISCHARGE FROM LARGE AND SMALL CONSTRUCTION ACTIVITIES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO REVIEW THE PERMIT REQUIREMENTS AND MODIFY THESE PLANS AS NEEDED TO BE IN COMPLIANCE WITH THE PERMIT REQUIREMENTS.

SITE DESCRIPTION

A. SITE LOCATION

THE SITE IS LOCATED AT 5800 RIVERVIEW BLVD., MANATEE COUNTY, FLORIDA
SECTION 20, TOWNSHIP 34 SOUTH, RANGE 17 EAST
LATITUDE: 27°30'33.06"N LONGITUDE: 82°37'3.40"W

B. SITE CONDITIONS & ACTIVITIES NARRATIVE:
THE EXISTING CONDITION OF THE SITE IS DEVELOPED. DURING CONSTRUCTION THE SITE WILL BE CLEARED AND GRUBBED. THIS PROJECT WILL HAVE NO MAJOR EFFECT ON ANY THE ABUTTING PROPERTIES.

WETLANDS/BUFFERS

WETLANDS EXIST ON SITE, HOWEVER, THIS PROJECT WILL NOT IMPACT THEM.

SWPPP INTENT

THE INTENT OF THIS SWPPP IS TO COMPLY WITH THE INTENT OF THE GENERIC PERMIT AND TO PREVENT THE RELEASE OF SOILS, TRASH, CHEMICALS, TOXINS AND OTHER POLLUTANTS, BY WATER , AIR, VEHICLE TRANSPORT OR OTHER MEANS THAT CAN IMPACT STORM WATER QUALITY. THE CONTRACTOR SHALL OBTAIN A COPY OF THE GENERIC PERMIT AND RETAIN ON-SITE FOR FUTURE REFERENCE. THE CONTRACTOR SHALL READ AND UNDERSTAND THE PERMIT, AND ENSURE THAT THE BMP'S ARE INSTALLED AND THE EXECUTION OF THE WORK IS PERFORMED TO MEET THE INTENT OF THE GENERIC PERMIT AND THE SWPPP.

POTENTIAL SOURCES OF POLLUTION

THE POTENTIAL SOURCES OF POLLUTION THAT MAY REASONABLY BE EXPECTED TO AFFECT THE QUALITY OF STORM WATER DISCHARGE ASSOCIATED WITH CONSTRUCTION ACTIVITY INCLUDE: SEDIMENT, PESTICIDES, FERTILIZER, PLASTER, CLEANING SOLVENTS, ASPHALT, CONCRETE, GLUE, ADHESIVES, PAINTS, CURING COMPOUNDS, WOOD PRESERVATIVES, HYDRAULIC OIL FLUIDS, GASOLINE, DIESEL FUEL AND KEROSENE.

SEQUENCE OF CONSTRUCTION

THE SEQUENCE OF CONSTRUCTION HAS BEEN DEVELOPED AS A GUIDE FOR THE CONTRACTOR. THE CONTRACTOR SHALL SEQUENCE THE CONSTRUCTION AS NEEDED BASED ON BEST MEANS AND METHODS IN ORDER TO BE IN COMPLIANCE WITH STATE AND LOCAL REQUIREMENTS. THE INSTALLATION OR REMOVAL OF BMPS, EARTH DISTURBANCE, GRADING, TEMPORARY STABILIZATION AND PERMANENT STABILIZATION SHALL BE IMMEDIATELY NOTED IN THE SWPPP IMPLEMENTATION LOG. ALL TEMPORARY BMPS SHALL BE REPAIRED AND MAINTAINED UNTIL STABILIZATION HAS OCCURRED AND THERE IS NO RISK OF DISCHARGE. TEMPORARILY SEED, IMMEDIATELY AND THROUGHOUT CONSTRUCTION, DENUDED AREAS THAT WILL BE INACTIVE FOR 7 DAYS OR MORE. PERMANENTLY STABILIZE AREAS TO BE VEGETATED AS THEY ARE BROUGHT TO FINAL GRADE.

1. POST A COPY OF THE NOI OR LETTER FROM FDEP CONFIRMING COVERAGE UNDER THE GENERIC PERMIT, AND THE NAME AND PHONE NUMBER OF THE CONTRACTOR'S REPRESENTATIVE RESPONSIBLE FOR EROSION AND SEDIMENTATION CONTROL INSTALLATION AND MAINTENANCE ON A 24 HOUR BASIS.
2. INSTALL PERIMETER CONTROLS IMMEDIATELY DOWNSTREAM OF THE PLANNED LOCATION OF THE CONSTRUCTION EXIT.
3. INSTALL STABILIZED CONSTRUCTION EXIT.
4. INSTALL PERMITER CONTROLS. THE CONTRACTOR SHALL INSTALL THE REMAINING BMPS AS SHOWN AND AS REQUIRED TO MEET PERMIT REQUIREMENTS. SOME BMP INSTALLATIONS MAY NOT BE POSSIBLE AT THE BEGINNING OF THE PROJECT BUT MUST BE INSTALLED AS SOON AS POSSIBLE TO ENSURE COMPLIANCE.
5. INSTALL TEMPORARY STAGING AND STORAGE AREAS.
6. CONSTRUCT AND STABILIZE THE SEDIMENT BASINS AND SEDIMENT TRAPS WITH APPROPRIATE OUTFALL STRUCTURES, IF REQUIRED.
7. CONSTRUCT AND STABILIZE HYDRAULIC CONTROLS (DITCHES, SWALES, DIKES, CHECK DAMS, ETC.), IF REQUIRED.
8. BEGIN DEMOLITION, CLEARING AND GRUBBING OPERATIONS AS APPLICABLE.
9. BEGIN CONSTRUCTION OF SITE IMPROVEMENTS.
10. PAVE SITE AND STABILIZE PER PLAN.
11. REMOVE ALL TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES AFTER SITE HAS ACHIEVED FINAL STABILIZATION.
12. SUBMIT NOTICE OF TERMINATION (NOT) ONCE ALL CONSTRUCTION IS COMPLETE AND ALL AREAS ARE STABILIZED PER PLAN.

GENERAL NOTES

A. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FILE "NOTICE OF INTENT TO USE GENERIC PERMIT FOR STORMWATER DISCHARGE FROM CONSTRUCTION ACTIVITIES" (DEP FORM 62-621.300(4)(B) OR LATEST VERSION) TO FDEP TO THE FOLLOWING ADDRESS OR THROUGH THE FDEP ON-LINE SYSTEM AT LEAST TWO (2) DAYS BEFORE COMMENCEMENT OF CONSTRUCTION:

NPDES STORMWATER NOTICES CENTER, MS #2510 FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION, 2600 BLAIR STONE ROAD, TALLAHASSEE, FLORIDA 32399-2400

THE CONTRACTOR SHALL SUBMIT A NOTICE OF TERMINATION (NOT) WITHIN 14 CALENDAR DAYS AFTER THE SITE HAS ACHIEVED FINAL STABILIZATION (I.E. ALL DISTURBED SOILS AT THE SITE HAVE BEEN FINAL STABILIZED), TEMPORARY BMPS HAVE BEEN REMOVED, AND STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY FROM THE SITE AUTHORIZED BY THE PERMIT HAVE BEEN ELIMINATED.

AN ENVIRONMENTAL RESOURCE PERMIT IS REQUIRED FOR THE PROJECT. CONTRACTOR SHALL PROVIDE THE PERMIT INFORMATION ON THE NOI APPLICATION.

THE CONTRACTOR SHALL PROVIDE A COPY OF THE NOI AND SUBSEQUENT NOT OR THE ACKNOWLEDGEMENT LETTERS FOR THE NOI OR NOT TO THE MS4 WITHIN 7 DAYS OF RECEIPT. THE CONTRACTOR SHALL ALSO COORDINATE WITH THE MS4 TO ENSURE THAT ALL SPECIFIC REQUIREMENTS ARE MET.

B. WHERE PRACTICAL, STORMWATER SHALL BE CONVEYED BY SWALES. SWALES SHALL BE CONSTRUCTED AS SHOWN ON PLANS.

C. EROSION CONTROL MEASURES SHALL BE EMPLOYED TO MINIMIZE TURBIDITY OF SURFACE WATERS LOCATED DOWNSTREAM OF ANY CONSTRUCTION ACTIVITY. WHILE THE VARIOUS MEASURES REQUIRED WILL BE SITE SPECIFIC, THEY SHALL BE EMPLOYED AS NEEDED IN ACCORDANCE WITH THE FOLLOWING:

I. IN GENERAL, EROSION SHALL BE CONTROLLED AT THE FURTHEST PRACTICAL UPSTREAM LOCATION.
II. NEW AND EXISTING STORMWATER INLETS AND OUTFALL STRUCTURES SHALL BE PROTECTED DURING CONSTRUCTION. PROTECTION MEASURES SHALL BE EMPLOYED IMMEDIATELY AS REQUIRED DURING THE VARIOUS STAGES OF CONSTRUCTION.
III. PERIMETER EROSION CONTROL DEVICES SHALL REMAIN IN PLACE UNTIL FINAL SITE STABILIZATION HAS BEEN ESTABLISHED

D. CLEARING AND GRUBBING OPERATIONS SHALL BE CONTROLLED SO AS TO MINIMIZE UNPROTECTED ERODIBLE AREAS EXPOSED TO WEATHER. GENERAL EROSION CONTROL BMP'S SHALL BE EMPLOYED TO MINIMIZE SOIL EROSION AND OFF-SITE SEDIMENTATION. WHILE THE VARIOUS TECHNIQUES REQUIRED WILL BE SITE AND PLAN SPECIFIC, THEY SHOULD BE EMPLOYED PRIOR TO ANY CONSTRUCTION ACTIVITY.

E. THE CONTRACTOR SHALL FURNISH, INSTALL PER THE SEQUENCE OF CONSTRUCTION, MAINTAIN AND SUBSEQUENTLY REMOVE, ALL NECESSARY TEMPORARY BMPS. THE CONTRACTOR WILL FURNISH AND INSTALL ALL NECESSARY PERMANENT BMPS.

F. THE CONTRACTOR SHALL ADJUST, ADD OR MODIFY BMPS AS NECESSARY TO COMPLY WITH THE INTENT OF THE GENERIC NPDES PERMIT AND THE SWPPP FOR NO ADDITIONAL COMPENSATION. THE CONTRACTOR SHALL CONSULT WITH THE ENGINEER PRIOR TO ADJUSTING, ADDING OR MODIFYING BMPS THAT AFFECT THE HYDRAULICS OF THE SITE OR BEFORE ADDING BMPS NOT DETAILED IN THE SWPPP.

G. THE CONTRACTOR IS ADVISED THAT THE CONTRACT DRAWINGS ONLY INDICATE EROSION, SEDIMENT, AND TURBIDITY CONTROLS AT LOCATIONS DETERMINED IN THE DESIGN PROCESS. HOWEVER, THE CONTRACTOR IS REQUIRED TO PROVIDE ANY ADDITIONAL CONTROLS NECESSARY TO PREVENT THE POSSIBILITY OF SILTING ANY ADJACENT LOWLAND PARCEL OR RECEIVING WATER.

H. EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE PLACED PRIOR TO, OR AS THE FIRST STEP IN CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH ALL EROSION CONTROL MEASURES SHOWN ON THE PLANS. THE EROSION CONTROL SYSTEM DESCRIBED WITHIN THE CONSTRUCTION DOCUMENTS SHOULD BE CONSIDERED TO REPRESENT THE MINIMUM ACCEPTABLE STANDARDS FOR THIS PROJECT. ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED DEPENDENT UPON THE STAGE OF CONSTRUCTION, THE SEVERITY OF THE RAINFALL EVENT AND/OR AS DEEMED NECESSARY AS A RESULT OF ON-SITE INSPECTIONS BY THE OWNER, THEIR REPRESENTATIVES, OR THE APPLICABLE JURISDICTIONAL AUTHORITIES. THESE ADDITIONAL MEASURES (IF NEEDED) SHALL BE INSTALLED AT NO ADDITIONAL COST TO THE OWNER. IT SHOULD BE NOTED THAT THE MEASURES IDENTIFIED ON THIS PLAN ARE ONLY SUGGESTED BEST MANAGEMENT PRACTICES (BMPS). THE CONTRACTOR SHALL PROVIDE POLLUTION PREVENTION AND EROSION CONTROL MEASURES AS SPECIFIED IN FDOT INDEXES #100 THROUGH #102 AND AS NECESSARY FOR EACH SPECIFIC APPLICATION. IT IS THE CONTRACTOR'S ULTIMATE RESPONSIBILITY TO ASSURE THAT THE STORMWATER DISCHARGE FROM THE SITE DOES NOT EXCEED THE TOLERANCES ESTABLISHED BY ANY OF THE APPLICABLE JURISDICTIONAL AUTHORITIES.

I. THE CONTRACTOR SHALL KEEP THE SWPPP CURRENT AT ALL TIMES. THE CONTRACTOR SHALL SIGN AND DATE ANY CHANGES TO THE SWPPP AND KEEP THEM AS ATTACHMENTS TO THE ORIGINAL PLAN. WHENEVER ANY OF THE FOLLOWING EVENTS OCCUR, THE CONTRACTOR SHALL UPDATE THE SWPPP WITHIN 7 DAYS:

I. THERE IS A CHANGE IN DESIGN, CONSTRUCTION OPERATION OR MAINTENANCE THAT HAS A SIGNIFICANT EFFECT ON THE DISCHARGE FROM THE PROJECT
II. THERE IS A NEW DISCHARGE POINT OUR OUTFALL
III. THERE IS A CHANGE IN THE LOCATION OF A DISCHARGE POINT OF OUTFALL
IV. AN INSPECTION REVEALS THAT BMPS ARE INEFFECTIVE AT ELIMINATING OR MINIMIZING POLLUTANTS IN THE STORMWATER DISCHARGED FROM THE SITE.
V. THERE IS A NEW SUBCONTRACTOR IMPLEMENTING ANY PORTION OF THE SWPPP
VI. A RELEASE CONTAINING A HAZARDOUS SUBSTANCE IN AN AMOUNT EQUAL TO OR GREATER THAN A REPORTABLE QUANTITY OCCURS DURING A 24-HOUR PERIOD

J. THE CONTRACTOR SHALL ENSURE THAT THE CONTRACTOR AND ALL SUBCONTRACTORS RESPONSIBLE FOR IMPLEMENTING SWPPP CONTROL MEASURES FILL OUT THE CONTRACTOR / SUBCONTRACTOR CERTIFICATION TABLE INCLUDED IN THIS SWPPP.

K. THE CONTRACTOR SHALL COMPLETE THE CONSTRUCTION SEQUENCE TABLE INCLUDING IN THIS SWPPP PRIOR TO PROCEEDING WITH THE INSTALLATION OF BMPS AND PRIOR TO GROUND DISTURBING ACTIVITIES. THE CONTRACTOR SHALL COMPLETE THE TABLE WITH ANTICIPATED DATES IN WHICH THE BMP WILL BE UTILIZED OR THE ACTIVITY WILL OCCUR.

TURBIDITY

A. TURBIDITY REDUCTION TO NO MORE THAN 29 NTUs ABOVE BACKGROUND LEVEL PRIOR TO DISCHARGE OFF SITE.

B. CONTRACTOR TO FILE FOR A FDEP NOTICE OF INTENT (NOI) WITHIN 14 DAYS OF CONSTRUCTION COMPLETION.

STABILIZATION

A. STABILIZATION MEASURES SHALL BE INITIATED IMMEDIATELY IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED AND WILL REMAIN UNDISTURBED FOR 7 DAYS OR MORE. STABILIZE BY COVERING WITH ADEQUATE AMOUNTS OF MULCH OVER SEED AND PERIODICALLY WATER TO PROMOTE AND MAINTAIN GROWTH OF THE TEMPORARY GROUNDCOVER, OR BY THE USE OF AN APPROPRIATE ALTERNATIVE BMP.

B. PERMANENT SOIL EROSION CONTROL MEASURES FOR ALL SLOPES, CHANNELS, DITCHES OR ANY DISTURBED LAND AREAS SHALL BE COMPLETED IMMEDIATELY AFTER FINAL GRADING. WHEN IT IS NOT POSSIBLE TO PERMANENTLY PROTECT A DISTURBED AREA IMMEDIATELY AFTER GRADING OPERATIONS, TEMPORARY EROSION CONTROL MEASURES SHALL BE INSTALLED. ALL TEMPORARY PROTECTION SHALL BE MAINTAINED UNTIL PERMANENT MEASURES ARE IN PLACE AND ESTABLISHED.

C. ALL GRASS SLOPES CONSTRUCTED STEEPER THAN 4H:1V SHALL BE SODDED IMMEDIATELY AFTER FINAL GRADE IS ESTABLISHED.

DUST CONTROL

A. BARE EARTH AREAS SHALL BE WATERED DURING CONSTRUCTION AS NECESSARY TO MINIMIZE THE TRANSPORT OF FUGITIVE DUST. IN NO CASE SHALL FUGITIVE DUST BE ALLOWED TO LEAVE THE SITE UNDER CONSTRUCTION.

B. AS REQUIRED AFTER COMPLETION OF CONSTRUCTION, BARE EARTH AREAS SHALL BE VEGETATED.

AT ANY TIME BOTH DURING AND AFTER SITE CONSTRUCTION THAT WATERING AND/OR VEGETATION ARE NOT EFFECTIVE IN CONTROLLING WIND EROSION AND/OR TRANSPORT OF FUGITIVE DUST, OTHER METHODS AS ARE NECESSARY FOR SUCH CONTROL SHALL BE EMPLOYED. THESE METHODS MAY INCLUDE ERECTION OF DUST CONTROL FENCES.

WASTE MANAGEMENT

A. THE CONTRACTOR SHALL ENSURE THAT ALL WASTE AND DEBRIS ARE MANAGED DAILY SUCH THAT THEY WILL NOT IMPACT STORMWATER OR LEAVE THE PERMITTED AREA, AND DISPOSED OF PROPERLY IN ACCORDANCE WITH APPLICABLE STATE, LOCAL AND FEDERAL REGULATIONS.

B. THE CONTRACTOR SHALL ENSURE THAT ALL CHEMICALS, OILS, FUELS, HAZARDOUS WASTE, UNIVERSAL WASTE AND TOXIC SUBSTANCES ARE PROPERLY MANAGED AND DISPOSED OF IN ACCORDANCE WITH APPLICABLE STATE, LOCAL AND FEDERAL REGULATIONS. THE CONTRACTOR SHALL ENSURE THAT WASTE IS NOT DISCHARGED FROM THE SITE, AND DOES NOT IMPACT STORMWATER OR GROUNDWATER.

C. THE CONTRACTOR SHALL PROVIDE APPROPRIATE AND ADEQUATE WASHOUT FACILITIES TO ENSURE THAT CHEMICALS AND WASTE IS NOT DISCHARGED FROM THE SITE, AND DO NOT IMPACT STORMWATER OR GROUNDWATER. (E.G. CONCRETE/MASONRY WASHOUT, PAINT WASHOUT, EIFS, ETC.) THE CONTRACTOR SHALL CLEAN UP SPILLS PROMPTLY AND ENSURE THAT WASHOUT AREAS ARE PROPERLY MAINTAINED TO PROVIDE ADEQUATE VOLUME TO PREVENT OVERFLOW.

D. THE CONTRACTOR SHALL PROVIDE ADEQUATE SANITARY FACILITIES FOR SITE PERSONNEL, MAINTAIN THROUGHOUT CONSTRUCTION, AND PROVIDE FOR PROPER DISPOSAL IN ACCORDANCE WITH APPLICABLE STATE, LOCAL AND FEDERAL REGULATIONS. SANITARY FACILITIES SHALL BE PROPERLY SECURED TO PREVENT TIPPING.

E. A SPILL CONTROL AND CONTAINMENT KIT (CONTAINING FOR EXAMPLE, ABSORBENT MATERIAL SUCH AS KITTY LITTER OR SAWDUST, ACID, BASE, NEUTRALIZING AGENT, BROOMS, DUST PANS, MOPS, RAGS, GLOVES, GOGGLES, PLASTIC AND METAL TRASH CONTAINERS, ETC.) SHALL BE PROVIDED AT THE CONSTRUCTION SITE AND IT'S LOCATION(S) SHALL BE IDENTIFIED WITH LEGIBLE SIGNAGEAND SHOWN ON THE SITE MAPS.

A. THE SPILL CONTROL AND CONTAINMENT KIT SHALL BE OF SUFFICIENT QUANTITIES AND APPROPRIATE CONTENT TO CONTAIN A SPILL FROM THE LARGEST ANTICIPATED PIECE OF EQUIPMENT AND FROM THE LARGEST ANTICIPATED QUANTITIES OF PRODUCTS STORED ON THE SITE AT ANY GIVEN TIME.

F. WHEN A SPILL OF REPORTABLE QUANTITIES IS DISCOVERED ON THE SITE, THE CONTRACTOR SHALL CLEAN UP ALL SPILLED MATERIALS AND DISPOSE OF IN ACCORDANCE WITH APPLICABLE LAWS AND REGULATIONS. THE CONTRACTOR SHALL NOTIFY THE APPROPRIATE AUTHORITIES IN ACCORDANCE WITH APPLICABLE LAWS AND REGULATIONS, THE OWNER AND PROJECT ENGINEER. THE CONTRACTOR SHALL RETAIN CLEANUP INFORMATION AS WELL AS DISPOSAL MANIFESTS WITH THEIR SWPPP.

MATERIALS MANAGEMENT, AND EQUIPMENT STAGING AND MAINTENANCE

A. EXCAVATED MATERIAL SHALL NOT BE DEPOSITED IN LOCATIONS WHERE IT COULD BE WASHED AWAY BY HIGH WATER OR STORM WATER RUNOFF. STOCKPILED MATERIAL SHALL BE COVERED OR ENCIRCLED WITH SEDIMENT CONTAINMENT DEVICES.

B. HEAVY CONSTRUCTION EQUIPMENT PARKING AND MAINTENANCE AREAS SHALL BE DESIGNED TO PREVENT OIL, GREASE, AND LUBRICANTS FROM ENTERING SITE DRAINAGE FEATURES INCLUDING STORMWATER COLLECTION AND TREATMENT SYSTEMS. CONTRACTORS SHALL PROVIDE BROAD DIKES OR SILT SCREENS AROUND, AND SEDIMENT SUMPS WITHIN, SUCH AREAS AS REQUIRED TO CONTAIN SPILLS OR OIL, GREASE, LUBRICANTS, OR OTHER CONTAMINANTS. CONTRACTOR SHALL HAVE AVAILABLE, AND SHALL USE, ABSORBENT FILTER PADS TO CLEAN UP SPILLS IMMEDIATELY AFTER ANY OCCURRENCE.

C. THE CONTRACTOR SHALL ENSURE THAT ALL TOXIC / HAZARDOUS SUBSTANCES AND CHEMICALS ARE PROPERLY STORED, OUT OF THE WEATHER, AND USED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. THE CONTRACTOR SHALL ENSURE THAT THESE PRODUCTS ARE STORED AND USED IN SUCH A MANNER THAT WILL NOT NEGATIVELY IMPACT STORMWATER, GROUNDWATER OR PROTECTED SPECIES.

D. THE CONTRACTOR SHALL ENSURE THAT ALL MATERIALS, EQUIPMENT, DEBRIS, WASTE, TRAILERS, AND OTHER SUPPORT RELATED ITEMS ARE CONTAINED WITHIN THE PERMITTED LIMITS OF DISTURBANCE. THE CONTRACTOR SHALL ENSURE THAT THE STORAGE AND USE OF SUCH ITEMS DOES NOT NEGATIVELY IMPACT STORMWATER OR GROUNDWATER.

OFFSITE VEHICLE TRACKING

A. THE CONTRACTOR SHALL ENSURE THAT THE CONSTRUCTION EXIT IS USED BY ALL VEHICLES AND EQUIPMENT ENTERING OR LEAVING THE JOBSITE. THE CONTRACTOR SHALL MONITOR AND MAINTAIN THE CONSTRUCTION EXIT TO ENSURE THAT NO SOILS ARE TRACKED OFFSITE BY TIRES OR TRACKS, AND THAT NO SOILS ARE SPILLED BY TRUCKS OR EQUIPMENT LEAVING THE SITE. ALL TRACKED OR SPILLED SOILS SHALL BE SHOVELED OR SWEPT FROM THE ROADWAY AND RETURNED TO THE SITE. WATER SHALL NOT BE USED TO CLEAN THE SOILS FROM THE ROADWAY UNLESS THE WATER AND SOILS ARE RECOVERED BY THE USE OF A VACUUM TRUCK OR SIMILAR DEVICE.

FERTILIZERS, HERBICIDES AND PESTICIDES

A. THE CONTRACTOR SHALL ENSURE THAT ALL FERTILIZERS, HERBICIDES, PESTICIDES AND SIMILAR PRODUCTS ARE PROPERLY STORED, OUT OF THE WEATHER, AND APPLIED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. THE CONTRACTOR SHALL ENSURE THAT THESE PRODUCTS ARE USED IN SUCH A MANNER THAT WILL NOT NEGATIVELY IMPACT STORMWATER, GROUNDWATER OR PROTECTED SPECIES.

B. NUTRIENTS SHALL BE APPLIED ONLY AT RATES NECESSARY TO ESTABLISH AND MAINTAIN VEGETATION.

INSPECTIONS AND MAINTENANCE

A. THE CONTRACTOR SHALL INSPECT BMPS (I.E. DISCHARGE LOCATIONS, CONSTRUCTION EXIT, PERIMETER CONTROLS, INLET PROTECTION, STABILIZATION, EROSION CONTROL, DOCUMENTATION, WASTE DISPOSAL AREAS, MATERIAL STORAGE AREAS, ETC.) TO ENSURE THAT BMPS ARE NOT CAUSING OR CONTRIBUTION TO VIOLATIONS OF WATER QUALITY STANDARDS OR RESULTING IN OFFSITE SEDIMENTATION; ENSURE THAT BMPS ARE INSTALLED, MAINTAINED AND OPERATING CORRECTLY AND EFFECTIVELY; ENSURE THAT BMPS ASSOCIATED WITH STORAGE AND WASTE DISPOSAL AREAS ARE BEING USED AND MAINTAINED PROPERLY; ENSURE THAT THE CONSTRUCTION EXIT IS FUNCTION PROPERLY TO PREVENT OFFSITE TRACKING OF SEDIMENT; ENSURE THAT EROSION PREVENTION MEASURES ARE MAINTAINED TO PREVENT VISIBLE EROSION OF DISTURBED AREAS AND SEDIMENTATION AT THE DISCHARGE POINTS; AND DETERMINE IF CONSTRUCTION ACTIVITIES HAVE ALTERED THE EFFECTIVENESS OF BMPS. INSPECTIONS MUST BE COMPLETED AT LEAST ONCE EVERY SEVEN (7) CALENDAR DAYS, AND WITHIN 24 HOURS AFTER A RAINSTORM OF 0.50 INCHES OR GREATER EVEN IF IT RAINS ON THE WEEKEND OR A HOLIDAY.

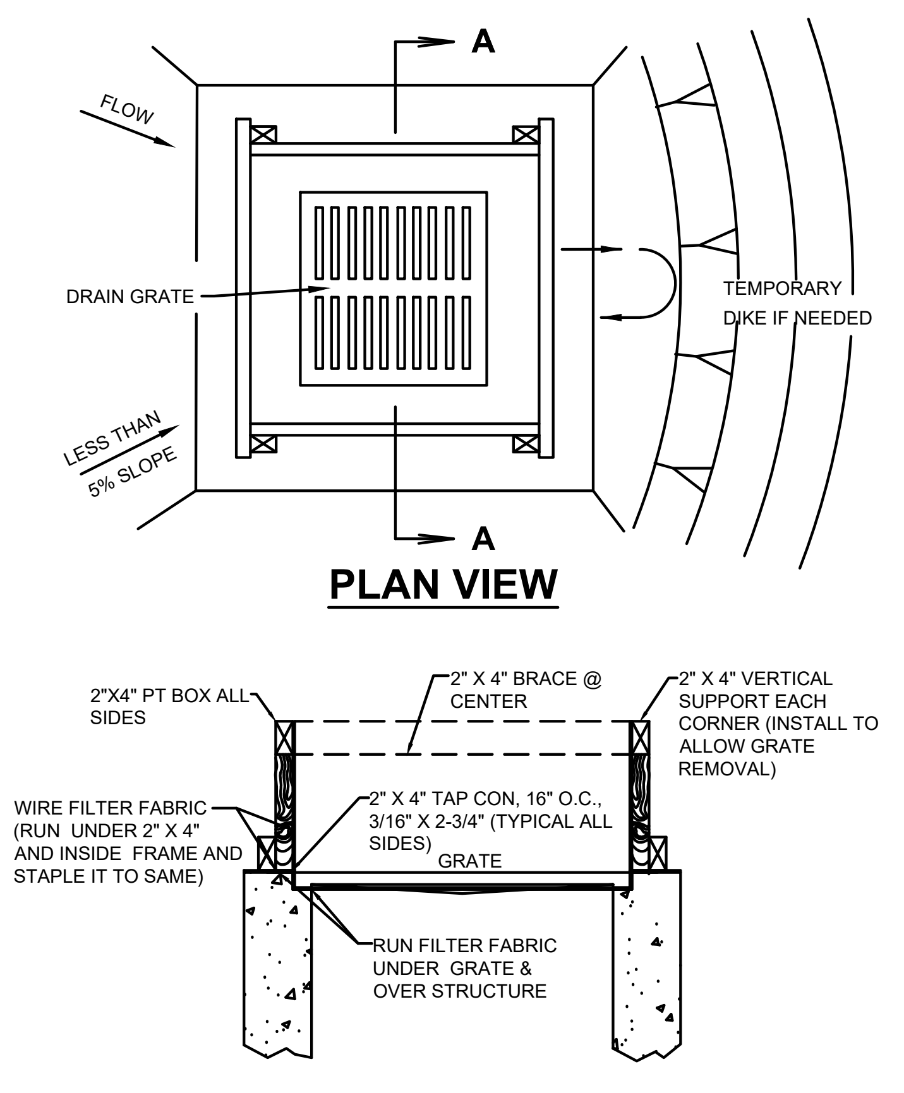
B. THE CONTRACTOR SHALL REPORT ALL INSPECTION FINDINGS AND CORRECTIVE ACTIONS TAKEN AS A RESULT OF THE INSPECTION USING THE STORMWATER POLLUTION PREVENTION PLAN INSPECTION REPORT FORM PROVIDED BY FDEP OR AN EQUIVALENT FORM. INSPECTION REPORTS SHALL BE SIGNED BY THE INSPECTOR AND A RESPONSIBLE AUTHORITY AS DEFINED BY THE PERMIT. INSPECTION REPORTS SHALL BE MAINTAINED WITH THE SWPPP. THE INSPECTOR MUST BE A QUALIFIED EROSION AND SEDIMENT CONTROL INSPECTOR AS DEFINED BY THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION.

C. ANY MAINTENANCE, REPAIR AND NECESSARY REVISIONS TO BMP ITEMS SHALL BE ADDRESSED IN A TIMELY MANNER, BUT IN NO CASE LATER THAN 7 CALENDAR DAYS FOLLOWING THE INSPECTION OR IDENTIFICATION OF THE ISSUE. UNLESS OTHERWISE SPECIFIED, ACCUMULATED SEDIMENTS SHOULD BE REMOVED BEFORE THEY REACH ONE-HALF OF THE CAPACITY OF THE CONTROL DEVICE.

ALLOWABLE NON-STORMWATER DISCHARGES

THE GENERIC PERMIT FOR STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITIES PROHIBIT MOST NON-STORMWATER DISCHARGES DURING THE CONSTRUCTION PHASE. CERTAIN DISCHARGES ARE ALLOWED BY THE PERMIT, PROVIDED APPROPRIATE BMP'S ARE UTILIZED AND THE DISCHARGE DOES NOT CAUSE OR CONTRIBUTE TO A VIOLATION OF WATER QUALITY STANDARDS. ALLOWABLE NON-STORMWATER DISCHARGES THAT OCCUR DURING CONSTRUCTION ON THIS PROJECT PER PART 3.2 OF THE GENERIC PERMIT ARE:

DISCHARGES FROM FIRE FIGHTING ACTIVITIES.
FIRE HYDRANT FLUSHINGS.
WATERS WITHOUT DETERGENTS USED TO SPRAY OFF LOOSE SOLIDS FROM VEHICLES.
WATERS USED TO CONTROL DUST.
POTABLE WATER SOURCES SUCH AS WATERLINE FLUSHINGS.
LANDSCAPE IRRIGATION AND DRAINAGE.
ROUTINE EXTERNAL BUILDING WASHDOWN PROVIDED NO DETERGENTS ARE USED.
PAVEMENT WASHWATERS THAT DO NOT CONTAIN DETERGENTS, LEAKS, SPILLS OF TOXIC OR HAZARDOUS MATERIALS.
AIR CONDITIONING CONDENSATE.
SPRING WATER.
FOUNDATION OR FOOTING DRAIN FLOWS THAT ARE NOT CONTAMINATED WITH PROCESS MATERIAL SUCH AS SOLVENTS.
NONCONTAMINATED GROUND WATER ASSOCIATED WITH DEWATERING ACTIVITIES AS DESCRIBED IN PART 3.4 OF THE GENERIC PERMIT.

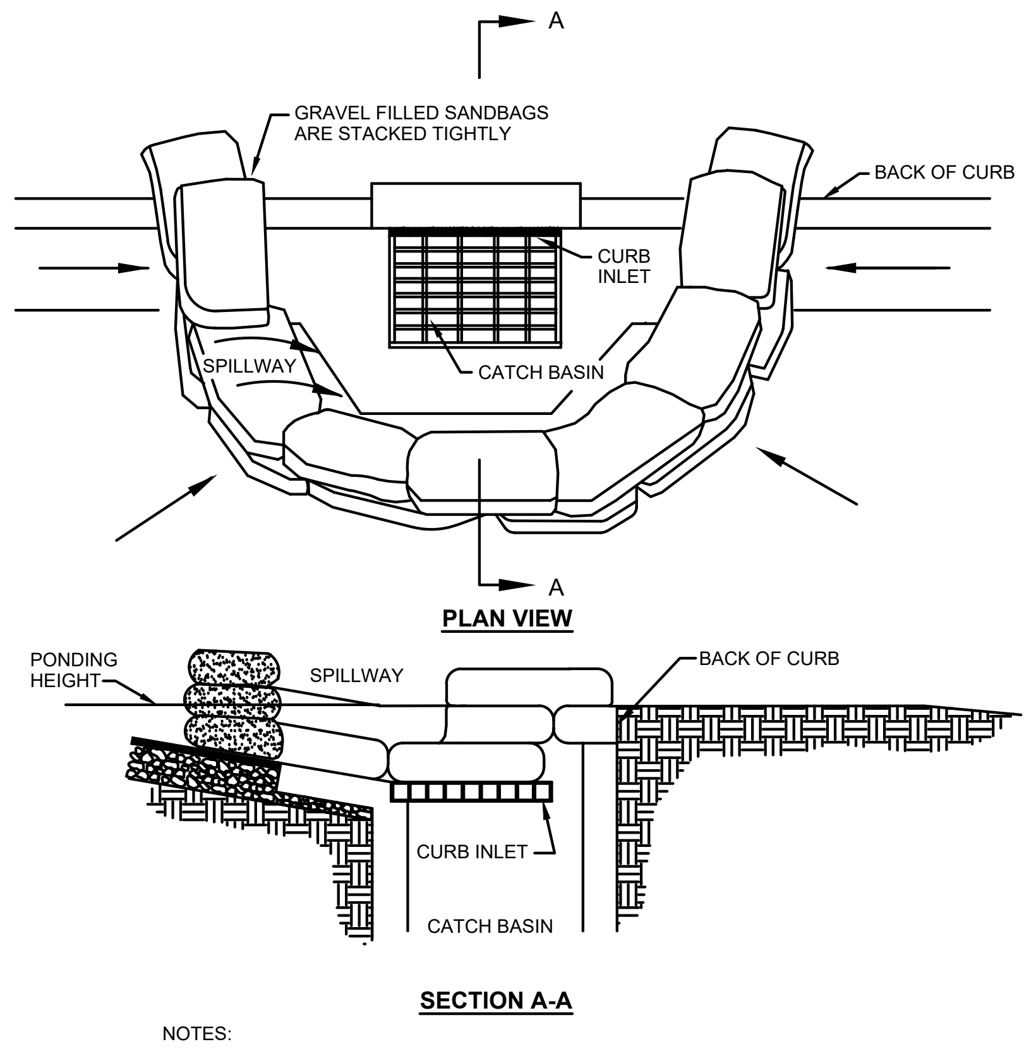


NOTES:
1. DROP INLET SEDIMENT BARRIERS ARE TO BE USED FOR SMALL, NEARLY LEVEL DRAINAGE AREAS. (LESS THAN 5%).
2. THE TOP OF THE FRAME (PONDING HEIGHT) MUST BE WELL BELOW THE GROUND ELEVATION DOWNSLOPE TO PREVENT RUNOFF FROM BYPASSING THE INLET. A TEMPORARY DIKE MAY BE NECESSARY ON THE DOWNSLOPE SIDE OF THE STRUCTURE.
3. FASTEN FRAMING TO STRUCTURE TO ALLOW GRATE REMOVAL.
4. LEAVE EXPOSED EDGE TO ALLOW FOR PAVING TO GRADE

FILTER FABRIC INLET PROTECTION DETAIL

N.T.S.

**NOTE:
AVOID USING IN TRAFFIC AREAS AS THIS CAN CAUSE A HAZARD.**



NOTES:
1. PLACE CURB TYPE SEDIMENT BARRIERS ON GENTLY SLOPING STREET SEGMENTS WHERE WATER CAN POND AND ALLOW SEDIMENT TO SEPARATE FROM RUNOFF.
2. SANDBAGS OF EITHER BURLAP OR WOVEN GEOTEXTILE FABRIC, ARE FILLED WITH GRAVEL, LAYERED AND PACKED TIGHTLY.
3. LEAVE ONE SANDBAG GAP IN THE TOP ROW TO PROVIDE A SPILLWAY FOR OVERFLOW.
4. INSPECT BARRIERS AND REMOVE SEDIMENT AS NECESSARY. SEDIMENT AND GRAVEL MUST BE REMOVED FROM THE TRAVELED WAY IMMEDIATELY.

CURB INLET PROTECTION DETAIL

N.T.S.

CONTRACTOR / SUBCONTRACTOR CERTIFICATION TABLE

THIS SWPPP MUST CLEARLY IDENTIFY, FOR EACH MEASURE IDENTIFIED WITHIN THE SWPPP, THE CONTRACTOR(S) OR SUBCONTRACTOR(S) WHO WILL IMPLEMENT EACH MEASURE. ALL CONTRACTOR(S) AND SUBCONTRACTOR(S) IDENTIFIED IN THE SWPPP MUST SIGN THE FOLLOWING CERTIFICATION:

"I CERTIFY UNDER PENALTY OF LAW THAT I UNDERSTAND, AND SHALL COMPLY WITH, THE TERMS AND CONDITIONS OF THE STATE OF FLORIDA GENERIC PERMIT FOR STORMWATER DISCHARGE FROM LARGE AND SMALL CONSTRUCTION ACTIVITIES AND THIS STORMWATER POLLUTION PREVENTION PLAN."

Name / Signature	Title	Company Name, Address and Phone Number	Date
______			
______			
______			
______			
______			
______			

NOTE: CONTRACTOR TO ADD SHEETS TO CERTIFICATION TABLE AS NECESSARY.

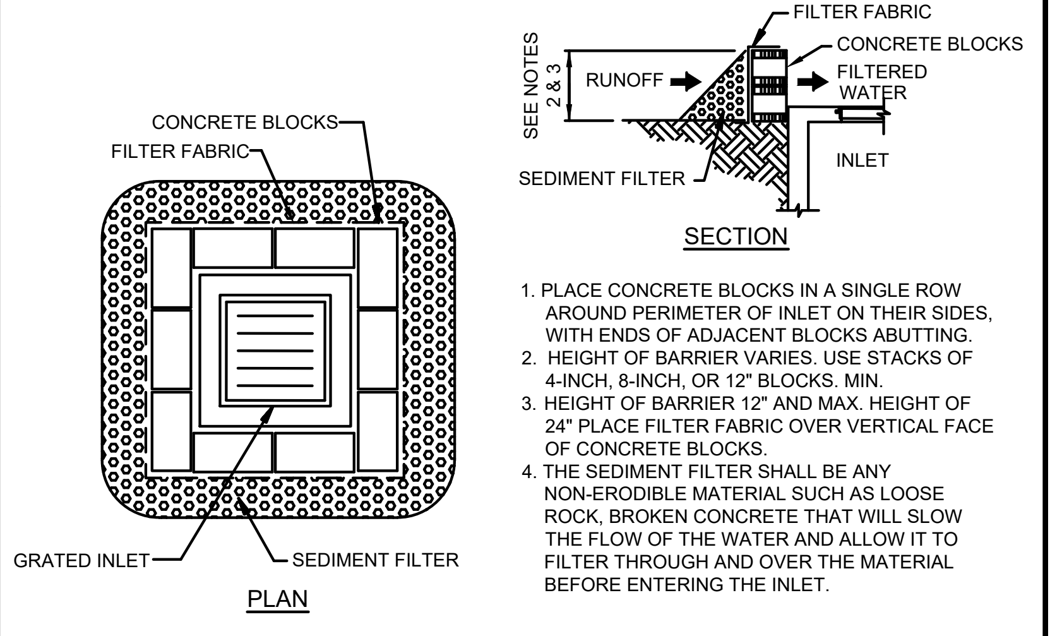
SWPPP IMPLEMENTATION LOG

A RECORD OF DATES WHEN BMPs ARE INSTALLED OR REMOVED, STABILIZATION MEASURES ARE INITIATED, MAJOR GRADING ACTIVITIES OCCUR, AND CONSTRUCTION ACTIVITIES TEMPORARILY OR PERMANENTLY CEASE ON PORTIONS OF THE SITE. THIS FORM MUST BE UPDATED CONTINUOUSLY THROUGHOUT THE PROJECT UNTIL THE NOTICE OF TERMINATION (NOT) IS FILED.

DESCRIPTION OF ACTIVITY	LOCATION	CONTRACTOR	BEGIN DATE	END DATE

NOTE: CONTRACTOR TO ADD SHEETS TO THE SWPPP IMPLEMENTATION LOG AS NECESSARY.

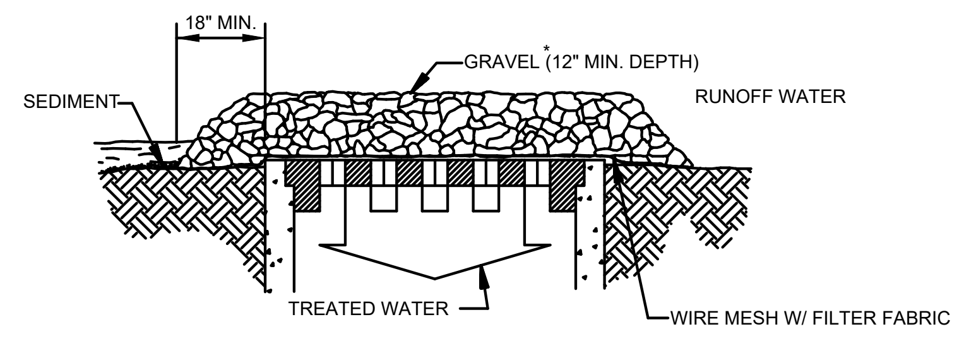
**NOTE:
AVOID USING IN TRAFFIC AREAS AS THIS CAN CAUSE A HAZARD.**



1. PLACE CONCRETE BLOCKS IN A SINGLE ROW AROUND PERIMETER OF INLET ON THEIR SIDES, WITH ENDS OF ADJACENT BLOCKS ABUTTING.
2. HEIGHT OF BARRIER VARIES. USE STACKS OF 4-INCH, 8-INCH, OR 12" BLOCKS. MIN.
3. HEIGHT OF BARRIER 12" AND MAX. HEIGHT OF 24" PLACE FILTER FABRIC OVER VERTICAL FACE OF CONCRETE BLOCKS.
4. THE SEDIMENT FILTER SHALL BE ANY NON-ERODIBLE MATERIAL SUCH AS LOOSE ROCK, BROKEN CONCRETE THAT WILL SLOW THE FLOW OF THE WATER AND ALLOW IT TO FILTER THROUGH AND OVER THE MATERIAL BEFORE ENTERING THE INLET.

BLOCK AND AGGREGATE INLET SEDIMENT FILTER

N.T.S.



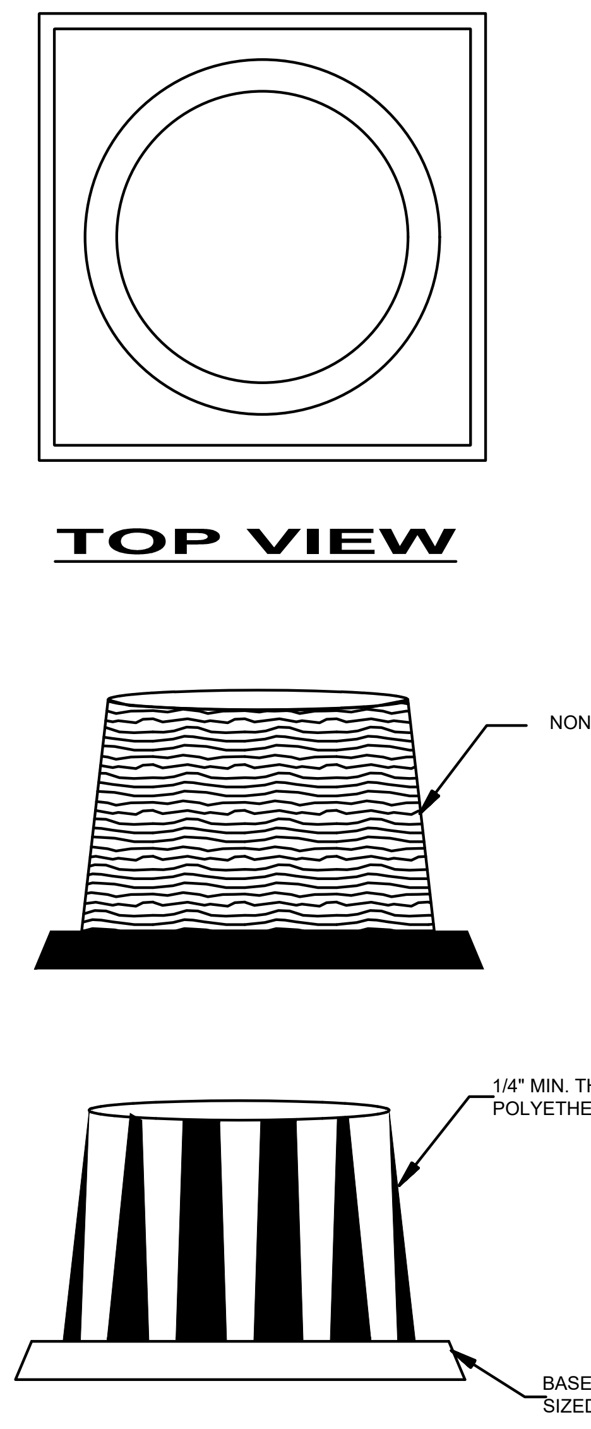
SPECIFIC APPLICATION

THIS METHOD OF INLET PROTECTION IS APPLICABLE WHERE HEAVY CONCENTRATED FLOWS ARE EXPECTED, BUT NOT WHERE PONDING AROUND THE STRUCTURE MIGHT CAUSE EXCESSIVE INCONVENIENCE OR DAMAGE TO ADJACENT STRUCTURES AND UNPROTECTED ACRES.

* GRAVEL SHALL BE 2"-3" CLEAN STONE

GRAVEL & WIRE MESH INLET SEDIMENT FILTER

N.T.S.

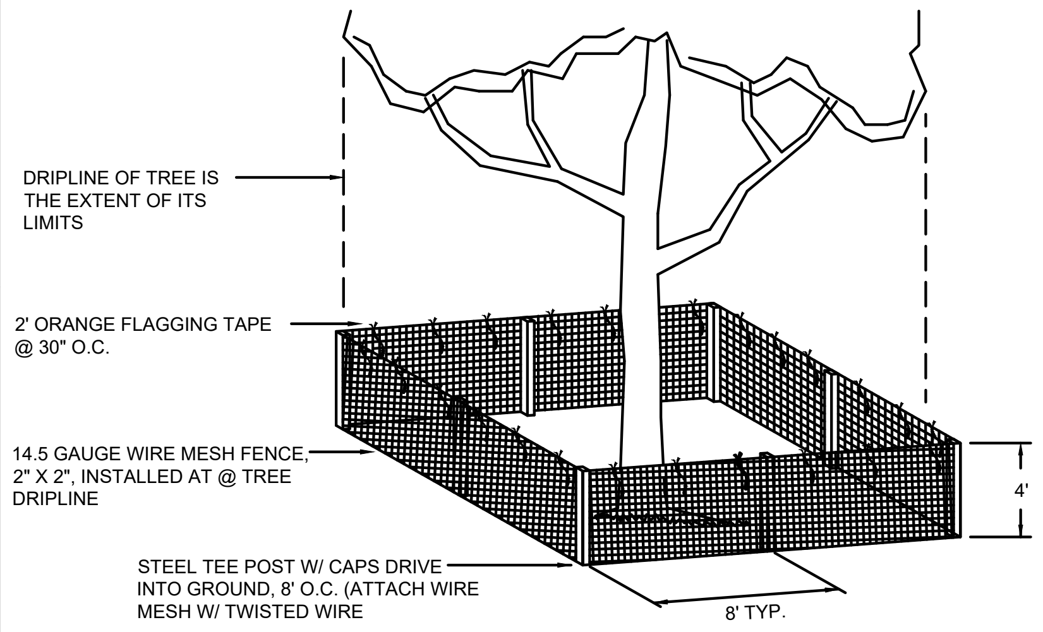


TYPICAL CONSTRUCTION SEQUENCE FOR DOME FRAME & COVER

1. EXCAVATE APPROXIMATELY 4" TO 6" BELOW THE TOP OF THE INLET STRUCTURE.
2. PLACE THE FRAME ONTO THE INLET STRUCTURE, ENSURING PROPER SEATING OF FRAME TO STRUCTURE.
3. SLIDE THE COVER OVER THE FRAME.
4. FILL THE COVER POCKETS WITH SOIL, #57 GRAVEL OR EQUIVALENT. THE COVER POCKETS SHOULD BE COMPLETELY FILLED TO ENSURE A GOOD SEAL BETWEEN THE GROUND AND INLET STRUCTURE.
5. BACK FILL AROUND THE FRAME AND COVER ASSEMBLY IS NOT REQUIRED TO COMPLETE INSTALLATION; HOWEVER, BACKFILLING MAY BE NECESSARY TO COMPLETE EXCAVATION REQUIREMENTS FOR THE SITE.

DOMED INLET PROTECTION (PREFABRICATED)

N.T.S.



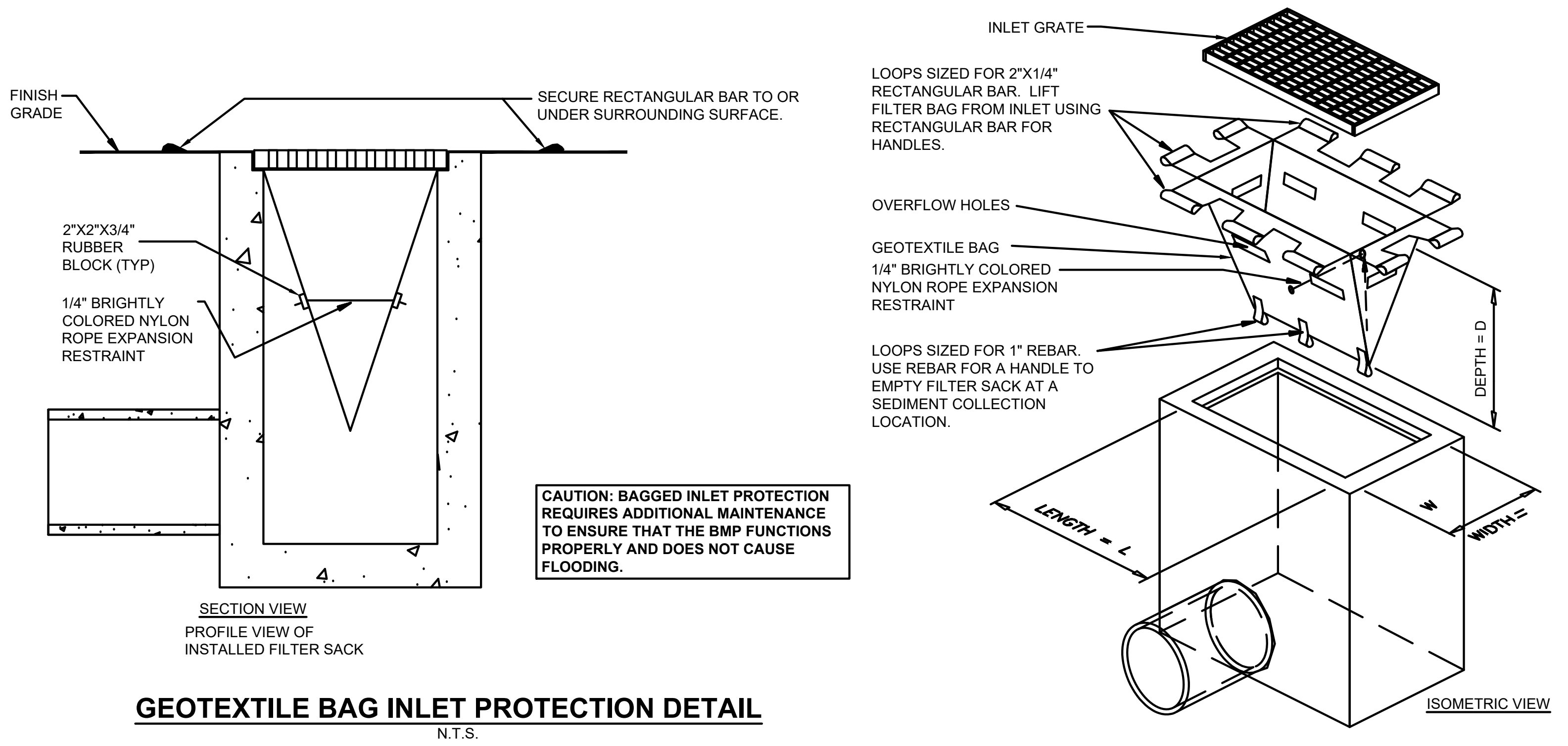
TREE PROTECTION DETAIL

N.T.S.

1. REMOVE TRAPPED SEDIMENT WHEN BRIGHTLY COLORED EXPANSION RESTRAINT CAN NO LONGER BE SEEN.
2. GEOTEXTILE SHALL BE A WOVEN POLYPROPYLENE FABRIC THAT MEETS OR EXCEEDS REQUIREMENTS IN THE SPECIFICATIONS TABLE.
3. PLACE AN OIL ADSORBENT PAD OR PILLOW OVER INLET GRATE WHEN OIL SPILLS ARE A CONCERN.
4. INSPECT PER REGULATORY EQUIREMENTS.
5. THE WIDTH, "W", OF THE FILTER SACK SHALL MATCH THE INSIDE WIDTH OF THE GRATED INLET BOX.
6. THE DEPTH, "D", OF THE FILTER SACK SHALL BE BETWEEN 18 INCHES AND 36 INCHES.
7. THE LENGTH, "L", OF THE FILTER SACK SHALL MATCH THE INSIDE LENGTH OF THE GRATED INLET BOX.
8. EXTRA CARE SHALL BE TAKEN TO ENSURE REGULAR MAINTENANCE OF FILTER SACKS USED IN RIGHT OF WAY TO ENSURE ADEQUATE DRAINAGE CAPACITY.

LOW TO MODERATE FLOW GEOTEXTILE FABRIC SPECIFICATION TABLE		
PROPERTIES	TEST METHOD	UNITS
GRAB TENSILE STRENGTH	ASTM D-4632	300 LBS
GRAB TENSILE ELONGATION	ASTM D-4632	20 %
PUNCTURE	ASTM D-4833	120 LBS
MULLEN BURST	ASTM D-3786	800 PSI
TRAPEZOID TEAR	ASTM D-4533	120 LBS
UV RESISTANCE	ASTM D-4355	80 %
APPARENT OPENING SIZE	ASTM D-4751	40 US SIEVE
FLOW RATE	ASTM D-4491	40 GAL/MIN/SQ FT
PERMITTIVITY	ASTM D-4491	0.55 SEC -1

MODERATE TO HIGH FLOW GEOTEXTILE FABRIC SPECIFICATION TABLE		
PROPERTIES	TEST METHOD	UNITS
GRAB TENSILE STRENGTH	ASTM D-4632	265 LBS
GRAB TENSILE ELONGATION	ASTM D-4632	20 %
PUNCTURE	ASTM D-4833	135 LBS
MULLEN BURST	ASTM D-3786	420 PSI
TRAPEZOID TEAR	ASTM D-4533	45 LBS
UV RESISTANCE	ASTM D-4355	90 %
APPARENT OPENING SIZE	ASTM D-4751	20 US SIEVE
FLOW RATE	ASTM D-4491	200 GAL/MIN/SQ FT
PERMITTIVITY	ASTM D-4491	1.5 SEC -1

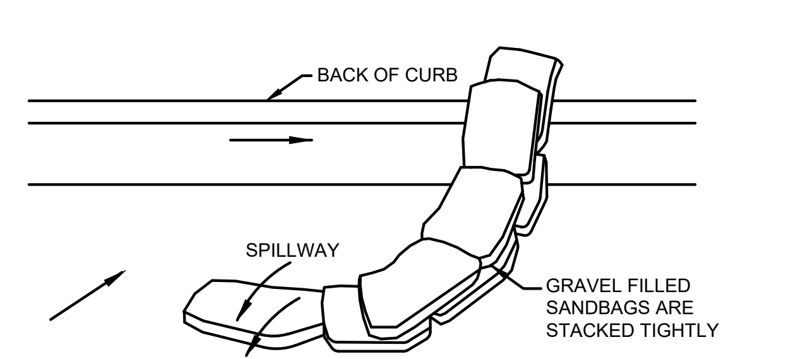


CAUTION: BAGGED INLET PROTECTION REQUIRES ADDITIONAL MAINTENANCE TO ENSURE THAT THE BMP FUNCTIONS PROPERLY AND DOES NOT CAUSE FLOODING.

GEOTEXTILE BAG INLET PROTECTION DETAIL

N.T.S.

**NOTE:
AVOID USING IN TRAFFIC AREAS AS THIS CAN CAUSE A HAZARD.**



NOTES:
1. PLACE CURB TYPE SEDIMENT BARRIERS ON GENTLY SLOPING STREET SEGMENTS WHERE WATER CAN POND AND ALLOW SEDIMENT TO SEPARATE FROM RUNOFF.
2. SANDBAGS OF EITHER BURLAP OR WOVEN GEOTEXTILE FABRIC, ARE FILLED WITH GRAVEL, LAYERED AND PACKED TIGHTLY.
3. TAPER TO ONE SANDBAG TO PROVIDE A SPILLWAY FOR OVERFLOW.
4. INSPECT BARRIERS AND REMOVE SEDIMENT AS NECESSARY. SEDIMENT AND GRAVEL MUST BE REMOVED FROM THE TRAVELED WAY IMMEDIATELY.

CURB LINE PROTECTION DETAIL

N.T.S.

CONSTRUCTION SEQUENCING TABLE

ANTICIPATED CONSTRUCTION SEQUENCE*	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
CONSTRUCTION ENTRANCE												
TEMPORARY CONTROL MEASURES												
STORM FACILITIES												
ROUGH GRADE / SEDIMENT CONTROL												
FOUNDATION / BUILDING CONSTRUCTION												
SITE CONSTRUCTION												
FINISH GRADING												
PERMANENT CONTROL MEASURES												

* THIS IS ONLY A GUIDE, CONTRACTOR IS TO USE HIS JUDGMENT TO MODIFY AS NEEDED.

Stormwater Team

Description	Name	Company
Contractor:		
Contractor's Responsible Authority:		
Qualified Inspector(s):		
Maintenance Personnel:		

The contractor shall complete this table identifying the individuals of the stormwater team and their responsibilities.

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Ph: 941.365.4771

Plans Prepared By:
CPH ,Inc.
State of Florida Licenses:
Engineer No. 3215
Surveyor No. LB7143
Architect. No. AA26000926
Landscape No. LC000298

DANIEL P. MOYER
No. 69057

No.	Date	Revision
7		
6		
5		
4		
3		
2		
1	10/26/18	OUT TO BID

Designed: K. Upp
Drawn: K. Upp
Checked: D. Moyer
Job No.: M13104.2
Date: 09/25/17 © 2018

STORMWATER POLLUTION PREVENTION PLAN

PARKING LOT IMPROVEMENT PLANS FOR WARNER'S BAYOU

MANATEE COUNTY / FLORIDA

THIS SHEET NOT VALID FOR CONSTRUCTION WITHOUT COMPLETE SET OF PLANS. SEE GENERAL NOTES FOR MASTER LEGEND.

Sheet No.
C1.2

LEGEND:

- HEAVY DUTY CONCRETE. REF. SHEET C5.4
- **BID ALTERNATE #4** — HEAVY DUTY CONCRETE W/ BROADCAST SHELL. REF. SHEET C5.5. FOR DETAIL.
- STANDARD DUTY CONCRETE. REF. SHEET C5.2
- **BID ALTERNATE #4** — STANDARD DUTY CONCRETE W/ BROADCAST SHELL. REF. SHEET C5.5. FOR DETAIL.
- CONCRETE SIDEWALK
- **BID ALTERNATE #4** — CONCRETE SIDEWALK W/ BROADCAST SHELL. REF. SHEET C5.5. FOR DETAIL.
- **BID ALTERNATE #1** — FLEXI-PAVE CANOE / KAYAK LAUNCH PAD. REF. SHEET C5.5

PERVIOUS / IMPERVIOUS AREAS (SOUTH PARKING LOT)

PRE DEVELOPMENT:			
PERVIOUS AREA:	18,128 S.F.	(0.42 A.C.)	(38.18%)
IMPERVIOUS AREA:	29,837 S.F.	(0.68 A.C.)	(61.82%)
TOTAL DISTURBED AREA:	47,965 S.F.	(1.10 A.C.)	(100.00%)

POST DEVELOPMENT:			
PERVIOUS AREA:	22,914 S.F.	(0.52 A.C.)	(47.28%)
IMPERVIOUS AREA:	25,051 S.F.	(0.58 A.C.)	(52.72%)
TOTAL DISTURBED AREA:	47,965 S.F.	(1.10 A.C.)	(100.00%)

NOTE: EXISTING SHELL CONSIDERED IMPERVIOUS AREA

PARKING INFORMATION (SOUTH PARKING LOT):

PARKING SPACES PROVIDED	
BOAT TRAILER	17
STD. VEHICLE	10
ADA	1
TOTAL PARKING SPACES	28

FLOOD ZONE INFORMATION:

HAVING CONSULTED THE NATIONAL FLOOD INSURANCE PROGRAM, FLOOD INSURANCE RATE MAP (FIRM) COMMUNITY PANEL NO. 12081C0163E REVISED DATE 03/17/2014, THE SUBJECT PROPERTY APPEARS TO LIE IN ZONE AE WITH A BASE FLOOD ELEVATION OF 7' NAVD 1988.

SITE DATA INFORMATION:

PARCEL NUMBER:	3047600006 (3.5± A.C.)
ADDRESS:	5800 RIVERVIEW BLVD. BRADENTON FL, 34209

SECTION - 20 / TOWNSHIP - 34 S / RANGE - 17 E

ON-SITE LAND INFORMATION:

CURRENT LAND USE:	RSF-2 (RESIDENTIAL SINGLE FAMILY)
FUTURE LAND USE:	R-OS (MAJOR RECREATION / OPEN SPACE)
AREA OF PROPOSED IMPROVEMENTS:	51,160 S.F. (1.17 A.C.)
DEVELOPMENT TYPE:	PARK / RECREATION

ADJACENT LAND INFORMATION:

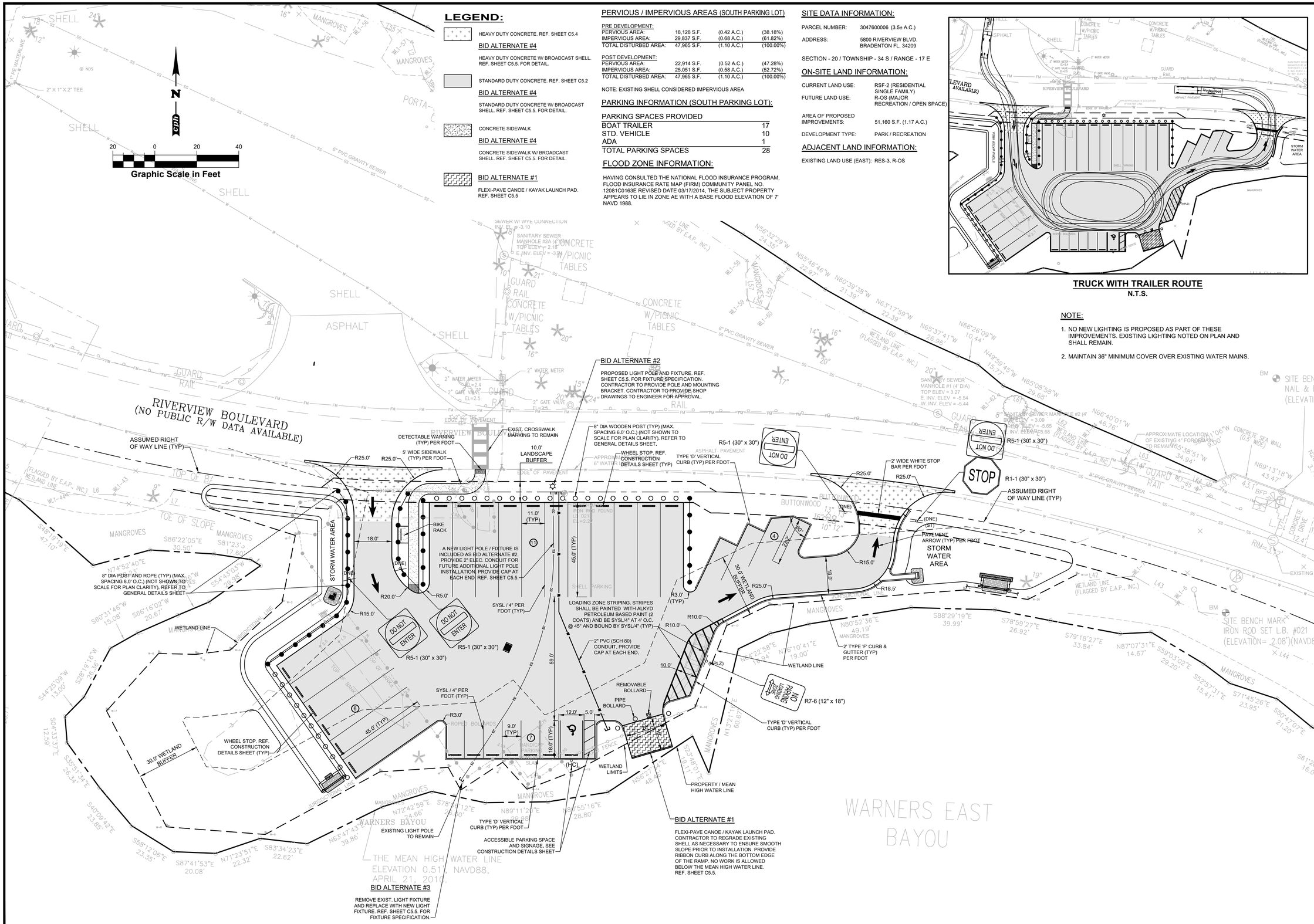
EXISTING LAND USE (EAST): RES-3, R-OS

TRUCK WITH TRAILER ROUTE

N.T.S.

NOTE:

1. NO NEW LIGHTING IS PROPOSED AS PART OF THESE IMPROVEMENTS. EXISTING LIGHTING NOTED ON PLAN AND SHALL REMAIN.
2. MAINTAIN 36" MINIMUM COVER OVER EXISTING WATER MAINS.



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Landscape No. LC000298

DANIEL P. MOYER LICENSE No. 69057 STATE OF Florida PROFESSIONAL ENGINEER

No.	Date	Revision
1	10/26/18	OUT TO BID

Designed: K. Upp
Drawn: K. Upp
Checked: D. Moyer
Job No.: M13104.2
Date: 09/25/17
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SITE DIMENSION PLAN

PARKING LOT IMPROVEMENT PLANS FOR WARNER'S BAYOU

MANATEE COUNTY / FLORIDA

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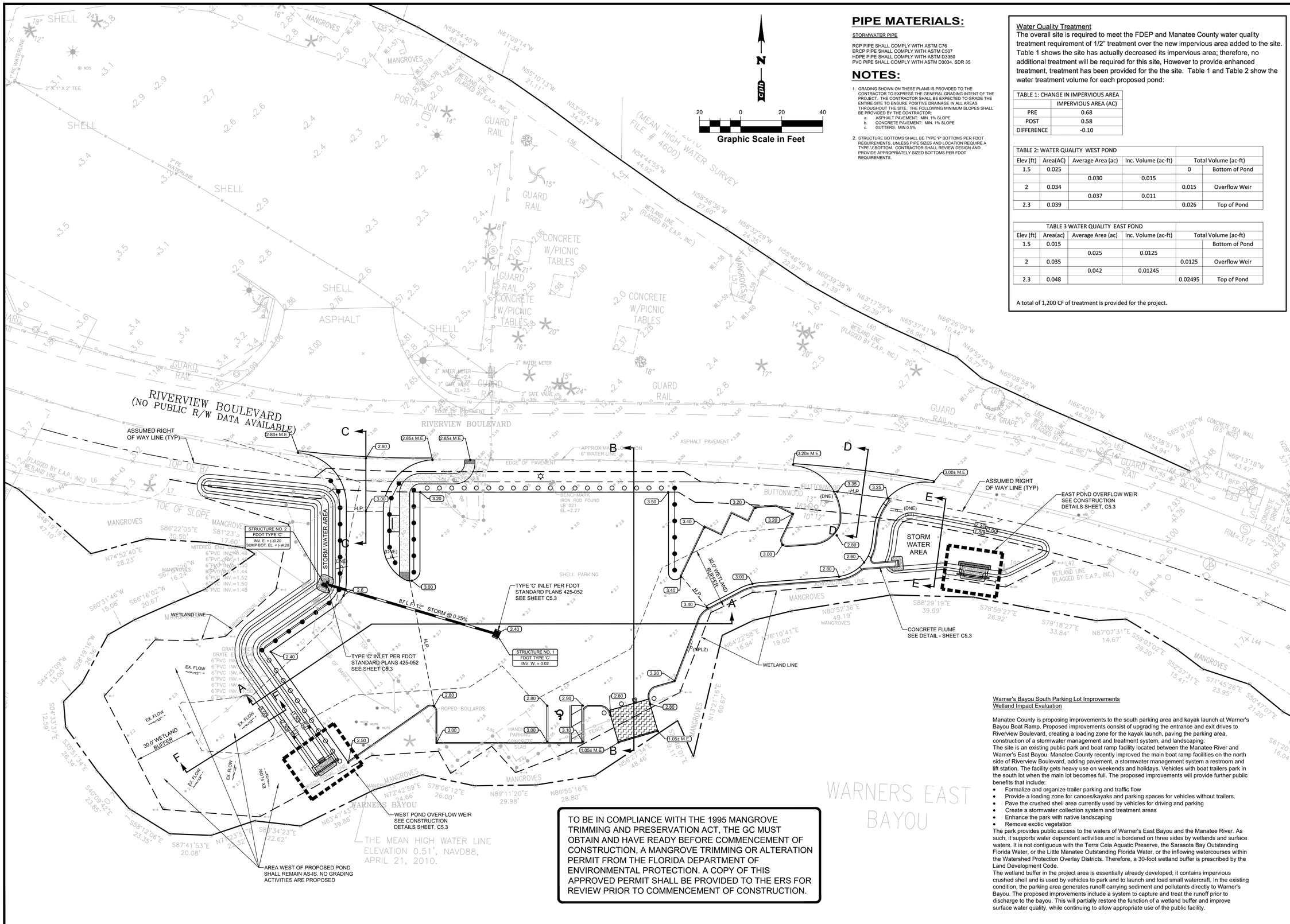
Sheet No.
C1.3



TO BE IN COMPLIANCE WITH THE 1995 MANGROVE TRIMMING AND PRESERVATION ACT, THE GC MUST OBTAIN AND HAVE READY BEFORE COMMENCEMENT OF CONSTRUCTION, A MANGROVE TRIMMING OR ALTERATION PERMIT FROM THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION. A COPY OF THIS APPROVED PERMIT SHALL BE PROVIDED TO THE ERS FOR REVIEW PRIOR TO COMMENCEMENT OF CONSTRUCTION.

PIPE MATERIALS:

STORMWATER PIPE

RCP PIPE SHALL COMPLY WITH ASTM C76
ERCP PIPE SHALL COMPLY WITH ASTM C507
HDPE PIPE SHALL COMPLY WITH ASTM D3350
PVC PIPE SHALL COMPLY WITH ASTM D3034, SDR 35

NOTES:

1. GRADING SHOWN ON THESE PLANS IS PROVIDED TO THE CONTRACTOR TO EXPRESS THE GENERAL GRADING INTENT OF THE PROJECT. THE CONTRACTOR SHALL BE EXPECTED TO GRADE THE ENTIRE SITE TO ENSURE POSITIVE DRAINAGE IN ALL AREAS THROUGHOUT THE SITE. THE FOLLOWING MINIMUM SLOPES SHALL BE PROVIDED BY THE CONTRACTOR:
   a. ASPHALT PAVEMENT: MIN. 1% SLOPE
   b. CONCRETE PAVEMENT: MIN. 1% SLOPE
   c. GUTTERS: MIN 0.5%
2. STRUCTURE BOTTOMS SHALL BE TYPE 'P' BOTTOMS PER FDOT REQUIREMENTS, UNLESS PIPE SIZES AND LOCATION REQUIRE A TYPE 'J' BOTTOM. CONTRACTOR SHALL REVIEW DESIGN AND PROVIDE APPROPRIATELY SIZED BOTTOMS PER FDOT REQUIREMENTS.

Water Quality Treatment

The overall site is required to meet the FDEP and Manatee County water quality treatment requirement of 1/2" treatment over the new impervious area added to the site. Table 1 shows the site has actually decreased its impervious area; therefore, no additional treatment will be required for this site, However to provide enhanced treatment, treatment has been provided for the the site. Table 1 and Table 2 show the water treatment volume for each proposed pond:

TABLE 1: CHANGE IN IMPERVIOUS AREA	
	IMPERVIOUS AREA (AC)
PRE	0.68
POST	0.58
DIFFERENCE	-0.10

TABLE 2: WATER QUALITY WEST POND					
Elev (ft)	Area(AC)	Average Area (ac)	Inc. Volume (ac-ft)	Total Volume (ac-ft)	
1.5	0.025			0	Bottom of Pond
		0.030	0.015		
2	0.034			0.015	Overflow Weir
		0.037	0.011		
2.3	0.039			0.026	Top of Pond

TABLE 3 WATER QUALITY EAST POND					
Elev (ft)	Area(ac)	Average Area (ac)	Inc. Volume (ac-ft)	Total Volume (ac-ft)	
1.5	0.015				Bottom of Pond
		0.025	0.0125		
2	0.035			0.0125	Overflow Weir
		0.042	0.01245		
2.3	0.048			0.02495	Top of Pond

A total of 1,200 CF of treatment is provided for the project.

Warner's Bayou South Parking Lot Improvements
Wetland Impact Evaluation

Manatee County is proposing improvements to the south parking area and kayak launch at Warner's Bayou Boat Ramp. Proposed improvements consist of upgrading the entrance and exit drives to Riverview Boulevard, creating a loading zone for the kayak launch, paving the parking area, construction of a stormwater management and treatment system, and landscaping.
The site is an existing public park and boat ramp facility located between the Manatee River and Warner's East Bayou. Manatee County recently improved the main boat ramp facilities on the north side of Riverview Boulevard, adding pavement, a stormwater management system a restroom and lift station. The facility gets heavy use on weekends and holidays. Vehicles with boat trailers park in the south lot when the main lot becomes full. The proposed improvements will provide further public benefits that include:

- Formalize and organize trailer parking and traffic flow
- Provide a loading zone for canoes/kayaks and parking spaces for vehicles without trailers.
- Pave the crushed shell area currently used by vehicles for driving and parking
- Create a stormwater collection system and treatment areas
- Enhance the park with native landscaping
- Remove exotic vegetation

The park provides public access to the waters of Warner's East Bayou and the Manatee River. As such, it supports water dependent activities and is bordered on three sides by wetlands and surface waters. It is not contiguous with the Terra Ceia Aquatic Preserve, the Sarasota Bay Outstanding Florida Water, or the Little Manatee Outstanding Florida Water, or the inflowing watercourses within the Watershed Protection Overlay Districts. Therefore, a 30-foot wetland buffer is prescribed by the Land Development Code.
The wetland buffer in the project area is essentially already developed; it contains impervious crushed shell and is used by vehicles to park and to launch and load small watercraft. In the existing condition, the parking area generates runoff carrying sediment and pollutants directly to Warner's Bayou. The proposed improvements include a system to capture and treat the runoff prior to discharge to the bayou. This will partially restore the function of a wetland buffer and improve surface water quality, while continuing to allow appropriate use of the public facility.

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GRADING AND STORM DRAINAGE PLAN

PARKING LOT IMPROVEMENT PLANS FOR WARNER'S BAYOU

MANATEE COUNTY / FLORIDA

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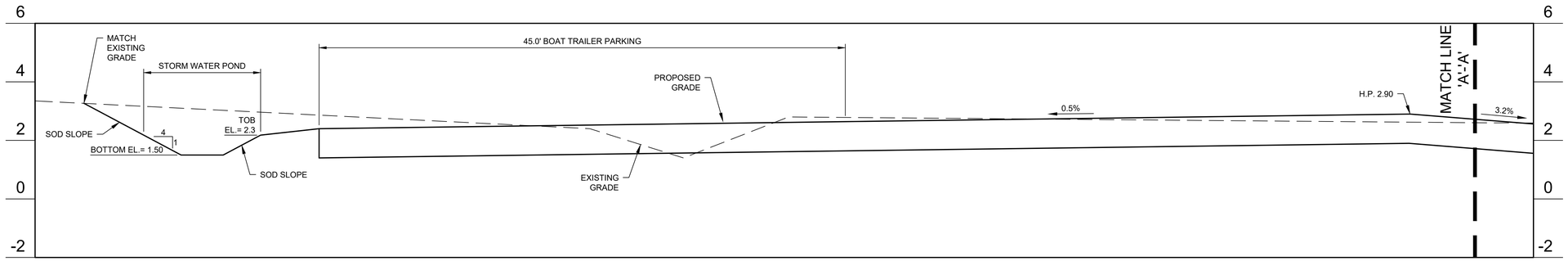
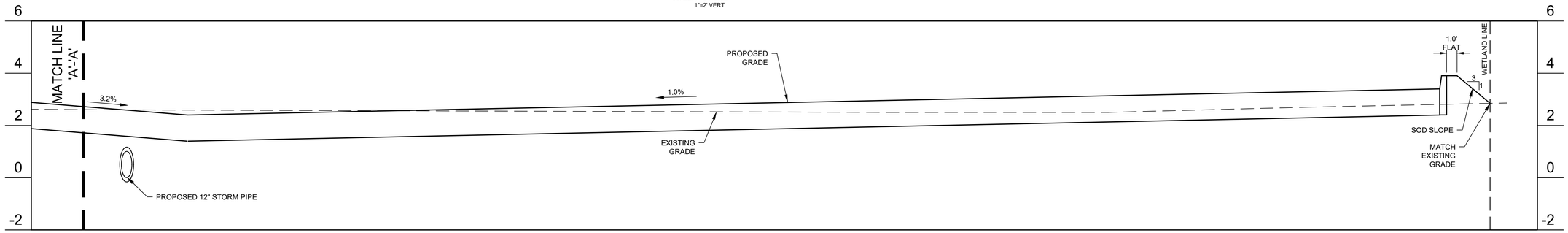
Sheet No.
C1.4



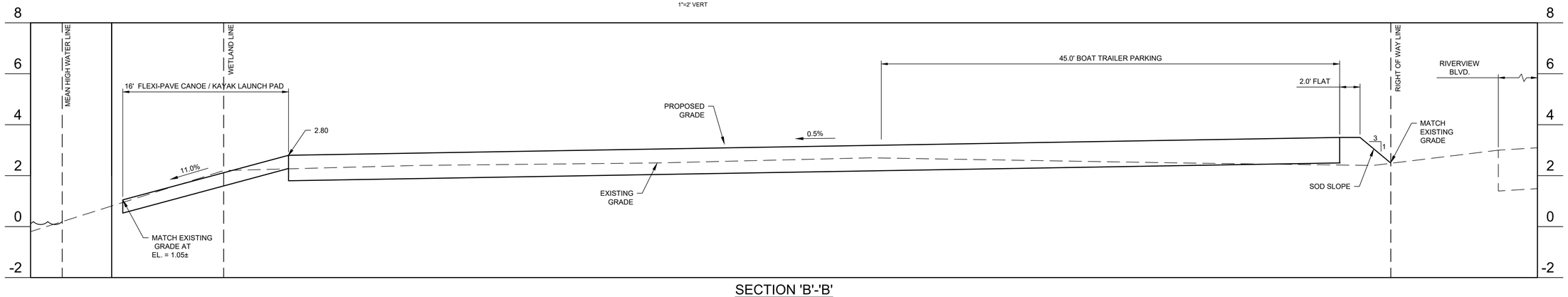
SECTION 'A'-'A'

SCALE: 1"=5' HORIZ
1"=2' VERT



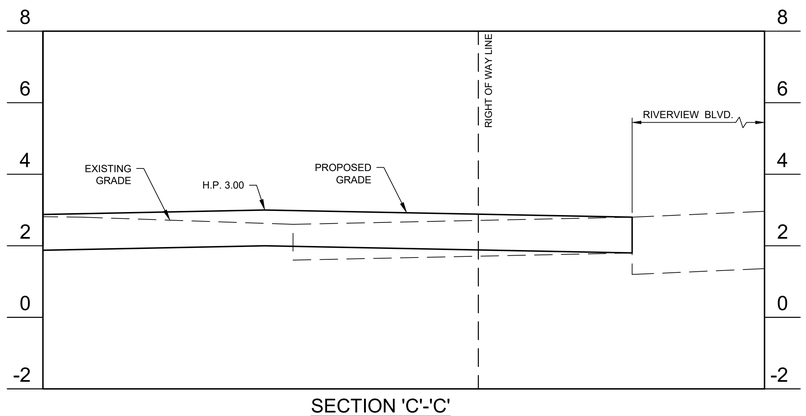
SECTION 'A'-'A'

SCALE: 1"=5' HORIZ
1"=2' VERT



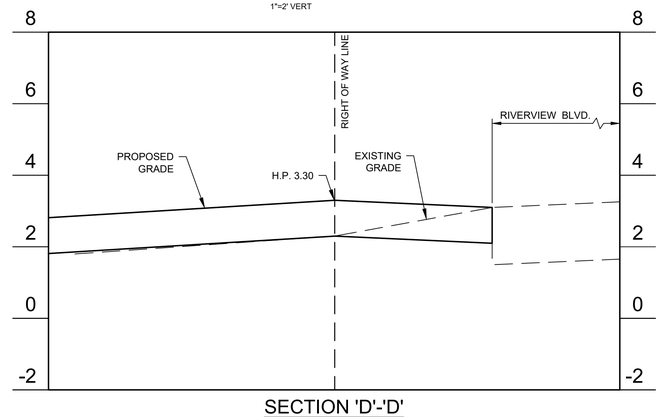
SECTION 'B'-'B'

SCALE: 1"=5' HORIZ
1"=2' VERT



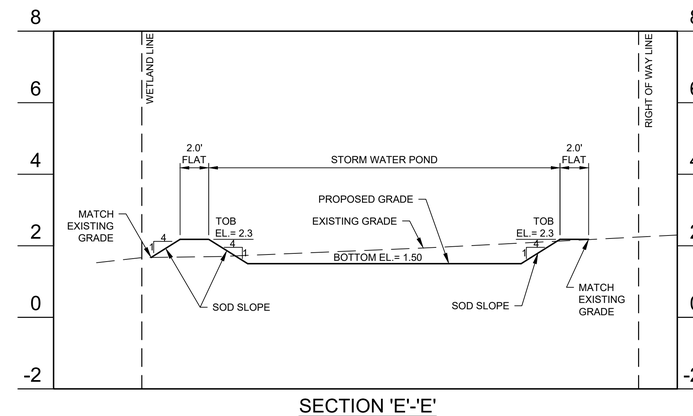
SECTION 'C'-'C'

SCALE: 1"=5' HORIZ
1"=2' VERT



SECTION 'D'-'D'

SCALE: 1"=5' HORIZ
1"=2' VERT



SECTION 'E'-'E'

SCALE: 1"=5' HORIZ
1"=2' VERT

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CONSTRUCTION DETAILS SHEET

PARKING LOT IMPROVEMENT PLANS FOR WARNER'S BAYOU

MANATEE COUNTY / FLORIDA

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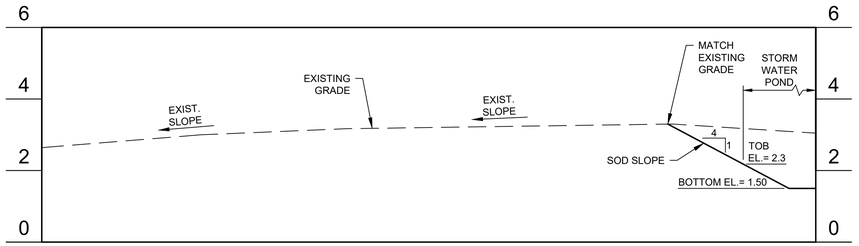
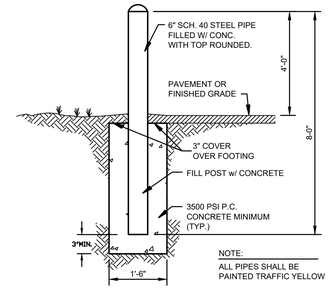
Sheet No.
C5.1



SECTION 'F'-'F'

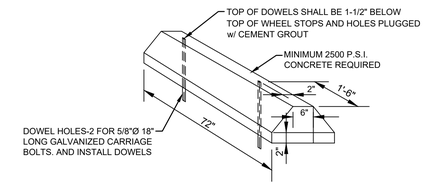
SCALE: 1"=5' HORIZ
1"=2' VERT



NOTE:
ALL PIPES SHALL BE PAINTED TRAFFIC YELLOW

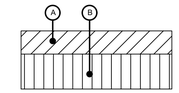
PIPE BOLLARD

N.T.S.



CONCRETE WHEEL STOP DETAIL

N.T.S.

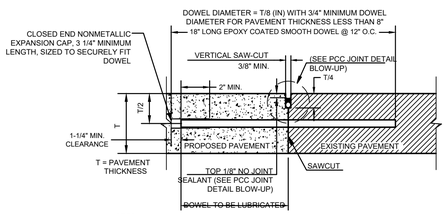


(A) 5" MINIMUM 3000 PSI 28 DAY COMPRESSIVE STRENGTH (6X6 #10 WWR)

(B) 12" STABILIZED BASE (98% DENSITY OF MODIFIED PROCTOR)

STANDARD DUTY CONCRETE PAVEMENT

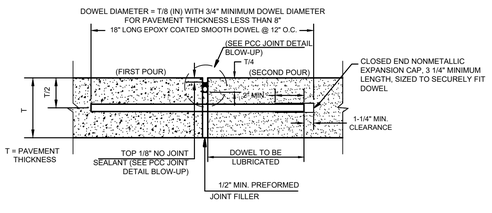
N.T.S.



NOTES:

1. DOWEL BARS SHALL BE DRILLED 9" DEEP, 12" ON CENTER INTO VERTICAL FACE OF EXISTING PAVEMENT BY USE OF A MECHANICAL RIG; CLEAN HOLES THOROUGHLY.
2. **DRILLING BY HAND OR PUSHING DOWEL BARS INTO GREEN CONCRETE IS NOT ACCEPTABLE.**
3. COMPLETELY FILL HOLE WITH EPOXY GROUT AND INSERT DOWEL WITH EXPANSION CAPS SHOWN IN DETAIL; INSTALL EXPANSION CAPS ON THE FREE END OF THE DOWELS.
4. DOWELS SHALL BE ALIGNED PERPENDICULAR TO THE JOINT.
5. DRILLING, CLEANING, AND GROUTING SHALL BE PERFORMED PER THE EPOXY MANUFACTURER'S REQUIREMENTS FOR THIS SPECIFIC APPLICATION.
6. FOR EPOXY GROUT, THE HOLE DIAMETER SHALL BE NOT MORE THAN 1/8" LARGER THAN THE DOWEL DIAMETER OR AS DIRECTED BY THE EPOXY MANUFACTURER.
6. FOR CEMENT-BASED GROUT, THE HOLE DIAMETER SHALL BE ATLEAST 1/4" LARGER AND NOT MORE THAN 3/8" LARGER THAN THE DOWEL DIAMETER OR AS DIRECTED BY THE EPOXY MANUFACTURER.

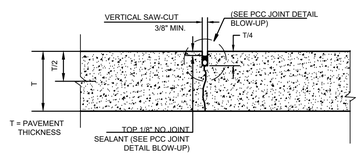
BUTT JOINT



NOTES:

1. DOWELS SHALL BE SUPPORTED BY AN APPROVED DEVICE, DRILLING BY HAND OR PUSHING DOWEL BARS INTO GREEN CONCRETE IS NOT ACCEPTABLE.
2. REFERENCE SPECIFICATION FOR JOINT SPACING.

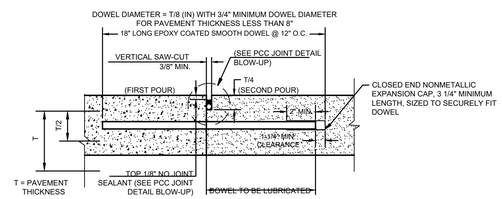
TRANSVERSE EXPANSION JOINT



NOTE:

1. REFERENCE SPECIFICATIONS FOR JOINT SPACING.

CONTRACTION JOINT



NOTE:

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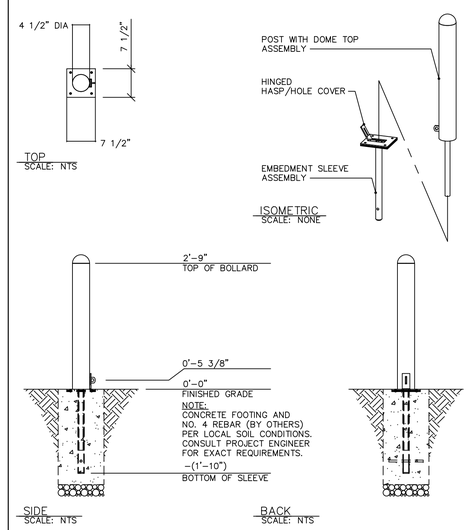
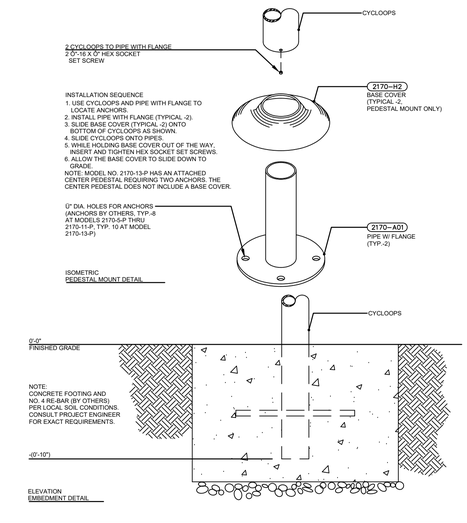
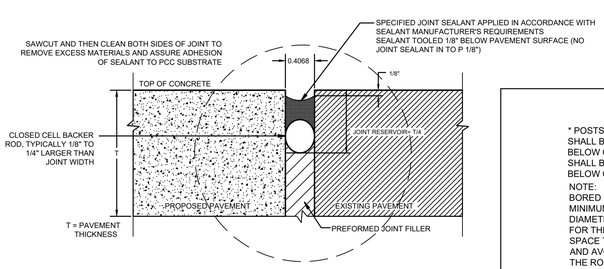
CONSTRUCTION JOINT



REMOVABLE BOLLARD

N.T.S.





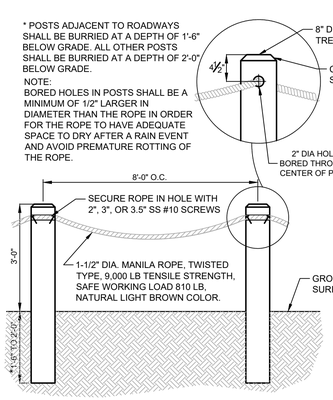
NOTES:

1. ASSURE SAW JOINTS ARE CLEAN AND DRY PRIOR TO THE APPLICATION OF THE JOINT SEALANT.
2. INSTALL CLOSED CELL BACKER ROD AFTER JOINTS HAVE BEEN CLEANED AND DRIED IN ACCORDANCE WITH SEALANT MANUFACTURER'S REQUIREMENTS.
3. INSTALL BACKER ROD AT CONSISTENT AND UNIFORM DEPTH.
4. JOINT SEALANT APPLICATION SHALL BE IN STRICT COMPLIANCE WITH SEALANT MANUFACTURER'S REQUIREMENTS.

PCC JOINT DETAIL BLOW-UP (TYP.)

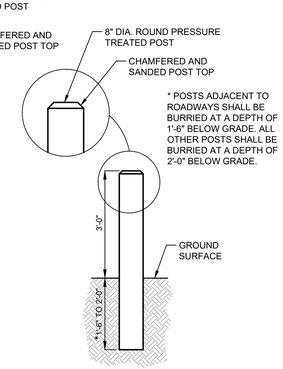
CONCRETE JOINT DETAILS

N.T.S.



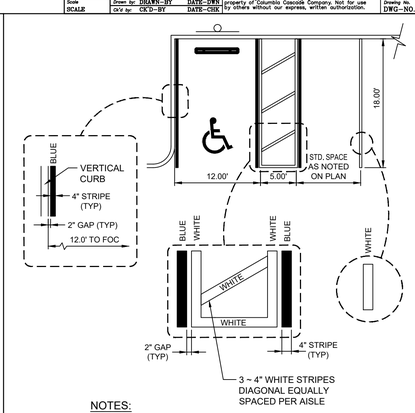
POST AND ROPE DETAIL

N.T.S.



WOOD BOLLARD DETAIL

N.T.S.

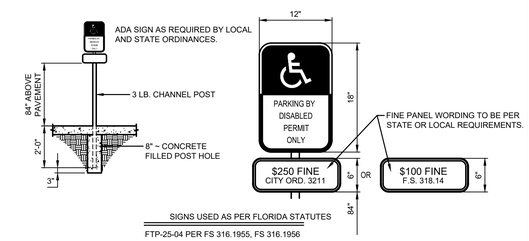


NOTES:

1. DIMENSIONS ARE FROM CENTER OF WHITE LINE TO CENTER OF WHITE LINE.
2. GUTTER PANS CAN BE INCLUDED IN THE WIDTH AND LENGTH OF THE PARKING SPACE, HOWEVER, THEY MUST NOT EXCEED 1.5% CROSS SLOPE.
3. STRIPES REPRESENTED IN THIS DETAIL ARE 4" WIDE (TYP). GOVERNING CODE REQUIREMENTS MAY DIFFER.

HANDICAP STRIPING DETAIL

N.T.S.



SIGNS USED AS PER FLORIDA STATUTES

FTP-25-04 PER FS 316.1955, FS 316.1956

NOTES: (HANDICAP SIGN ONLY)

1. THE SIGN'S FACE SHALL BE OF AN ENGINEERING GRADE REFLECTORIZED MATERIAL.
2. ALL LETTERS ARE 1 INCH SERIES "C" PER THE MUTCD.
3. THE TOP PORTION OF THE SIGN SHALL HAVE A BLUE BACKGROUND WITH A WHITE LEGEND AND BORDER.
4. THE BOTTOM PORTION OF THE SIGN SHALL HAVE A WHITE BACKGROUND WITH A BLACK OPAQUE LEGEND AND BORDER.
5. THE FINE NOTIFICATION SIGN SHALL HAVE A WHITE BACKGROUND WITH A BLACK OPAQUE LEGEND AND BORDER.
6. ONE SIGN SHALL BE REQUIRED FOR EACH PARKING SPACE.
7. EACH SIGN SHALL HAVE A CLEARANCE OF 7 FEET FROM THE BOTTOM OF THE SIGN TO FINAL GRADE OR THE TOP OF CURB, WHICHEVER IS GREATER. SIGNS SHALL NOT BE FARTHER THAN 5 FEET FROM THE FRONT OF THE PARKING SPACE.
8. ALL SIGNS SHALL BE MOUNTED ON 3 POUND CHANNEL POSTS. SIGNS MAY BE MOUNTED ON BUILDINGS WITH CITY APPROVAL.

ACCESSIBLE SIGN

N.T.S.

cph
www.cphcorp.com
A Full Service A & E Firm
3277A Fruitville Road, Suite 2
Sarasota, FL 34237
Ph: 941.365.4771
Plans Prepared By:
CPH ,Inc.
State of Florida Licenses:
Engineer No. 3215
Surveyor No. LB7143
Architect. No. AA26000926
Landscape No. LC000298

DANIEL P. MOYER ★ LICENSE ★ No. 69057 ★ STATE OF Florida ★ PROFESSIONAL ENGINEER

No.	Date	Revision
1	10/26/18	OUT TO BID

Designed: K. Upp
Drawn: K. Upp
Checked: D. Moyer
Job No.: M13104.2
Date: 09/25/17

CONSTRUCTION DETAILS SHEET

PARKING LOT IMPROVEMENT PLANS FOR WARNER'S BAYOU

MANATEE COUNTY / FLORIDA

THIS SHEET NOT VALID FOR CONSTRUCTION WITHOUT COMPLETE SET OF PLANS. SEE GENERAL NOTES FOR MASTER LEGEND.

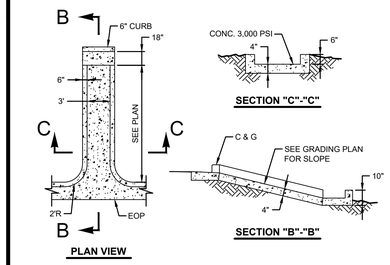
Sheet No.
C5.2

PLAN VIEW
1"=5'

WEST POND OVERFLOW WEIR
SCALE: AS NOTED

PLAN VIEW
1"=5'

EAST POND OVERFLOW WEIR
SCALE: AS NOTED



PLAN VIEW

CONCRETE: 28 DAY COMPRESSION STRENGTH, 3,000 P.S.I., 4"THICK MINIMUM W/ 6X6-W1.4XW1.4 WWF.

FLUME DETAIL
N.T.S.

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No.	Date	Revision
1	10/26/18	OUT TO BID
2		
3		
4		
5		
6		
7		

Designed: K. Upp
Drawn: K. Upp
Checked: D. Moyer
Job No.: M13104.2
Date: 09/25/17 © 2018

CONSTRUCTION DETAILS SHEET

PARKING LOT IMPROVEMENT PLANS FOR WARNER'S BAYOU
MANATEE COUNTY / FLORIDA

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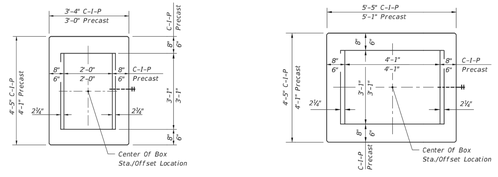
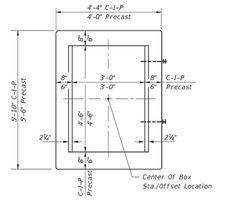
Sheet No.
C5.3

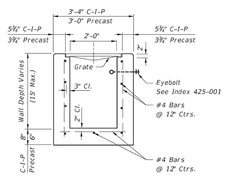


PLAN

PLAN



PLAN



SECTION

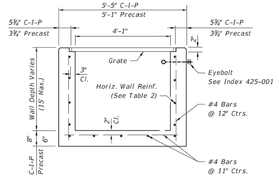
HORIZONTAL WALL REINFORCING SCHEDULES (TABLE 1)

WALL DEPTH	SCHEDULE	AREA (in.²/ft.)	MAX. SPACING	
			BARS	WWF
0'-15'	A12	0.20	12"	8"

TYPE C

Recommended Maximum Pipe Size:

2'-0" Wall - 18" Pipe
3'-1" Wall - 24" Pipe (18" where an 18" pipe enters a 2'-0" wall)



SECTION

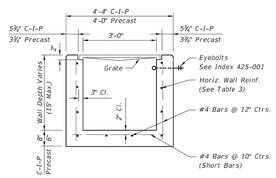
HORIZONTAL WALL REINFORCING SCHEDULES (TABLE 2)

WALL DEPTH	SCHEDULE	AREA (in.²/ft.)	MAX. SPACING	
			BARS	WWF
0'-6'	A12	0.20	12"	8"
6'-10'	A6	0.20	6"	5"
10'-13'	A4	0.20	4"	3"
10'-15'	B5.5	0.24	5½"	5"

TYPE D

Recommended Maximum Pipe Size:

3'-1" Wall - 24" Pipe
4'-1" Wall - 36" Pipe



SECTION

HORIZONTAL WALL REINFORCING SCHEDULES (TABLE 3)

WALL DEPTH	SCHEDULE	AREA (in.²/ft.)	MAX. SPACING	
			BARS	WWF
0'-5'	A12	0.20	12"	8"
0'-7.5'	A6	0.20	6"	5"
7.5'-10'	B5.5	0.24	5½"	5"
10'-15'	C6.5	0.37	6½"	6"

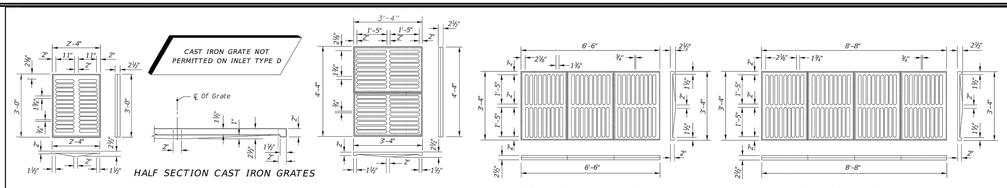
TYPE E

Recommended Maximum Pipe Size:

3'-0" Wall - 24" Pipe
4'-6" Wall - 36" Pipe

LAST REVISION	DESCRIPTION:
11/01/17	

FDOT — FY 2018-19 STANDARD PLANS — DITCH BOTTOM INLET TYPES C, D, E AND H — INDEX 425-052 — SHEET 1 of 7



TYPE C
Approx. Weight 235 Lbs.

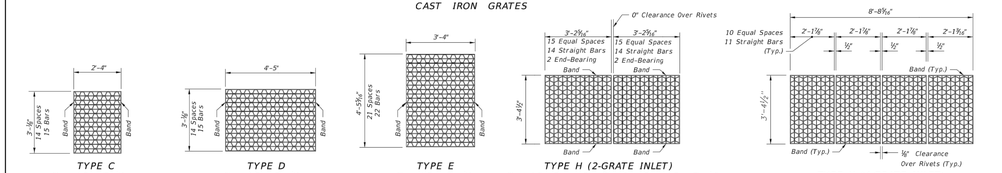
HALF SECTION CAST IRON GRATES

TYPE E
Approx. Weight 465 Lbs.

TYPE H (3-GRATE INLET)
Approx. Weight 725 Lbs.

TYPE H (4-GRATE INLET)
Approx. Weight 967 Lbs.

CAST IRON GRATES



TYPE C
Straight Bars 2" x ¼"
Reticuline Bars 1⅞" x ⁹⁄₁₆"
Bands 2" x ¼"
Approx. Weight 104 Lbs.

TYPE D
Straight Bars 2" x ¼"
Reticuline Bars 1⅞" x ⁹⁄₁₆"
Bands 2" x ¼"
Approx. Weight 190 Lbs.

TYPE E
Straight Bars 2" x ¼"
Reticuline Bars 1⅞" x ⁹⁄₁₆"
Bands 2" x ¼"
Approx. Weight 215 Lbs.

TYPE H (2-GRATE INLET)
Straight End-Bearing Bars 2" x ⅜"
Straight Bearing Bars 2" x ¼"
Reticuline Bars 1⅞" x ⁹⁄₁₆"
Banding Bars 2" x ¼"
Approx. Total Weight 310 Lbs.

TYPE H (4-GRATE INLET)
Straight End-Bearing Bars 2" x ¼"
Reticuline Bars 1⅞" x ⁹⁄₁₆"
Banding Bars 2" x ⁹⁄₁₆"
Approx. Total Weight 388 Lbs.

STEEL GRATES

NOTE: Steel Grates Are Required On Inlets With Traversable Slots And On Inlets where Bicycle Traffic Is Anticipated.

GENERAL NOTES

1. These inlets are suitable for bicycle traffic and are to be used in ditches, medians and other areas subject to infrequent traffic loadings but are not to be placed in areas subject to any heavy wheel loads. These inlets may be placed in areas subject to occasional pedestrian traffic such as landscaped areas and pavement areas where pedestrians can walk around the inlet.
2. Inlets subject to minimal debris should be constructed without slots. Where debris is a problem inlets should be constructed with slots. Slotted inlets located within roadway clear zones and areas subject to pedestrians shall have traversable slots. The traversable slot modification is not adaptable to inlet Type H. Slots may be constructed at either or both ends as shown on plans. Traversable slots shall not be used in areas subject to occasional bicycle traffic.
3. Steel grates are to be used on all inlets where bicycle traffic is anticipated. Steel grates are to be used on all inlets with traversable slots. Either cast iron or steel grates may be used on inlets without slots where bicycle traffic is not anticipated. Either cast iron or steel grates may be used on all inlets with non-traversable slots. Subject to the selection described above, when Alternate G grate is specified in the plans, either the steel grate, hot dip galvanized after fabrication, or the cast iron grate may be used, unless the plans stipulate the particular type.
4. Recommended maximum pipe sizes shown are for concrete pipe. Size for other types of pipe must be checked for fit.
5. All exposed edges and corners shall be ⅜" chamfer or tooled to ½" radius.
6. Concrete inlet pavement to be used on inlets without slots and inlets with non-traversable slots only when called for in the plans; but required on all traversable slot inlets. Cost to be included in contract unit price for inlets. Quantities shown are for information only.
7. Traversable slots constructed in existing inlets shall be paid for as inlets partial. For conversion work and method of payment see "TRAVERSABLE SLOT INLETS (PARTIAL) FOR EXISTING INLETS".
8. Sodding to be used on all inlets not located in paved areas and paid for under contract unit price for Performance Turf, SY.
9. For supplementary details see Index 425-001.
10. All reinforcing is Grade 60 bars with 2" min. cover unless otherwise noted. Bars to be cut or bent for 1½" clearance around pipe opening. Provide one additional #4 bar above and at each side of pipe opening.

LAST REVISION	DESCRIPTION:
11/01/17	

FDOT — FY 2018-19 STANDARD PLANS — DITCH BOTTOM INLET TYPES C, D, E AND H — INDEX 425-052 — SHEET 3 of 7

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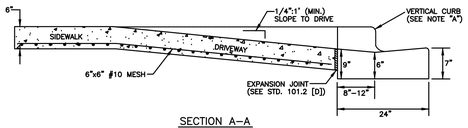
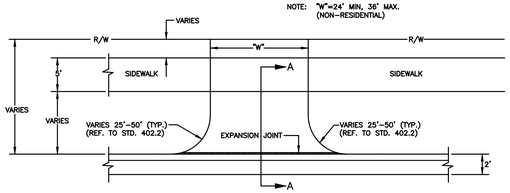


SECTION A–A

NOTE: "W"=24' MIN, 36' MAX. (NON–RESIDENTIAL)



PLAN VIEW

A) IF REPLACING VERTICAL CURB AND GUTTER, REPLACE WITH MIAMI CURB AND GUTTER.
* NO CHANGE WITH 3' VALLEY CROSSING

B) SIDEWALK, CONSTRUCT WITH 6" CONCRETE, 6"X6" #10 MESH, 3000 PSI AT 28 DAYS.

C) DRIVEWAY CONSTRUCTED WITH 6" CONCRETE WITH 6"X6" #10 MESH, 3000 PSI AT 28 DAYS.

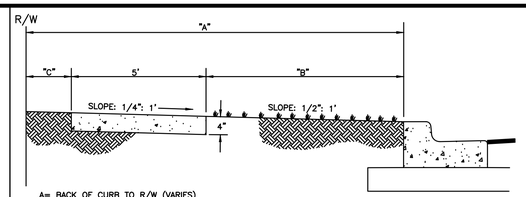
D) EXPANSION JOINT 1/2" PREFORMED JOINT FILLER PER FDOT SECTION 932–1.1 OR APPROVED ALTERNATE.
* IF DRIVE IS WIDER THAN 12', ADD JOINTS AT 10' CENTERS

E) 5' SIDEWALK ON LOCAL STREETS, 5' SIDEWALK ON THOROUGHFARES.
(MIXED USE PATHS MAY REQUIRE 8' SIDEWALKS PER LAND DEVELOPMENT CODE.)

MANATEE COUNTY
TRANSPORTATION DEPARTMENT

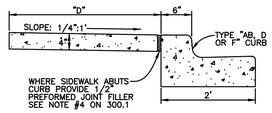
REV.BY	DATE	
		6/12/07 DATE OF B.O.C.C. APPROVAL

COMMERCIAL & INDUSTRIAL DRIVE | 101.3



A= BACK OF CURB TO R/W (VARIES)
B= UNPAVED AREA (VARIES), REFER TO F.D.O.T. GREEN BOOK, TABLE 3–12, LATEST REVISION.
C= VARIES, SEE 401 SERIES

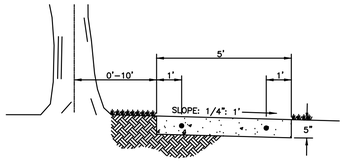
TYPICAL SIDEWALK LOCATION



D= SIDEWALK WIDTH SHALL BE 6' STANDARD, WHERE WALK ABUTS TYPE "AB, D OR F" CURB. WHERE SPEED LIMIT IS 25 MPH OR LESS, WIDTH CAN BE 5'–6".

* SEE SHEET 300.1 "GENERAL NOTES" FOR FURTHER INFORMATION

ALTERNATE SIDEWALK LOCATION

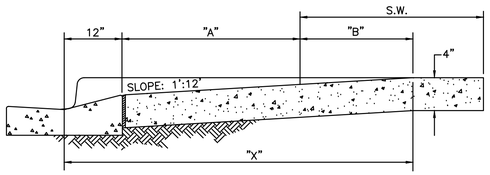


SIDEWALK LOCATION CLOSE TO TREES

TRANSPORTATION DEPARTMENT

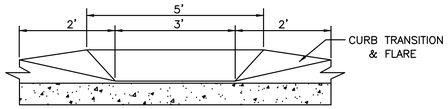
REV.BY	DATE	
		6/12/07 DATE OF B.O.C.C. APPROVAL

SIDEWALK REQUIREMENTS | 301.1



SECTION A–A
(SEE SHEET 301.0)

S.W.= SIDEWALK	"A"	S.W.+ A + 10"	"X"	"B"
5'	0	5.8'	5.8'	5'
6'	0	6.8'	6.8'	6'
7'	0	7.8'	7.3'	6.5'
8'	0	8.8'	7.3'	6.5'
5'	2'	7.8'	7.8'	5'
5'	2.5'	8.3'	8.1'	4.8'
5'	3'	8.8'	8.2'	4.4'
5'	3.5'	9.3'	8.4'	4.1'
5'	4'	9.8'	8.6'	3.8'
5'	4.5'	10.3'	8.7'	3.4'
5'	5'	10.8'	9.1'	3.1'



SECTION B–B
(SEE SHEET 301.0)

NOTE: FOR COMPLETE HANDICAP, PUBLIC SIDEWALK AND CURB RAMP DETAILS, SEE F.D.O.T. DESIGN STANDARDS, 2006 EDITION, INDEX 304, SHEETS 1 THROUGH 6.

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REV.BY	DATE	
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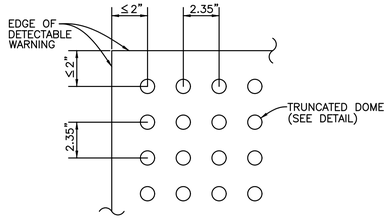
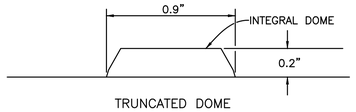
HANDICAPPED RAMP SHEET 2 | 302.2



PLAN VIEW



TRUNCATED DOME

CURB RAMP DETECTABLE WARNING DETAIL

NOTES:

DETECTABLE WARNINGS ON WALKING SURFACES

THE DETECTABLE WARNING SHALL EXTEND THE FULL WIDTH AND DEPTH OF THE CURB RAMP.

DETECTABLE WARNINGS SHALL CONSIST OF RAISED TRUNCATED DOMES WITH A DIAMETER OF NOMINAL 0.9 INCH, A HEIGHT OF NOMINAL 0.2 INCH AND A CENTER–TO–CENTER SPACING OF NOMINAL 2.35 INCH AND SHALL CONTRAST VISUALLY WITH ADJOINING SURFACES, EITHER LIGHT–ON–DARK, OR DARK–ON–LIGHT.

THE MATERIAL USED TO PROVIDE CONTRAST SHALL BE AN INTEGRAL PART OF THE WALKING SURFACE. DETECTABLE WARNINGS USED ON INTERIOR SURFACES SHALL DIFFER FROM ADJOINING WALKING SURFACES IN RESILIENCY OR SOUND–ON–CANE CONTACT.

THE MATERIAL USED TO PROVIDE CONTRAST SHOULD CONTRAST BY AT LEAST 70%. CONTRAST IN PERCENT IS DETERMINED BY:

$$\text{CONTRAST} = [(B1-B2)/B1] \times 100$$

WHERE B1 = LIGHT REFLECTANCE VALUE (LRV) OF THE LIGHTER AREA AND B2 = LIGHT REFLECTANCE VALUE (LRV) OF THE DARKER AREA.

NOTE THAT IN ANY APPLICATION BOTH WHITE AND BLACK ARE NEVER ABSOLUTE; THUS, B1 NEVER EQUALS 100 AND B2 IS ALWAYS GREATER THAN 0.

TRANSPORTATION DEPARTMENT

REV.BY	DATE	
		6/12/07 DATE OF B.O.C.C. APPROVAL

CURB RAMP DETECTABLE WARNINGS | 302.3

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MANATEE COUNTY / FLORIDA

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Sheet No.
C5.4

SPECIFICATIONS

KBI

flexipave **HD2000 SPECIFICATIONS**

Section _____Flexible Porous Paving

1. GENERAL

1.1. The Flexible Porous Paving shall be KBI Flexi-Pave HD2000 made from recycled passenger tires, crushed stone and a urethane binding agent as manufactured by K.B. Industries, Inc. (KBI), 4600 140th Ave. N, Suite 200, Clearwater, FL 33762. Tel 727 723 3300.
1.2. All components, materials and compounds shall be 100% sourced and manufactured in the USA.
1.3. The Flexible Porous Paving shall be supplied by a manufacturer with at least 10 years experience that can supply references for similar applications and installations in the USA.

2. SUBMITTALS

2.1. The Flexible Porous Paving manufacturer shall submit;
2.1.1.Certificates stating that materials meet or exceed the specified contract requirements.
2.1.2.Site handling and storage instructions.
2.1.3.Mixing and installation instructions.
2.1.4.A sample that reflects the characteristics of the material to be installed. The sample, upon approval, shall be maintained as the standard of minimum quality for all the proposed surfacing and paving work required for the project.

3. CONTRACTOR

3.1. The Contractor's craftsmen or crew chief, installing the Flexible Porous Paving shall attend a training webinar and an on-site installation training session prior to installing KBI Flexi-Pave HD2000.
3.2. Contractors bidding on the installation of KBI Flexi-Pave HD2000 may start the training process by contacting KBI and attending a training webinar prior to contract award. On-site installation training may occur after the contract is awarded.
3.3. The Contractor shall;
3.3.1.Furnish all labor, materials, tools, equipment, and incidentals required to install KBI Flexi-Pave HD2000.
3.3.2.Provide an adequate number of skilled workers who are trained and experienced with installing KBI Flexi-Pave HD2000 and are familiar with the specified contract requirements and the methods needed for its installation.
3.3.3.Install the crushed stone sub-base as described in the specifications and shown on the contract drawing unless the sub-base is installed/provided.
3.3.4.Install the KBI Flexi-Pave HD2000 to depth and width as described in the specifications and shown in the contract drawings.
3.3.5.Reduce the risk of damage to the Flexible Porous Paving surface by not allowing track vehicles (metal or rubber), forklifts (warehouse-variable reach), main lifts (booms or scissors), and/or dumpsters or roll-off containers on the KBI Flexi-Pave HD 2000 either during or following installation. Any explicit or implied warranty is voided through failure to comply with this section.

4. PRODUCTS
4.1. Recommended sub-base shall be either; crushed stone or for KBI Flexi-Pave HD2000 Titan Series use UltraBaseSystems Pro interlocking panels. KBI will provide advice on appropriate sub base for each installation and the materials based on the application and project location.
4.2. Crushed Stone;
4.2.1.For load bearing applications KBI Flexi-Pave HD2000 shall be installed over a minimum of 4" (100mm) of compacted crushed concrete or crushed stone aggregate to a density of 95% minimum.
4.2.2.The sizing of the stone and base soil will directly represent the desired "Curve Number" (percolation rate) required.

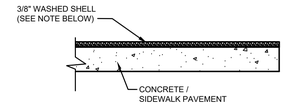
SPECIFICATIONS

4.3. UltraBaseSystems Pro interlocking panels shall;
4.3.1.Measure 28" x 28" by 1¼ "deep manufactured from recycled post industrial polymeric materials.
4.3.2.Have a vertical drainage rating of 341" per hour and a horizontal flow rate of 96.4" per hour and each panel shall store up to 3.58 gallons of water.
4.3.3.Have a static load capacity of 1664 psi.
4.3.4.Be suitable for installation over properly prepared earth sub base without the need for compacted rock, concrete or asphalt.

4.4. KBI Flexi-Pave HD2000.
4.4.1.The KBI Flexi-Pave HD2000 shall be installed in accordance with the manufacturers written instructions to an average depth of 1.5 inches over the prepared sub-base.
4.4.2.The KBI Flexi-Pave HD2000 shall be Natural colors; Black / Cypress / Redwood / Bark Brown / Green / Granite or ZX vibrant colors Brick Red / Concrete / Emerald / Mahogany / Olive Brown / Pitch Black / Sand Stone / Sky Blue / Slate in color.
4.4.3.The KBI Flexi-Pave HD2000 shall be mixed with a urethane binding agent based on MDI Polyether Polyols and shall be free of extender oils to prevent leaching over time. Binders that use extender oils will not be acceptable.
4.4.4.The KBI Flexi-Pave HD2000 shall be cured and fit for use within 24 hours of installation.
4.4.5.The KBI Flexi-Pave HD2000 shall have a composition of 50% stone aggregate and 50% chipped rubber tires by weight for trails, carts paths, sidewalks and tree surrounds. For vehicular applications, such as driveways and parking lots, the composition shall be 50% stone aggregate and 50% chipped rubber tires by volume.

5. QUALITY ASSURANCE
5.1. The Contractor is responsible for supplying and installing a warranted material that meets, or exceeds, the manufacturer's specifications and testing:
5.1.1.ASTM C 666/C/666M- Freeze-Thaw testing with no cracks or breaks through 300 cycles of testing.
5.1.2.Designated as "Highly Permeable" under FL DOT FM 5-565 permeability testing.
5.1.3.Independent testing showing a perk rate of 2400 gph (40 gpm) per sq. ft. or higher.
5.1.4.Scuff/Power Steering Resistance in accordance with ISSA TB 100 / ISSA TB 139.
5.1.5.Accelerated Weathering using ASTM 4798.
5.1.6.Hamburg Loaded Wheel Testing TX DOT 242-F, must be equivalent or better than 2.3 rut depth at 8,000 cycles and full recovery within 24 hours.
5.1.7.Static Creep Testing TX DOT 231-F, shall be equivalent to or better than total strain +2.703% and permanent strain equal to 0.514%.
5.1.8.Resilient Modulus Testing in accordance with ASTM D 4123 shall be equivalent or better than 68,495 pounds.
5.1.9.Slip resistant and ADA compliant, in accordance with ASTM D 2047 testing.
5.1.10. Heat resilient to 400 degrees in accordance with ASTM D 4123 testing.
5.1.11. Sound absorbent, in accordance with ASTN C423-09a / E795-05 testing.
5.1.12. Compression tested and be able to withstand 250 psi without permanent deformation or damage.
5.1.13. Has a leachate less than 6 parts per billion and containing no organic compounds or heavy metals.
5.1.14. The material shall be resistant to the following elements: transmission, hydraulic, and brake fluids, gasoline, diesel, saltwater, oil, chlorine, ozone, bromine, and muriatic acid.

6. PROJECT CONDITIONS
6.1. The Contractor shall provide appropriate and adequate protection to adjacent areas including but not limited to:
6.1.1.Protection of adjacent work space from splashing of Flexible Porous Paving materials.
6.1.2.Remove all stains from exposed surfaces of paving, structures, and grounds.
6.1.3.Remove all waste and spillage.
6.1.4.Provide suitable protection to assure no damage or disturbance to existing improvements or vegetation before starting work and maintain protection throughout the course of the



3/8" WASHED SHELL CONCRETE NOTE:

THE SURFACE AGGREGATE SHALL BE COMMON 3/8" WASHED SHELL. CONTRACTOR TO SEED THE APPROVED SHELL AGGREGATE ONTO THE SLAB SURFACE IMMEDIATELY AFTER THE CONCRETE HAS BEEN PLACED AND BULL FLOATED. AGGREGATE TO BE PLACED UNIFORMLY ONTO THE SURFACE AND EMBEDDING WITH A BULL FLOAT UNTIL COMPLETELY COVERED BY A THIN LAYER OF CONCRETE. CONTRACTOR TO HOSE DOWN THE CONCRETE UNTIL THE TOP OF THE DECORATIVE SHELL IS REVEALED. SURFACE SHALL BE CLEANED AND SEALED. THE CONTRACTOR SHALL CONSTRUCT A 2'X2' TEST POUR USING THE PRESCRIBED METHOD FOR APPROVAL BY THE ENGINEER PRIOR TO INSTALLATION. SEVERAL OF THESE TEST POURS MAY BE NECESSARY TO ACHIEVE THE DESIRED RESULTS. THE COST OF THE TEST POURS AND CEMENT FINISHING SHALL BE INCLUDED IN THE BASE BID. CONTRACTOR TO ENSURE THAT THE CONCRETE IS WITHIN THE ALLOWABLE TOLERANCES OF THE FLORIDA BUILDING CODE FOR AN ADA ACCESSIBLE ROUTE.

CONCRETE SIDEWALK / PAVEMENT W/ BROADCAST SHELL FINISH DETAIL

N.T.S.

SPECIFICATIONS

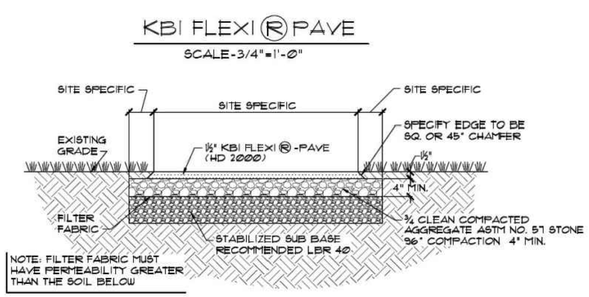
work.
6.1.5.Restore and repair areas, at no additional cost to the owner, that have been damaged as a result of construction work, including existing paving on or adjacent to the site, to their original condition or repair as directed to the satisfaction of the Owner's Representative.

7. WEATHER
7.1. KBI Flexi-Pave HD2000 urethane binder is engineered based on the geographical location of the project and climate expectations during installation. KBI will provide the appropriate binder for each installation and the materials delivered will be based on project location and seasonality.
7.2. KBI Flexi-Pave HD2000 shall not be installed when the ambient air temperature in the shade near the installation site is above 95° F or below 32° F. Temperatures below 50° F can extend the curing time and would fall outside of normal "use ready in 24 hours" guidelines.
7.3. The urethane binder shall be stored on site at between 40°- 77° F and used within 12 months of delivery.
7.4. The Contractor shall not pave on days when rain or snow is forecast, unless a change in the weather results in favorable paving conditions as determined by the Owner's Representative.
7.5. In the event of rain on days prior to installation, the sub base must be dry and not contain any standing or moving water.

8. SAFETY AND TRAFFIC CONTROL
8.1. When construction work will interfere with existing, traffic and sidewalks the Contractor shall notify and cooperate with local authorities, and other jurisdictional organizations, and provide temporary barriers, signs, warning lights, flaggers, and other protections as required by the authorities to assure the safety of pedestrians and vehicles around the construction area and to organize the smooth flow of traffic.

9. MAINTENANCE
9.1. KBI Flexi-Pave HD 2000 installations are designed to operate and function trouble free with only minimal routine maintenance over the lifetime of the product.
9.2. The frequency and scope of the routine maintenance required will largely be dependent on the application and project location. The key objective will be to keep the surface clean and clear of debris to maintain the hydraulic conveyance capacity of KBI Flexi- Pave over time as well as maintaining the aesthetic appeal of the surface.
9.3. Prior to undertaking routine maintenance of KBI Flexi- Pave it is recommended that an annual inspection be completed to evaluate the condition of the surface. The following are suggested annual maintenance inspection points:
9.3.1.Inspect the surface of the KBI Flexi- Pave for evidence of sediment deposition, organic debris, staining or ponding. If any signs of clogging are noted, schedule a vacuum sweeper (no brooms or water spray) to remove deposited material. Cleaned sections may then be tested by pouring water from a five-gallon bucket to ensure full hydraulic conveyance capacity has been restored.
9.3.2.Inspect the structural integrity of the KBI Flexi- Pave surface, looking for signs of damage or surface deterioration, such as raveling, slumping, cracking, etc. Replace or repair affected areas, as necessary.
9.3.3.Check for potential need to overspray/roll with urethane binder after 4-6 years.
9.4. If in doubt or should any unexpected situations or observations occur during the maintenance inspection, please contact KBI for consultation and advice.

10. WARRANTY
10.1. The KBI Flexi- Pave HD2000 shall have a material warranty of 1 year from the date of installation (extended warranties are available with the addition of a maintenance program)
10.2. The Manufacturers' warranty shall be issued on completion of the installation and final inspection.
10.3. The Manufactures' warranty is based on the installation completed by an on-site installation trained and qualified team of tradesmen. Faulty workmanship by tradesmen will be cause to void the warranty.



KBI

K.B. Industries, Inc.
7300 Brian Dairy Rd, Ste 400, Largo, FL 33777
(727) 723-3300 • www.kbiglobal.com

DRAWN BY: TJG
DATE 10/22/14
SCALE 3/4"=1'-0"

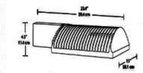
Created: 10/23/2013

ALED3T78

Specification Grade Area lights available in IES Type II, III and IV distributions. For use in parking lots, roadways, pathways and general area lighting. Mounts to 4" square steel poles at 15-25'. Designed to replace 250W Metal Halide Area Lights. Patent Pending thermal management system. 5 Year Warranty.

Color: Bronze

Weight: 30.4 lbs



LED Info

Watts:	78W
Color Temp:	5100K (Cool)
Color Accuracy:	68
L70 Lifespan:	100000
LM79 Lumens:	4,959
Efficacy:	55 LPW

Driver Info

Type:	Constant Current
120V:	0.78A
208V:	0.50A
240V:	0.44A
277V:	0.38A
Input Watts:	91W
Efficiency:	86%

Technical Specifications

Lumen Maintenance:
100,000-hour LED lifespan based on IES LM-80 results and TM-21 calculations.

IES Classification:
The Type III distribution is ideal for roadway, general parking and other area lighting applications where a larger pool of lighting is required. It is intended to be located near the side of the area, allowing the light to project outward and fill the area.

IP Rating:
Ingress Protection rating of IP66 for dust and water.

LEDs:
Six (6) multi-chip, 13W, high-output, long-life LEDs.

Drivers:
Three drivers, constant current, Class 2, 100 - 277V, 50 - 60 Hz, 100 - 277VAC .04 Amps.

THD:
13.1% at 120V

Fixture Efficacy:
55 Lumens per Watt

Ambient Temperature:
Suitable for use in 40°C ambient temperatures.

Surge Protection:
6 KV

Cold Weather Starting:
The minimum starting temperature is -40°F/-40°C.

Thermal Management:
Superior heat sinking with external Air-Flow fins.

Effective Projected Area:
EPA = 0.75

Housing:
Die cast aluminum housing, lens frame and mounting arm.

Color Consistency:
3-step MacAdam Ellipse binning to achieve consistent fixture-to-fixture color.

Color Stability:
LED color temperature is warrantied to shift no more than 200K in CCT over a 5 year period.

Color Accuracy:
68 CRI

Color Temperature (Nominal CCT):
5100K

Color Uniformity:
RAB's range of CCT (Correlated color temperature) follows the guidelines of the American National Standard for Specifications for the Chromaticity of Solid State Lighting (SSL) Products, ANSI C78.377-2008.

Reflector:
Specular aluminum.

Gaskets:
High temperature silicone gaskets.

Finish:
Our environmentally friendly polyester powder coatings are formulated for high-durability and long-lasting color, and contains no VOC or toxic heavy metals.

ALED3T78 - continued

Surge Protector:
ALED78 is available with a 6kV surge protector (SP6). SP6 available .

Green Technology:
Mercury and UV free.

IESNA LM-79 & IESNA LM-80 Testing:
RAB LED luminaires have been tested by an independent laboratory in accordance with IESNA LM-79 and 80, and have received the Department of Energy "Lighting Facts" label.

Replacement:
The ALED78 replaces 250W Metal Halide Area Lights.

California Title 24:
ALED78 complies with California Title 24 building and electrical codes.

Warranty:
RAB warrants that our LED products will be free from defects in materials and workmanship for a period of five (5) years from the date of delivery to the end user, including coverage of light output, color stability, driver performance and fixture finish. See our full warranty .

Patents:
The ALED design is protected by patents in the U.S. Pat. 668,370, Canada Pat. 144956, China ZL201230100154.X, and Mexico Pat. 38423. Pending patents in Taiwan.

For use on LEED Buildings:
IDA Dark Sky Approval means that this fixture can be used to achieve LEED Credits for Light Pollution Reduction.

Dark Sky Approved:
The International Dark Sky Association has approved this product as a full cutoff, fully shielded luminaire.

UL Listing:
Suitable for wet locations as a downlight.

NOTE:
ALL FIXTURES ARE 20' MOUNTING HEIGHT, USING EITHER EXISTING OR NEW POLES

cph
www.cphcorp.com
A Full Service A & E Firm
3277A Fruitville Road, Suite 2
Sarasota, FL 34237
Ph: 941.365.4771

Plans Prepared By:
CPH, Inc.
State of Florida Licenses:
Engineer No. 3215
Surveyor No. LB7143
Architect. No. AA26000926
Landscape No. LC000298

DANIEL P. MOYER
LICENSE No. 69057
STATE OF FLORIDA
PROFESSIONAL ENGINEER

No.	Date	Revision
1	10/26/18	OUT TO BID

Designed: K. Upp
Drawn: K. Upp
Checked: D. Moyer
Job No.: M13104.2
Date: 09/25/17

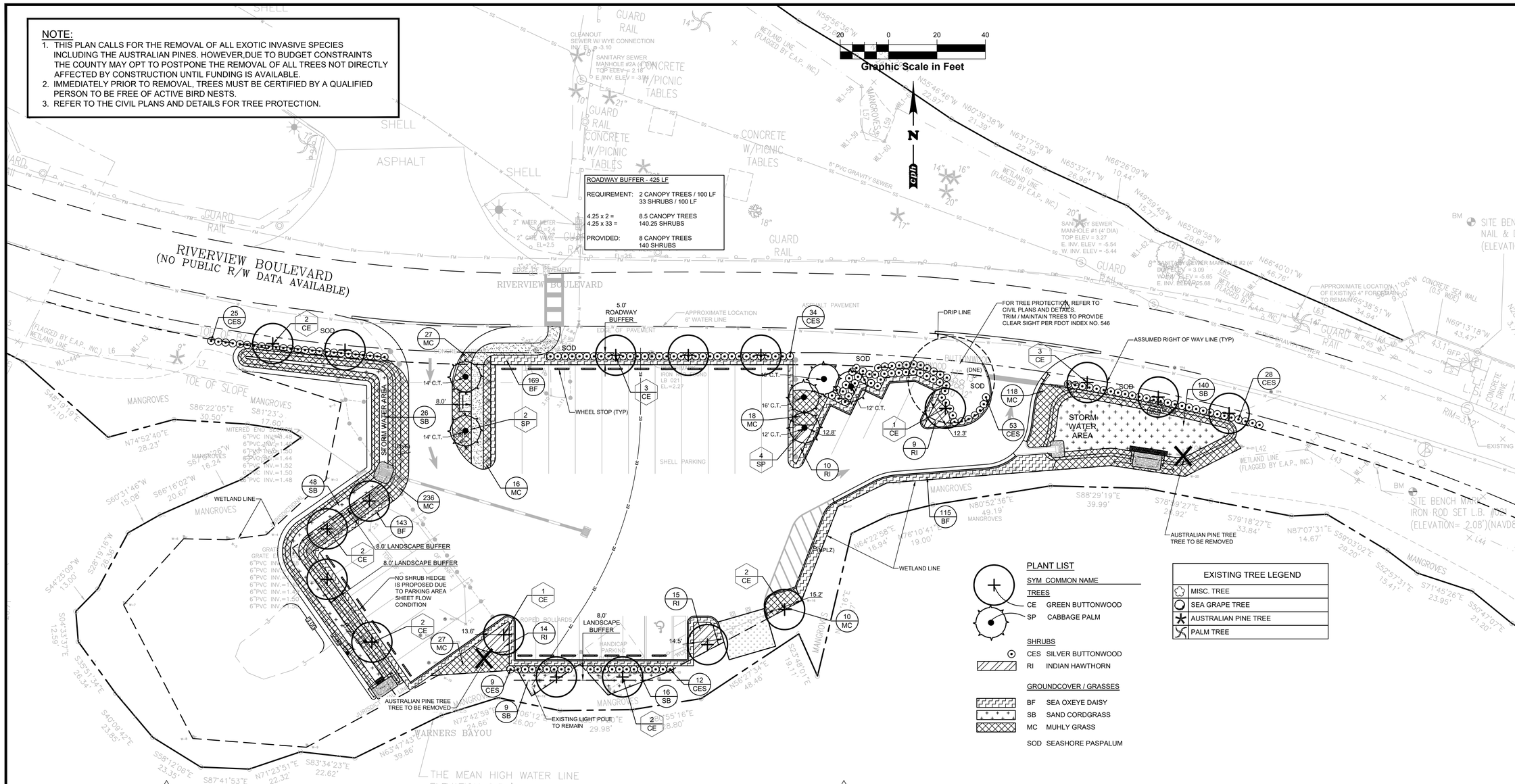
BID ALTERNATE SHEET

PARKING LOT IMPROVEMENT PLANS FOR WARNER'S BAYOU
MANATEE COUNTY / FLORIDA

THIS SHEET NOT VALID FOR CONSTRUCTION WITHOUT COMPLETE SET OF PLANS. SEE GENERAL NOTES FOR MASTER LEGEND.

Sheet No.
C5.5

NOTE:
1. THIS PLAN CALLS FOR THE REMOVAL OF ALL EXOTIC INVASIVE SPECIES INCLUDING THE AUSTRALIAN PINES. HOWEVER,DUE TO BUDGET CONSTRAINTS THE COUNTY MAY OPT TO POSTPONE THE REMOVAL OF ALL TREES NOT DIRECTLY AFFECTED BY CONSTRUCTION UNTIL FUNDING IS AVAILABLE.
2. IMMEDIATELY PRIOR TO REMOVAL, TREES MUST BE CERTIFIED BY A QUALIFIED PERSON TO BE FREE OF ACTIVE BIRD NESTS.
3. REFER TO THE CIVIL PLANS AND DETAILS FOR TREE PROTECTION.

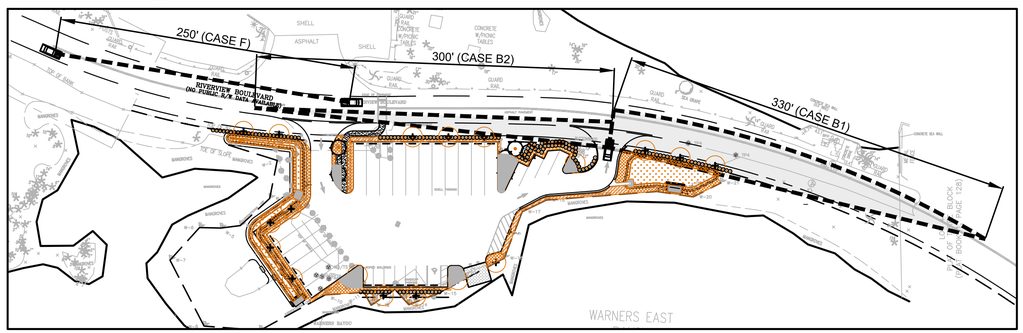


PLANT LIST

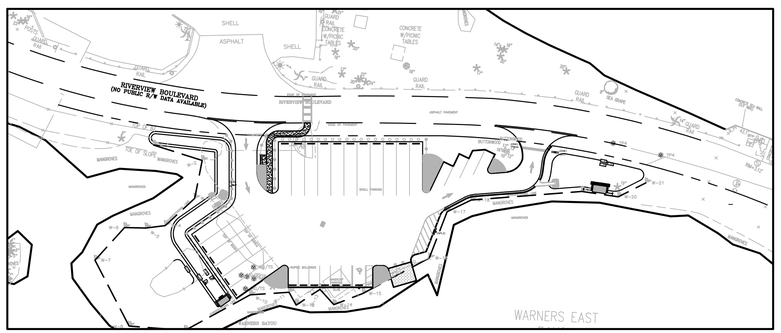
SYM	COMMON NAME
TREES	
CE	GREEN BUTTONWOOD
SP	CABBAGE PALM
SHRUBS	
CES	SILVER BUTTONWOOD
RI	INDIAN HAWTHORN
GROUNDCOVER / GRASSES	
BF	SEA OXEYE DAISY
SB	SAND CORDGRASS
MC	MUHLY GRASS
SOD	SEASHORE PASPALUM

EXISTING TREE LEGEND

	MISC. TREE
	SEA GRAPE TREE
	AUSTRALIAN PINE TREE
	PALM TREE



INTERSECTION SIGHT DISTANCE
1"=60'



VEHICULAR USE LANDSCAPE AREA GRAPHIC
1"=60'

VEHICULAR USE LANDSCAPE DATA

REQUIRED AREA: 504 SF

360 SF / 20 PARKING SPACES
28 PROPOSED PARKING SPACES / 20 = 1.4
1.4 x 360 SF = 504 SF

PROPOSED AREA: 1056 SF

REQUIRED TREES: 6 CANOPY TREES

4 CANOPY TREES / 20 PARKING SPACES
4 x 1.4 = 5.6 CANOPY TREES

PROPOSED TREES: 6 CANOPY TREES

REQUIRED SHRUBS: 28 SHRUBS

20 SHRUBS / 20 PARKING SPACES
20 x 1.4 = 28 SHRUBS

PROPOSED SHRUBS:

Always call 811 two full business days before you dig.
Sunshine811.com
www.sunshine811.com

THIS SHEET NOT VALID FOR CONSTRUCTION UNLESS STAMPED APPROVED

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Plans Prepared By:
CPH, Inc.
State of Florida Licenses:
Engineer No. 3215
Surveyor No. LB7143
Architect. No. AA26000926
Landscape No. LC000298
Dennis R. Bryant, RLA
Lic. No. 0667001
Oct 25, 2018

No.	Date	Revision
A	10/26/18	OUT TO BID
B	08/23/18	PER ERS COMMENTS
C	06/XX/18	PER COUNTY / FDEP COMMENTS

Designed: K. Upp
Drawn: K. Upp
Checked: D. Moyer
Job No.: M13104.2
Date: 09/25/17 © 2018

LANDSCAPE PLAN

PARKING LOT IMPROVEMENT PLANS FOR WARNER'S BAYOU

MANATEE COUNTY / FLORIDA

THIS SHEET NOT VALID FOR CONSTRUCTION WITHOUT COMPLETE SET OF PLANS. SEE GENERAL NOTES FOR MASTER LEGEND.

Sheet No.
L1.1

LANDSCAPE NOTES:

1. The landscape Contractor shall be responsible for all materials and all work as called for on the Landscape Plans and in the Landscape Specifications. In the event of variation between quantities shown on plant list and the plans, the plans shall control. The Landscape Contractor shall verify all quantities and report any discrepancies at the time of bidding.

2. The Landscape Contractor shall review architectural/engineering plans and become thoroughly familiar with surface and subsurface utilities.

3. Prior to construction, the contractor shall be responsible for locating all underground utilities and shall avoid damage to all utilities during the course of the work. Locations of existing buried utility lines shown on the plans are based upon best available information and are considered to be approximate. It shall be the responsibility of the contractor 1) to verify the locations of utility lines within and adjacent to the work area 2) to protect all utility lines during the construction period 3) to repair any and all damage to utilities, structures, site appurtenances, etc. which occurs as a result of the construction 4) To field adjust the location of proposed trees and palms 10' off the center of the utility lines. Notify the Landscape Architect if a 10' offset does not function.

4. The work shall be coordinated with other trades to prevent conflicts. Coordinate the planting with the irrigation work to assure availability and proper location of irrigation items and plants.

5. Contractor shall ensure that there are no visual obstructions to vehicle lines of sight and traffic controls. Contractor shall field adjust tree and/or large shrub locations to avoid any such obstructions.

6. Trees shall be maintained by the owner to avoid future such obstructions by pruning trees and/or shrubs as necessary utilizing horticulturally sound techniques.

7. All planting shall be performed by personnel familiar with planting procedure and under the supervision of a qualified planting foreman.

8. All plant material shall be graded Florida No. 1 or better as outlined under Grades and Standards for Nursery Stock, Part I and II, published by the Florida Department of Agriculture and Consumer Services.

9. The Landscape Architect or Owner shall have the right, at any stage of the operations, to reject any and all work and materials which, in his opinion, do not meet with the requirements of these specifications.

10. Except as otherwise specified, the Landscape Contractor's work shall conform to accepted horticultural practices as used in the trade.

11. The minimum acceptable size of all plants, measured after pruning, with branches in normal positions, shall conform to the measurements specified on the plant list or as indicated on the landscape drawing. Height and spread dimensions refer to main body of the plant and not extreme branch tip to tip. Trunk caliper (trunk diameter) is measured 6 inches from the ground on trees up to and including 4 inches in caliper, and 12 inches from the ground for larger trees. Since trunks are seldom round, the average of the largest diameter and that perpendicular to it is referred to as caliper.

12. Plants shall be protected upon arrival at the site, by being thoroughly watered and properly maintained until planted.

13. All tree pits shall be excavated to size and depth in accordance with the Florida Grades & Standards for Nursery Stock, unless shown otherwise on the drawings, and backfilled with the specified planting soil. The Landscape Contractor shall test fill all tree pits with water before planting to assure proper drainage percolation is available.

14. The Landscape Contractor shall be responsible for proper watering of all plants. All plants shall be thoroughly watered at time of planting and kept adequately watered until time of acceptance. It shall be the Landscape Contractor's responsibility to assure that plants are not over watered.

15. It shall be the Landscape Contractor's responsibility to prevent plants from falling or being blown over, to re-straighten and replant all plants which lean or fall and to replace all plants which are damaged due to lack of proper guying or staking. The Landscape Contractor shall be legally liable for any damage caused by instability of any plant material.

16. All Palms to be staked as indicated per Palm staking details. All other trees to be stabilized utilizing 8' lodge poles per tree planting details.

17. Plants blown over by high winds, within the guaranteed period, shall not be cause for additional expense to the Owner, but shall be the responsibility of the Landscape Contractor. Damaged plants shall be replaced by the Landscape Contractor at no additional cost to the Owner.

18. Sod shall be of a species specified on the drawings and originate from a commercial turf grower. It shall be a dense stand of live turf, reasonably free of weeds, well matted with grass roots in rectangles 12 inch by 24 inch or in 12 inch wide rolls in a length consistent with the equipment and methods used to handle the rolls and place the sod. Any netting contained within the sod shall be certified by the manufacturer to be bio-degradable. The soil and root mat shall be a minimum of 1-1/2 inch thick and must hold together during placement. Sod shall be place adjacent to one another to avoid gaps and overlaps. Joints shall be staggered between the rows. Sod placed on slopes exceeding 3:1 shall be pinned with turf staples. Sod turf, shall have been mowed a minimum of one week prior to cutting and delivery, so that the length of the turf is no longer than 4 inches at time of delivery. Place sod within 48 hours of cutting the sod. The sod shall be kept moist throughout the 48 hour period to maintain the health and viability of the sod. Submit a letter of certification to the Owner's CEI Representative, at time of delivery, as to the source of the sod, the time it was cut, the species and cultivars provided, last mowing date, and that the sod is free of fire ants. Sod which has been cut for longer than 48 hours after being cut shall not be used unless specifically authorized by Owner's CEI Representative.

19. It shall be the Contractor's responsibility to measure and determine the exact quantity of sod required for a complete job at the time of bidding or providing a price quote. The Owner shall not be responsible for additional cost due to the Contractor's under estimating of the quantity of sod for the original bid area.

20. The Landscape Contractor shall insure adequate vertical drainage in all plant beds, planters, and sod areas. Vertical drilling through any compacted fill to native soil shall be accomplished to insure drainage. If well drained fill is necessary to assure positive drainage, this issue shall be brought up by the Landscape Contractor at time of bidding.

21. The Landscape Contractor shall insure that his work does not interrupt established or projected drainage patterns.

22. The Landscape Contractor shall prune, shape and remove dead foliage/limbs from existing plant material to remain. Confirm with the Landscape Architect or Owner the extent of work required at time of Bidding.

23. Mulch - All plant beds shall be top dressed with 4" shredded hardwood mulch (or approved equal).

24. Transplanted Material - The Landscape Contractor shall be responsible for determining and evaluating which plant materials are suitable for transplanting and shall verify this with the Landscape Architect or Owner. The Landscape Contractor shall take all reasonable, horticulturally acceptable measures to assure the successful transplanting of determined plant materials. The Landscape Contractor shall be responsible for replacing any relocated plant materials which die if such measures are not taken, as determined by the Landscape Architect or Owner. Replacement plants shall be of identical species and size if required.

25. MAINTENANCE PRIOR TO FINAL INSPECTION AND ACCEPTANCE:

    Maintenance shall commence after each plant is planted and the maintenance period shall continue until the job or specific phase of the job is accepted by the Landscape Architect or Owner. Extreme care shall be taken to instruct the Owner or his representatives in general maintenance procedures.

    Plant maintenance shall include watering, pruning, weeding, cultivating, mulching, tightening, and repairing of guys, replacement of sick or dead plants, resetting plants to proper grades or upright positions and restoration of the planting saucer and all other care needed for proper growth of the plants.

    During the maintenance period and up to the date of final acceptance, the Landscape Contractor shall do all seasonal spraying and/or dusting of trees and shrubs. Upon completion of all planting, an inspection for acceptance of work will be held. The Landscape Contractor shall notify the Landscape Architect or Owner for scheduling of the inspection 10 days prior to the anticipated date.

    At the time of the inspection, if all of the materials are acceptable, a written notice will be given by the Landscape Architect or Owner to the Landscape Contractor Stating the date when the Maintenance Period ends.

    GUARANTEE AND REPLACEMENT:

    All plant materials shall be guaranteed for one (1) year from the time of final inspection and interim acceptance shall be alive and in satisfactory growth for each specific kind of plant at the end of the guaranteed period.

    At the end of the guarantee period, any plant required under this contract that is dead or not in satisfactory growth, as determined by the Owner or the Landscape Architect, shall be removed and replaced. Replacement plants shall have an extended guarantee, as noted above, from time of replacement.

    All replacements shall be planted of the same kind and size as specified on the plant list. They shall be the responsibility of the Landscape Contractor.

26. TOPSOIL

    Topsoil shall be natural, friable, fertile, fine loamy soil possessing characteristics of representative topsoil in the vicinity that produces heavy growth. Topsoil shall have a pH range of 5.5 to 7.4, free from subsoil, objectionable weeds, litter, sods, stiff clay, stones larger than 1-inch in diameter, stumps, roots, trash, toxic substances, or any other material which may be harmful to plant growth or hinder planting operations. Top soil shall contain a minimum of three percent organic material.

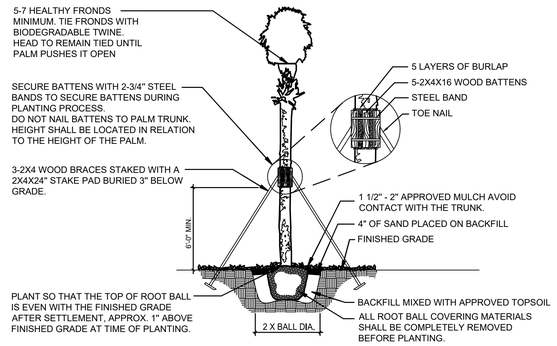
27. UNSUITABLE SUBSOILS
    Locations containing unsuitable subsoil shall be treated by one or more of the following:

    A. Where unsuitability is deemed by Owner or Owner's Representative to be due to excessive compaction caused by heavy equipment and where natural subsoil is other than AASHTO classification of A6 or A7, loosen such areas with spikes, discing, or other means to loosen soil to condition acceptable to Owner. Loosen soil to minimum depth of 12 inches with additional loosening as required to obtain adequate drainage. Contractor may introduce peat moss, sand, or organic matter into the subsoil to obtain adequate measures shall be considered as incidental, without additional cost to Owner.

    B. Where unsuitability is deemed by Owner or Owner's Representative to be due to presence of boards, mortar, concrete, graded aggregate base, or other construction materials in sub grade and where natural subsoil is other than AASHTO classification of A6 or A7, remove debris and objectionable material. Such remedial measures shall be considered as incidental, without additional cost to Owner.

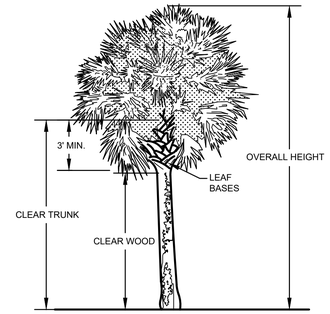
    C. Where unsuitability is deemed by Owner to be because natural subsoil falls into AASHTO classification of A6 or A7 and contains moisture in excess of 30 percent, then installation of sub drainage system or other means described elsewhere in Specifications shall be used. Where such conditions have not been known or revealed prior to planting time and they have not been recognized in preparation of The Drawings and Specifications, then Owner shall issue pricing order to install proper remedial measures.

    D. Planting beds where existing subsoil is determined by Owner to be unsuitable for plant growth in accordance paragraph Unsuitable Subsoil herein shall be excavated to a depth of 12 inches or as needed to provide adequate drainage. Replace excavated soil with planting soil.



PALM STAKING DETAIL

N.T.S.



* ALL PALMS TO HAVE CLEAR WOOD INDICATED ABOVE UNLESS OTHERWISE SPECIFIED.

SABAL PALM (NO CROWN SHAFT)

PALM MATRIX B

PALM HEIGHT/TRUNK SPECIFICATIONS

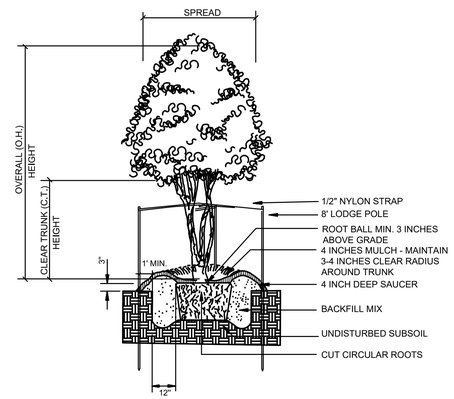
OVERALL HEIGHT(OA):
HIGHEST POINT IN THE CANOPY MEASURED FROM THE SOIL LINE TO THE NATURAL POSITION OF THE LAST FULLY EXPANDED LEAF. UNLESS SPECIFIED DIFFERENTLY, THE TERM HEIGHT, OR HEIGHT MEASUREMENTS SPECIFIED, WILL BE CONSIDERED OVERALL HEIGHT.

CLEAR TRUNK(CT):
A MEASUREMENT FROM THE SOIL LINE TO A POINT IN THE CANOPY WHERE THE TRUNK CALIPER BEGINS TO TAPER ABRUPTLY. ON MANY PALMS, THIS POINT WILL LIE AT THE BASE OF THE PETIOLE OF THE THIRD OR FOURTH YOUNGEST BUT FULLY EXPANDED LEAF.

CLEAR WOOD(CW):
A MEASUREMENT FROM THE SOIL LINE TO THE HIGHEST POINT OF THE TRUNK FREE OF PERSISTENT LEAF BASES. ON PALMS WITH A CROWN SHAFT, THE MEASURE WILL BE FROM THE SOIL LINE TO THE BASE OF THE CROWN SHAFT. IT SHOULD BE NOTED THAT PALMS WITH VERY PERSISTENT LEAF BASES MAY NOT HAVE CLEAR WOOD.

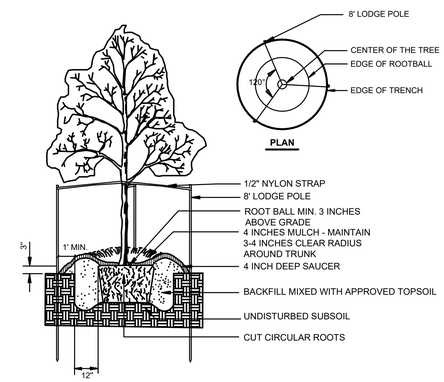
DPI INSPECTION NOTES(REQUIRED)

D.P.I. PALM INSPECTION NOTE:
ALL PALMS SHALL HAVE A VALID AND CURRENT STATE OF FLORIDA, DIVISION OF PLANT INDUSTRY (DPI) INSPECTION CERTIFICATION PRIOR TO BEING TRANSPORTED TO THE CONSTRUCTION SITE. THE DPI CERTIFICATION MUST BE SUBMITTED TO CPH AND A COPY OF THIS CERTIFICATION MUST BE PROVIDED TO THE GENERAL CONTRACTOR AND MAINTAINED WITH THE CONSTRUCTION RECORDS.



MULTI-TRUNK CONTAINER TREE PLANTING DETAIL

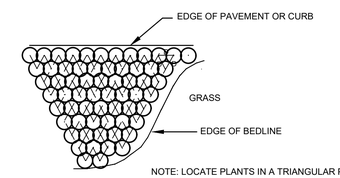
N.T.S.



NOTE: SEE LANDSCAPE NOTES FOR THE TYPE OF MULCH MATERIAL TO USE.

CONTAINER TREE PLANTING DETAIL

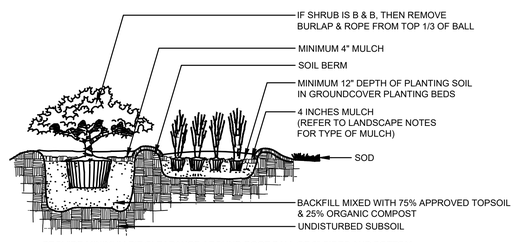
N.T.S.



NOTE: LOCATE PLANTS IN A TRIANGULAR PATTERN AS SHOWN, SPACED EQUIDISTANT FROM EACH OTHER (AT SPACING SPECIFIED IN THE PLANT LIST).

SHRUB/GROUNDCOVER SPACING PLAN

N.T.S.



-PROVIDE MINIMUM PIT CLEARANCE AROUND ROOT BALL OF 6" SIDES AND BOTTOM.
-MAINTAIN 3"-4" MULCH FREE ZONE AROUND BASE OF PLANT.

SHRUB AND GROUNDCOVER PLANTING DETAIL

N.T.S.

WATERING:

EACH PLANT & TREE SHALL BE THOROUGHLY HAND WATERED IN AFTER PLANTING TO FILL EACH PLANTING WELL FULL. DAILY WATERING OF ALL NEWLY INSTALLED PLANT MATERIALS SHALL BE THE RESPONSIBILITY OF THE LANDSCAPE CONTRACTOR UNTIL FINAL ACCEPTANCE.

ALL TREES AND SHRUBS SHALL BE DEEP WATERED FOR A PERIOD OF 90 DAYS AFTER PLANTING. TREES AND SHRUBS SHALL BE DEEP WATERED FIVE TIMES PER WEEK DURING THE INITIAL 30 DAYS, THREE TIMES PER WEEK DURING THE FOLLOWING 30 DAYS, AND TWICE PER WEEK DURING THE LAST THIRTY DAYS. IF THE PLANTS EVIDENCE ANY STRESS DUE TO HEAT OR OTHER ACTS OF GOD, THE CONTRACTOR SHALL TAKE ANY AND ALL STEPS TO REMEDY THE SITUATION INCLUDING BUT NOT LIMITED TO REMEDIAL WATERING TWICE PER DAY UNTIL PLANT REVITALIZATION.

NOTE: REFER TO CIVIL PLANS AND DETAILS FOR THE TREE PROTECTION BARRICADES, SILT FENCE PLACEMENT, REQUIRED SIGNAGE, AND EXISTING TREE DRIP LINES.

PLANT LIST

SYM	COMMON NAME	BOTANICAL NAME	DESCRIPTION	QTY.	NATIVE
TREES					
CE	GREEN BUTTONWOOD	CONOCARPUS ERECTUS	2.5" CAL., 10' MIN. HT.	18	YE3
SP	CABBAGE PALM	SABAL PALMETTO	C.T. SHOWN ON PLAN. HURRICANE CUT. CLEAN TRUNK	6	YES
SHRUBS					
CES	SILVER BUTTONWOOD	CONOCARPUS ERECTUS 'SERICEUS'	3 GAL., 24" MIN. HT., 16" SPRD., 36" O.C.	161	YES
RI	INDIAN HAWTHORN	RHAPHEOLEPIS INDICA	3 GAL., 24" MIN. HT., 10" SPRD., 30" O.C.	48	NO
GROUNDCOVER / GRASSES					
BF	SEA OXEYE DAISY	BORRICHIA FRUTESCENS	1 GAL., FULL, 24" O.C.	427	YES
SB	SAND CORDGRASS	SPARTINA BAKERI	3 GAL., 15" HT., 10" SPRD., 36" O.C.	239	YES
MC	MUHLY GRASS	MUHLENBERGIA CAPILLARIS	3 GAL., 15" HT., 10" SPRD., 36" O.C.	452	YES
SOD	SEASHORE PASPALUM	PASPALUM VAGINATUM 'SEASHORE'	SOLID SOD, CONTRACTOR TO VERIFY QTY.		

NOTE:
- PLANT DESCRIPTIONS ARE FOR MINIMUM ACCEPTABLE SPECIFICATIONS. ALL CRITERIA LISTED FOR CONTAINER SIZE, CALIPER, HEIGHT, SPREAD, ETC. MUST BE MET FOR PLANT MATERIAL ACCEPTANCE. FOR EXAMPLE, IF A THREE GALLON SHRUB DONE NOT MEET THE HEIGHT OR SPREAD SPECIFICATION, IT WILL NOT BE ACCEPTED.
- IF SPECIFIED PLANTS ARE UNAVAILABLE AT TIME OF CONSTRUCTION, CONTRACTOR MAY REEPLACE SPECIFIED PLANTS WITH PLANTS APPROVED BY LANDSCAPE ARCHITECT AND CITY STAFF.
- ALL OPEN SPACE AREAS WITHIN THE PROPERTY SHALL BE SODDED UNLESS PAVED, SEEDED AND MULCHED OR PLANTED WITH SHRUBS AND GROUND COVER.
- CONTRACTOR SHALL REPLACE ANY EXISTING SOD OR OTHER PLANT MATERIALS DAMAGED DURING CONSTRUCTION IN AREAS THAT ARE OUTSIDE PROPOSED LANDSCAPE AS SHOWN ON THE PLAN.
- CONTRACTOR SHALL PROVIDE TEMPORARY WATER AS NEEDED TO ESTABLISH PLANTINGS AND PROVIDE WARRANTY COVERAGE.

- THERE SHALL BE 3' MINIMUM CLEARANCE FROM LANDSCAPE PLANTS TO THE EDGE OF THE METERS LESS THAN 3" AND 10' FOR METERS 3" AND LARGER.
- THERE SHALL BE 7.5' MINIMUM CLEARANCE FROM THE FRONT AND BOTH SIDES AND 4' FROM THE BACK FOR ALL FIRE HYDRANTS.
- NO TREES SHALL BE PLANTED WITHIN 10' OF ANY COUNTY MAINTAINED WATER OR SEWER MAIN.
- TOTAL PLANTS : 1278
- TOTAL NATIVE PLANTS: 1230 (96%)

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A Full Service A & E Firm
3277A Fruitville Road, Suite 2
Sarasota, FL 34237
Ph: 941.365.4771
Plans Prepared By:
CPH, Inc.
State of Florida Licenses:
Engineer No. 3215
Surveyor No. LB7143
Architect. No. AA26000926
Landscape No. LC000298

Dustin R. Bryant RLA
Lic. No. 6670078
Oct 25, 2018

No.	Date	Revision
1	10/26/18	OUT TO BID
2	08/23/18	PER ERS COMMENTS

Designed: K. Upp
Drawn: K. Upp
Checked: D. Moyer
Job No.: M13104.2
Date: 09/25/17

LANDSCAPE NOTES AND DETAILS

PARKING LOT IMPROVEMENT PLANS FOR WARNER'S BAYOU
MANATEE COUNTY / FLORIDA

THIS SHEET NOT VALID FOR CONSTRUCTION WITHOUT COMPLETE SET OF PLANS. SEE GENERAL NOTES FOR MASTER LEGEND.

Sheet No.
L5.1

Bid Attachment 3

PLAN SET / DRAWINGS

VERTICAL DATUM: NAVD '88

DATUM CONVERSION
+0.298' NGVD

WARNER'S BAYOU BOAT RAMP
SOUTH PARKING LOT IMPROVEMENTS

Attachment 3 (11-9-2018)

5800 RIVERVIEW BLVD.
MANATEE COUNTY, FLORIDA
SECTION 20 - TOWNSHIP 34 SOUTH - RANGE 17 EAST
PARCEL ID: 3047600006

CONSULTANTS

OWNER / DEVELOPER
MANATEE COUNTY
5502 33rd AVE. DRIVE WEST
BRADENTON, FLORIDA 34209
(941) 792-8784
ATTN: ALAN MERONEK

ENGINEER
CPH, INC.
3277A FRUITVILLE ROAD
SARASOTA, FLORIDA 34237
ATTN: DANIEL P. MOYER, P.E.
(941) 365-4771

SURVEYOR
GEORGE F. YOUNG, INC.
10540 PORTAL CROSSING, SUITE 105
BRADENTON, FLORIDA 34211
(941) 747-2981
ATTN: F. PETER LUTZ, JR.

LANDSCAPE ARCHITECT
CPH, INC.
500 WEST FULTON STREET
SANFORD, FLORIDA 32771
ATTN: MAXWELL D. SPANN, R.L.A.
(407) 322-6841

ENVIRONMENTAL SCIENTIST
CPH, INC.
500 WEST FULTON STREET
SANFORD, FLORIDA 32771
ATTN: DAVID A. LANDERS
(407) 322-6841

NOTE:
NO WELLS EXIST CURRENTLY ON THIS SITE.

BEFORE YOU DIG !
CALL SUNSHINE STATE ONE CALL OF FLORIDA
AT LEAST TWO FULL BUSINESS DAYS BEFORE DIGGING OR DISTURBING EARTH
Sunshine State One Call 811
www.callsunshine.com
Know what's below. Call before you dig.

NOTICE
THE SIZE OF THESE PLANS MAY HAVE BEEN SLIGHTLY ALTERED BY REPRODUCTION PROCESSES. THIS MUST BE CONSIDERED WHEN SCALING ANY REPRODUCED PLANS FOR THE PURPOSE OF COLLECTING DATA.

UTILITY PROVIDERS

ELECTRIC
FLORIDA POWER & LIGHT
303 HASTINGS ROAD
ST. AUGUSTINE, FLORIDA 32084
(800) 868-9554
ATTN: TRACY STERN

TELEPHONE
VERIZON FLORIDA INC.
1909 US HWY. 301 N.
TAMPA, FLORIDA 33619
(813) 627-8343
ATTN: DAVID WYNNS

WATER / SEWER
MANATEE COUNTY UTILITY OPERATIONS
4422 - C 66TH STREET WEST
BRADENTON, FLORIDA 34210
(941) 792-8811, EXT. 5002
ATTN: KATHY MCMAHON

CABLE
BRIGHT HOUSE NETWORKS TAMPA BAY
5413 SR 64 E.
BRADENTON, FLORIDA 34208
(941) 345-1348 EXT. 21348
ATTN: TOM WRIGHT

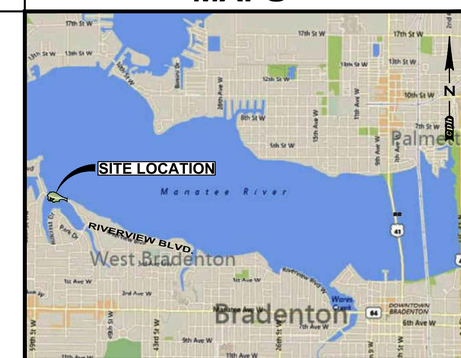
APPROVAL AGENCIES

MANATEE COUNTY
MANATEE COUNTY
5502 33rd AVE. DRIVE WEST
BRADENTON, FLORIDA 34209
(941) 792-8784
ATTN: ALAN MERONEK

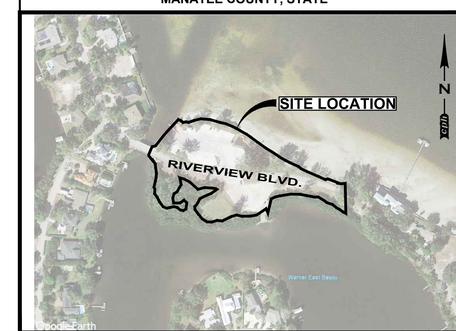
FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
SOUTHWEST DISTRICT
13051 N. TELECOM PARKWAY
TEMPLE TERRACE, FLORIDA 33637
PHONE: (813) 470-5700

INDEX OF SHEETS

MAPS



VICINITY MAP
SCALE: 1" = 3,000'
MANATEE COUNTY, STATE



LOCATION MAP
SCALE: 1" = 300'
MANATEE COUNTY, STATE

Approval Type: OFF-STREET PARKING PLAN Project Name: WARNER'S BAYOU BOAT RAMP
Approved: _____ (Date) PLN1804-0064 (File Number)

PROJECT PLANNER (PD) _____
PROJECT ENGINEER (PW) _____
CONCURRENCY (PD) _____
ENVIRONMENTAL PLANNING (PD) _____
ENVIRONMENTAL HEALTH _____
FIRE DISTRICT _____
OWNER / AGENT _____

Attention: The combination of this signed plan and accompanying approval letter constitutes the complete approval document. Both documents should be provided to interested parties and submitted with any building permit application.

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A Full Service A & E Firm
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Sarasota, FL 34237
Ph: 941.365.4771
Plans Prepared By:
CPH ,Inc.
State of Florida Licenses:
Engineer No. 3215
Surveyor No. LB7143
Architect. No. AA26000926
Landscape No. LC000298
DANIEL P. MOYER LICENSE No. 69057 STATE OF FLORIDA PROFESSIONAL ENGINEER

No.	Date	Revision
	10/26/18	OUT TO BID

Designed: K. Upp
Drawn: K. Upp
Checked: D. Moyer
Job No.: M13104.2
Date: 09/25/17

COVER SHEET

PARKING LOT IMPROVEMENT PLANS FOR WARNER'S BAYOU
MANATEE COUNTY / FLORIDA

THIS SHEET NOT VALID FOR CONSTRUCTION WITHOUT COMPLETE SET OF PLANS. SEE GENERAL NOTES FOR MASTER LEGEND.

Sheet No.
C0.1

Summary of Pay Items - Warner's Bayou South Improvements

Manatee County

PAY ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT	QUANTITY	
			PLAN	FINAL
2.01	Mobilization	LS	1	
2.02	Maintenance of Traffic	LS	1	
2.03	Survey and Control Layout by Contractor	LS	1	
2.04	As-Built Survey	LS	1	
2.05	Prevention, Control, and Abatement of Erosion and Water Pollution	LS	1	
2.06	Remove and Dispose of Exist. Site Items	LS	1	
2.07	Remove and Dispose of, Exist. Trees (8-Inch and Greater)	EA	2	
2.08	Clearing and Grubbing	LS	1	
2.09	Grading and Fill	LS	1	
2.10	Stormwater Pond Outall	LS	1	
2.11	Pavement Cement Concrete and Base (5-Inch Thick Min., 3000 PSI), including WWR and 12" Base	SY	2400	
2.12	Pavement Cement Concrete and Base (6-Inch Thick Min., 3000 PSI), including WWR and 12" Base	SY	175	
2.13	Concrete Sidewalk offsite (FDOT index 310)	SY	56	
2.14	FDOT Type C Inlet	EA	2	
2.15	12" Storm Pipe	LF	87	
2.16	Concrete Flume	EA	1	
2.17	Type F Curb and Gutter	LF	120	
2.18	Type D Vertical Curb	LF	385	
2.19	Wooden Post	EA	32	
2.20	Post / Rope	LF	225	
2.21	Wheel Stops	EA	24	
2.22	Bollard (Galvanized Steel, Painted)	EA	1	
2.23	Bollard (Removable)	EA	1	
2.24	Signage	LS	1	
2.25	Detectable Warning Mats	SF	30	
2.26	Traffic Stripes and Markings	LS	1	
2.27	Bike Rack	EA	1	
2.28	Conduit for future water service	LF	120	
2.29	Conduit to future light pole	LF	150	
2.30	Irrigation	LS	1	
2.31	Tree Protection	EA	1	
2.32	Trees, Green Buttonwood	EA	18	
2.33	Trees, Cabbage Palm	EA	6	
2.34	Shrubs, Silver Buttonwood	EA	161	
2.35	Shrubs, Indian Hawhthorn	EA	48	
2.36	Groundcover, Sea Oxeye Daisy	EA	427	
2.37	Groundcover, Sand Cordgrass	EA	239	
2.38	Groundcover, Muhly Grass	EA	452	
2.39	Sod, Seashore Paspalum	SY	1000	
3.01	Discretionary Funds (Testing)	LS	1	
3.02	Discretionary Funds (10% Contingency)	LS	1	
4.00	Bid As Alternative			
4.01	Kayak Launch (flexipave and ribbon curb)	LS	1	
4.02	New Light Pole, Fixture, Service	EA	1	
4.03	New Fixture	EA	1	
4.04	Broadcast Shell	SY	2631	

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STATE OF
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PROFESSIONAL ENGINEER

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1	10/26/18	OUT TO BID
2		
3		
4		
5		
6		
7		

Designed: K. Upp
Drawn: K. Upp
Checked: D. Moyer
Job No.: M13104.2
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SUMMARY OF PAY ITEMS

PARKING LOT IMPROVEMENT PLANS FOR
WARNER'S BAYOU
MANATEE COUNTY / FLORIDA

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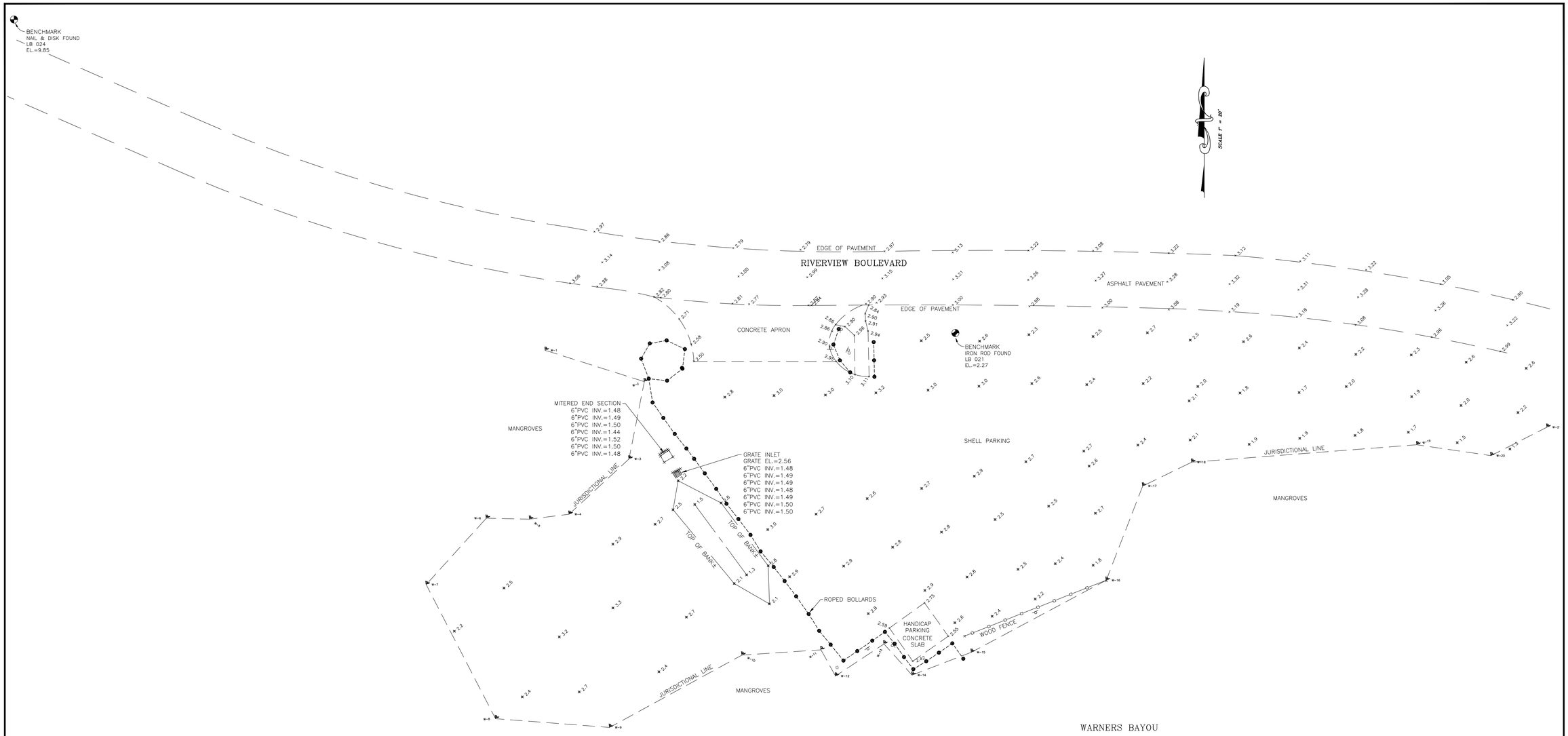
Sheet No.
C0.1A



SPECIFIC PURPOSE SURVEY

OF A PORTION OF

59th STREET BOAT RAMP (SOUTH SIDE)

LOCATED IN

SECTION 20, TOWNSHIP 34 SOUTH, RANGE 17 EAST MANATEE COUNTY, FLORIDA

1. ELEVATIONS SHOWN WERE BASED ON FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION (F.D.E.P.) BENCH MARK "P 689", BEING A DISK LOCATED 40 FEET EAST OF THE APPROXIMATE CENTERLINE OF 75th STREET N.W., AND 132 FEET NORTH OF THE APPROXIMATE CENTERLINE OF 16th AVE. N.W., HAVING A PUBLISHED ELEVATION OF 16.34' PER NORTH AMERICAN VERTICAL DATUM OF 1988.
2. HORIZONTAL COORDINATE VALUES ARE EXPRESSED IN STATE PLANE COORDINATES [FLORIDA WEST ZONE] NORTH AMERICAN DATUM 1983 (2011 ADJUSTMENT). THE CONTROL WAS ESTABLISHED BY GPS SURVEY AND THE REFERENCE STATION USED WAS NATIONAL GEODETIC POINT 175-84-A42, PUBLISHED COORDINATES (N: 1162205.87, E: 491431.95).

NOTE: THIS SURVEY IS NOT VALID WITHOUT THE SIGNATURE AND ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER.

REVISION	BY	DATE

CERTIFICATE OF SURVEYOR

I, THE UNDERSIGNED PROFESSIONAL SURVEYOR & MAPPER, HEREBY CERTIFY THAT THIS RECORD OF LAND SURVEY WAS PREPARED UNDER MY DIRECT SUPERVISION THAT TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF IS A TRUE AND CORRECT REPRESENTATION OF THE LAND AS SHOWN AND DESCRIBED HEREON, AND THAT IT MEETS THE REQUIREMENTS FOR LAND SURVEYING IN THE STATE OF FLORIDA, CHAPTER 5J-17.050, OF THE FLORIDA ADMINISTRATIVE CODE.

FLORIDA CERTIFICATE No. LS 4295
DATE OF CERTIFICATION 10/16/17
DATE OF FIELD SURVEY 10/11/17

ZNS ENGINEERING
LAND PLANNERS ENGINEERS SURVEYORS LANDSCAPE ARCHITECTS
EB 0027426 LC 0000080
201 5th AVENUE DRIVE EAST BRADENTON, FL 34208
E-MAIL: ZNS@ZNSENG.COM TELEPHONE (941) 748-8080 FAX (941) 748-3316

DRAWING: T:\WARNERS BAYOU\59thBoatRamp-TS.dwg DATE 10/11/17 SCALE 1" = 20'
DRAWN GB JOB NO. 00-44149 FIELD BOOK 670 PAGE 41 SHEET 1 OF 1

GENERAL PROVISIONS

1. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL MAKE A PRE-CONSTRUCTION VIDEO (DVD FORMAT) ALONG THE PROPOSED ROUTE IN ACCORDANCE WITH THE SPECIFICATIONS. IN PARTICULAR, THE VIDEO SHALL DOCUMENT THE CONDITION OF EXISTING DRIVEWAYS, BUILDINGS, STRUCTURES, MAILBOXES, SIGNS, FENCES, AND LANDSCAPING ALONG PROPOSED CONSTRUCTION AREAS.

2. THE CONTRACTOR SHALL RECOGNIZE AND ABIDE BY ALL OSHA EXCAVATION SAFETY STANDARDS, INCLUDING THE FLORIDA TRENCH SAFETY ACT (FS 553.60-553.64). ANY MATERIAL, CONSTRUCTION METHODS, OR MATERIAL COST TO COMPLY WITH THESE LAWS SHALL BE INCIDENTAL TO THE CONTRACT.

3. THE CONTRACTOR SHALL OBTAIN FROM THE OWNER COPIES OF ALL AVAILABLE REGULATORY AGENCY PERMITS AND LOCAL AGENCY PERMITS.

4. ALL CONSTRUCTION PROJECTS 1 OR MORE ACRES IN SIZE THAT DISCHARGE TO OFFSITE AREAS ARE REQUIRED TO COMPLY WITH THE REQUIREMENTS OF THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) GENERAL PERMIT FOR STORMWATER DISCHARGE FROM SMALL AND LARGE CONSTRUCTION ACTIVITIES. IN ORDER TO MEET NPDES REQUIREMENTS, THE CONTRACTOR IS RESPONSIBLE FOR PREPARING A STORMWATER POLLUTION PREVENTION PLAN (SWPPP), IMPLEMENTING, INSPECTING, MAINTAINING, AND REPORTING ON ALL ELEMENTS OF THE SWPPP, COMPLETING AND SUBMITTING THE REQUIRED NOTICE OF INTENT (NOI) AND NOTICE OF TERMINATION (NOT) FORMS AS THE OPERATOR, AND PAYING ALL ASSOCIATED FEES.

5. THE EROSION AND SEDIMENT CONTROL MEASURES SHOWN ON THE PLANS REPRESENT A MINIMUM REQUIREMENT. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES NEEDED IN ORDER TO PREVENT THE TRANSFER OF SEDIMENT FROM THE PROJECT AREA AND PREVENT THE EROSION OF SURFACES DURING CONSTRUCTION, AS NEEDED TO PROTECT ADJACENT PROPERTIES AND WATER BODIES.

6. IN THE EVENT THAT WATER IS ENCOUNTERED DURING CONSTRUCTION, DEWATERING SHALL BE CONDUCTED. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE DESIGN, INSTALLATION, OPERATION, AND SUBSEQUENT REMOVAL OF DEWATERING SYSTEMS AND THEIR SAFETY AND CONFORMITY WITH LOCAL CODES AND REGULATIONS. IF DEWATERING EQUIPMENT NEEDED EXCEEDS ANY OF THE FOLLOWING: 1) 6" PUMP VOLUTE; 2) 100,000 GPD TOTAL 24 HOUR (1 DAY) DEWATERING, AND; 3) 1,000,000 GPD PUMP CAPACITY, THE CONTRACTOR SHALL BE REQUIRED TO PERMIT THE DEWATERING SYSTEM WITH THE ST. JOHNS RIVER WATER MANAGEMENT DISTRICT (SJRWMD). THE ENGINEER AND/OR OWNER SHALL BE NOTIFIED IMMEDIATELY IF ANY OF THE ABOVE THRESHOLDS ARE EXCEEDED.

7. DEWATERING DISCHARGE FROM THE SITE SHALL COMPLY WITH ALL NPDES GENERAL PERMIT REQUIREMENTS AND STATE WATER QUALITY STANDARDS. PROVIDE ALL TESTING AND PERMITTING REQUIRED AND COMPLY WITH ALL TREATMENT OR DISPOSAL METHODS REQUIRED TO MEET ALL LOCAL, STATE AND FEDERAL REQUIREMENTS.

8. UNLESS OTHERWISE DIRECTED BY THE OWNER OR ENGINEER, THE CONTRACTOR IS EXPECTED TO CONTAIN ALL CONSTRUCTION ACTIVITIES WITHIN THE PROPERTY BOUNDARY, RIGHT-OF-WAY AND EASEMENTS, AND OTHER AREAS SPECIFICALLY DESIGNATED FOR CONSTRUCTION. AT NO TIME SHALL THE CONTRACTOR DISTURB SURROUNDING PROPERTIES OR TRAVEL ON SURROUNDING PROPERTIES WITHOUT WRITTEN CONSENT FROM THE PROPERTY OWNER. ANY REPAIR OR RECONSTRUCTION OF DAMAGED AREAS IN SURROUNDING PROPERTIES SHALL BE REPAIRED BY THE CONTRACTOR ON AN IMMEDIATE BASIS. ALL COSTS FOR REPAIRS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND NO EXTRA COMPENSATION SHALL BE PROVIDED.

9. UNLESS OTHERWISE NOTED ON THE PLANS, THE CONTRACTOR SHALL USE THE GEOMETRY PROVIDED ON THE CONSTRUCTION PLANS. BENCHMARK INFORMATION SHALL BE PROVIDED TO THE CONTRACTOR BY THE OWNER OR OWNER'S SURVEYOR. ANY DISCREPANCIES BETWEEN FIELD MEASUREMENTS AND CONSTRUCTION PLAN INFORMATION SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY.

10. BASE SURVEY INFORMATION INCLUDING BUT NOT LIMITED TO ELEVATIONS, EASEMENTS, RIGHTS OF WAY, AND OTHER TOPOGRAPHIC INFORMATION HAS BEEN PREPARED BY OTHER PROFESSIONALS. CPH, INC. ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THIS INFORMATION.

11. THIS SET OF PLANS MAY CONTAIN DRAWINGS PREPARED BY OTHER PROFESSIONALS, WHICH CONTAIN THE NAME, ADDRESS, AND LOGO OF THE PROFESSIONAL. CPH, INC. IS NOT RESPONSIBLE FOR DRAWINGS PREPARED BY OTHER PROFESSIONALS.

12. THE ENTIRE PROJECT SITE SHALL BE THOROUGHLY CLEANED AT THE COMPLETION OF THE WORK. CLEAN ALL INSTALLED PIPELINES, STRUCTURES, SIDEWALKS, PAVED AREAS, ACCUMULATED SILT IN PONDS, PLUS ALL ADJACENT AREAS AFFECTED BY CONSTRUCTION, AS DIRECTED BY THE OWNER OR JURISDICTIONAL AGENCY. EQUIPMENT TO CLEAN THESE SURFACES SHALL BE SUBJECT TO APPROVAL BY THE OWNER.

UTILITY GENERAL NOTES

1. THE UTILITY DATA SHOWN ON THESE PLANS WAS LOCATED BY THE RESPECTIVE UTILITY, OR IS BASED ON UTILITY DRAWINGS, MAPS, OR FIELD RECONNAISSANCE.

2. THE LOCATION, MATERIAL TYPE, AND SIZE OF ALL EXISTING UTILITIES SHOWN ON THE PLANS HAVE BEEN DETERMINED FROM THE BEST INFORMATION AVAILABLE AND ARE GIVEN FOR THE CONVENIENCE OF THE CONTRACTOR. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THEIR ACCURACY. PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITY, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE VARIOUS UTILITIES AND TO MAKE THE NECESSARY ARRANGEMENTS FOR ANY RELOCATIONS OF THESE UTILITIES WITH THE OWNER OF THE UTILITY. THE CONTRACTOR SHALL EXERCISE CAUTION WHEN CROSSING AN UNDERGROUND UTILITY, WHETHER SHOWN ON THE PLANS OR LOCATED BY THE UTILITY COMPANY. ANY UTILITIES, WHETHER SHOWN ON THESE PLANS OR NOT, THAT INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE CLOSELY COORDINATED WITH THE ENGINEER AND THE RESPECTIVE UTILITY COMPANY FOR RELOCATION OR PROPER INSTRUCTION.

3. A SINGLE POINT UTILITY IDENTIFICATION SERVICE HAS BEEN SET UP FOR EXISTING UTILITIES. THE CONTRACTOR IS TO CONTACT THE SUNSHINE STATE ONE CALL CENTER BY DIALING "811" AT LEAST TWO (2) AND NO MORE THAN FIVE (5) WORKING DAYS PRIOR TO THE SPECIFIC CONSTRUCTION ACTIVITY FOR FIELD LOCATION. NOTE THAT NOT ALL UTILITIES PARTICIPATE IN THIS PROGRAM. THE CONTRACTOR SHOULD CONTACT ALL NON-PARTICIPATING UTILITIES SEPARATELY FOR FIELD LOCATION OF THEIR FACILITIES AT LEAST TWO (2) WORKING DAYS PRIOR TO CONSTRUCTION.

4. REFER TO THE COVER SHEET FOR UTILITIES THAT HAVE PREVIOUSLY INDICATED THAT THEY MAY HAVE FACILITIES IN THE VICINITY OF THE CONSTRUCTION AREA:

5. THE CONTRACTOR SHALL KEEP LOCATE TICKETS UP TO DATE AT ALL TIMES.

6. THE CONTRACTOR IS RESPONSIBLE FOR ALL COORDINATION WITH EACH UTILITY AND ALL COSTS ASSOCIATED WITH THE PROTECTION OF EXISTING FACILITIES DURING CONSTRUCTION. THE CONTRACTOR SHALL ALSO COORDINATE NECESSARY RELOCATIONS OR OTHER CONSTRUCTION RELATED MATTERS WITH EACH UTILITY.

7. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN IN SERVICE ALL EXISTING PIPING ENCOUNTERED DURING CONSTRUCTION UNLESS OTHERWISE INDICATED IN THE DRAWINGS. ANY PIPING WHICH CAN BE REMOVED DURING CONSTRUCTION WITHOUT UNDUE INTERRUPTION OF SERVICE MAY BE REMOVED AND REPLACED BY THE CONTRACTOR WITH THE PERMISSION OF THE OWNER AND THE ENGINEER.

8. THE CONTRACTOR SHALL FIELD LOCATE ALL WATER AND SEWER SERVICES AND LATERALS WITHIN THE PROPOSED CONSTRUCTION AREA PRIOR TO CONSTRUCTION AND ADJUST THE PROPOSED CONSTRUCTION AS NEEDED TO ACCOMMODATE THESE EXISTING LINES.

9. TYPICAL DETAILS AND PROPOSED CONSTRUCTION AS SHOWN ILLUSTRATE THE ENGINEER'S INTENT AND ARE NOT PRESENTED AS A SOLUTION TO ALL CONSTRUCTION PROBLEMS ENCOUNTERED IN THE FIELD. THE CONTRACTOR MAY ALTER THE PROPOSED CONSTRUCTION TO SUIT FIELD CONDITIONS, PROVIDED IT COMPLIES WITH THE PROJECT SPECIFICATIONS AND APPROVAL IS RECEIVED FROM THE ENGINEER. WHERE SUCH PROPOSED REVISIONS DEVIATE FROM THE FDEP CONSTRUCTION PERMIT, THEN SUCH REVISIONS WILL ALSO REQUIRE APPROVAL FROM FDEP.

10. FOR EACH RESPECTIVE PIPELINE CONSTRUCTION REQUIRED, THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION, DEPTH, SIZE, MATERIAL TYPE, AND ALIGNMENT OF ALL EXISTING PIPES, CABLES, ETC. TO BE CROSSED OR CONNECTED TO. IF THE CONTRACTOR DEEMS NECESSARY (A) A CHANGE IN ALIGNMENT OR DEPTH, OR THE NEED FOR ADDITIONAL FITTINGS, BENDS, OR COUPLINGS, WHICH REPRESENT A DEPARTURE FROM THE CONTRACT DRAWING, OR (B) A NEED FOR RELOCATION OF EXISTING UTILITIES, THEN DETAILS OF SUCH DEPARTURES, RELOCATIONS, OR ADDITIONAL FITTINGS, INCLUDING CHANGES IN RELATED PORTIONS OF THE PROJECT AND THE REASONS THEREFORE, SHALL BE SUBMITTED WITH SHOP DRAWINGS. APPROVED DEPARTURES FOR THE CONTRACTOR'S CONVENIENCE SHALL BE MADE AT NO ADDITIONAL COST TO THE OWNER.

11. THE CONTRACTOR SHALL PROVIDE AT HIS OWN EXPENSE ALL NECESSARY TEST PUMPING EQUIPMENT, WATER, WATER METERS, PRESSURE GAUGES, AND OTHER EQUIPMENT, MATERIAL AND FACILITIES REQUIRED FOR ALL HYDROSTATIC, LEAKAGE, AND PRESSURE TESTING. THE CONTRACTOR SHALL CONTACT THE ENGINEER AND THE OWNER IN WRITTEN FORM, FORTY-EIGHT (48) HOURS IN ADVANCE OF PROPOSED TESTING. THE CONTRACTOR SHALL PERFORM SATISFACTORY PRETESTING PRIOR TO NOTIFICATION.

TRAFFIC CONTROL

1. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING A MAINTENANCE OF TRAFFIC (M.O.T.) PLAN PRIOR TO CONSTRUCTION. THE M.O.T. PLAN SHALL SHOW ALL PROPOSED TRAFFIC CONTROL SIGNS, PAVEMENT MARKINGS, AND BARRICADES, AND SHALL DETAIL ALL PROPOSED CONSTRUCTION SEQUENCING. THE M.O.T. PLAN AND INSTALLED TRAFFIC CONTROL MEASURES SHALL BE APPROVED BY THE ENGINEER, OWNER, AND ROADWAY JURISDICTIONAL AGENCY PRIOR TO CONSTRUCTION. IN GENERAL, ROADWAY AND DRIVEWAY LANE CLOSURES ARE PROHIBITED DURING CONSTRUCTION UNLESS SPECIFICALLY DETAILED ON THESE PLANS. IN THE EVENT IT IS DETERMINED THAT ROADWAY AND DRIVEWAY LANE CLOSURES WILL BE ALLOWED, THE CLOSURES SHALL BE RESTRICTED TO THE HOURS BETWEEN 9:00 A.M. AND 4:00 P.M. UNLESS OTHERWISE AUTHORIZED IN THE APPROVED M.O.T.

2. ALL TRAFFIC CONTROL MEASURES SHALL BE IN ACCORDANCE WITH FDOT STANDARD PLANS FOR ROAD CONSTRUCTION, INDEX NO. 102-600 AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL TRAFFIC CONTROL MEASURES SHALL BE INSTALLED PRIOR TO CONSTRUCTION AND MAINTAINED DURING CONSTRUCTION.

3. INSPECT TRAFFIC CONTROL DEVICES ON A DAILY BASIS TO ENSURE PLACEMENT OF BARRICADES AND FUNCTION OF LIGHTS IS MAINTAINED THROUGHOUT CONSTRUCTION.

4. CONTACT PROPERTY OWNERS AFFECTED BY CONSTRUCTION. COORDINATE TEMPORARY DRIVEWAY CLOSURES AND SEQUENCING. MAINTAIN ACCESS FOR ALL PROPERTY OWNERS DURING CONSTRUCTION.

5. WET UNSTABILIZED AREAS AS NECESSARY TO CONTROL DUST.

6. ADJUST TRAFFIC CONTROL DEVICES AS REQUIRED UNDER EMERGENCY CONDITIONS.

7. THE CONTRACTOR IS EXPECTED TO COORDINATE ITS ACTIVITIES WITH OTHER CONTRACTORS WHO MAY BE WORKING IN THE IMMEDIATE VICINITY.

8. WHEN WORK OCCURS WITHIN 15-FT OF ACTIVE ROAD TRAVEL WAY BUT NO CLOSER THAN 2-FT FROM THE TRAVEL WAY, SIGNAGE AND WARNING DEVICES ARE TO BE INSTALLED IN ACCORDANCE WITH FDOT INDEX NO. 102-600 AND 102-602. WHEN WORK OCCURS BETWEEN THE ROAD CENTERLINE AND A LINE 2-FT OUTSIDE THE EDGE OF THE TRAVEL WAY, SIGNAGE AND WARNING DEVICES ARE TO BE INSTALLED IN ACCORDANCE WITH FDOT INDEX NO. 102-600 AND 102-603.

9. TYPE I OR TYPE II BARRICADES AT 20-FT CENTERS SHALL BE PLACED AND MAINTAINED ALONG THE EDGE OF THE ROAD WHEREVER HAZARDS EXIST AND TO BLOCK ENTRANCE INTO COMPLETED OR PARTIALLY COMPLETED PAVEMENTS UNTIL SUCH PAVEMENTS ARE OPEN TO PUBLIC USE.

10. WHERE A DROP-OFF CONDITION IN THE WORK ZONE OCCURS, IT SHALL BE MITIGATED IN ACCORDANCE WITH FDOT INDEX 102-600. REFER TO FDOT INDEX NO. 102-600 FOR THE DEFINITION OF A DROP-OFF.

SYMBOLS:

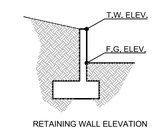
- XX.XX / XX.XX — TOP OF CURB ELEV. / PAVEMENT ELEV.
- XX.XX — PAVEMENT ELEV.
- 10 — PARKING SPACE COUNT
- DIRECTION OF FLOW
- X.X% — SLOPE OF FLOW
- RR — RIP RAP - GROUTED
- C.O. — CLEAN OUT
- D.S. — DOWN SPOUT
- STORM / SANITARY MANHOLE
- DITCH BOTTOM INLET
- MITERED END SECTION
- FLARED END SECTION
- "U" TYPE END WALL
- FLUME
- CURB INLETS
- NYLOPLAST DRAIN BASIN
- RETAINING WALL
- FIRE HYDRANT
- FIRE DEPARTMENT CONNECTION
- WATER LINE FITTINGS
- GATE VALVE
- REDUCER
- PC1 — PIPE CROSSING
- UTILITY POLE
- SITE LIGHTING
- FLAG POLE
- TRANSFORMER
- A A — CROSS SECTION (SEE CONSTRUCTION DETAILS SHEET)

ABBREVIATIONS:

A/C	- AIR CONDITIONER
APPROX	- APPROXIMATE
ASPH	- ASPHALT
AVG	- AVERAGE
BFP	- BACK FLOW PREVENTER
BLK	- BLOCK
BLDG	- BUILDING
BOC	- BACK OF CURB
BOW	- BACK OF WALL
C & G	- CURB & GUTTER
CE	- CONSTRUCTION ENTRANCE
C/L	- CENTERLINE
CMP	- CORRUGATED METAL PIPE
CO	- CLEAN OUT
CONC	- CONCRETE
DEPT	- DEPARTMENT
DS	- DOWN SPOUT
ELEC	- ELECTRIC
EM	- ELECTRICAL METER
ELEV	- ELEVATION
EOP	- EDGE OF PAVEMENT
FDC	- FIRE DEPARTMENT CONNECTION
FDOT	- FLORIDA DEPARTMENT OF TRANSPORTATION
FF	- FINISH FLOOR
FG	- FINISH GRADE
FH	- FIRE HYDRANT
FM	- FORCE MAIN
FOC	- FACE OF CURB
FP&L	- FLORIDA POWER AND LIGHT
GOV'T	- GOVERNMENT
HB	- HOSE BIB
HC	- ADA ACCESSIBLE
HDPE	- HIGH DENSITY POLYETHYLENE PIPE
INV	- INVERT
IRR	- IRRIGATION
ME	- MATCH EXISTING ELEVATION
MES	- MITERED END SECTION
MH	- MANHOLE
PVC	- POLYVINYL CHLORIDE PIPE
PVMT	- PAVEMENT
R	- RADIUS
RCP	- REINFORCED CONCRETE PIPE
REV	- REVISION
R/W	- RIGHT-OF-WAY
SF	- SQUARE FEET
S/W	- SIDEWALK
TOB	- TOP OF BANK
TOE	- TOE OF SLOPE
TW	- TOP OF WALL
TYP	- TYPICAL
UNK	- UNKNOWN
UTL	- UNDERGROUND TELEPHONE LINES
W/	- WITH
WV	- WATER VALVE

PAINT STRIPING ABBREVIATIONS:

SWSL	- SINGLE WHITE SOLID LINE
SYSL	- SINGLE YELLOW SOLID LINE
DYSL	- DOUBLE YELLOW SOLID LINE
SWDL	- SINGLE WHITE DASHED LINE
SBYL	- SINGLE BROKEN YELLOW LINE



RETAINING WALL ELEVATION

LINE TYPES:

- GUIDE RAIL
- BASIN LINE
- BUILDING SETBACK LINE
- FENCE (AS NOTED ON PLAN)
- CATV — CABLE TELEVISION
- EC — CONDUIT ELECTRIC
- TC — CONDUIT TELEPHONE
- DC — CONDUIT DATA
- CN-F — CONSTRUCTION FENCE (AS NOTED ON PLAN)
- XX — CONTOUR ELEVATION
- EASEMENT
- E — ELECTRIC LINE
- FO — FIBER OPTIC
- FW — FIRE WATER
- FM — FORCE MAIN
- G — GAS LINE
- H.P. — HIGH POINT
- IC — IRRIGATION LINE
- LANDSCAPE BUFFER
- LOD — LIMITS OF DISTURBANCE
- OHE — OVERHEAD ELECTRIC
- PROPERTY LINE
- RAILROAD
- RWM — RECLAIM WATER
- S — SANITARY SEWER
- STORM PIPE
- TS — TAMPER SWITCH
- T — TELEPHONE LINE
- SF — TEMPORARY SILT FENCE
- UB — UTILITY BOLLARD CONDUIT
- W — WATER MAIN
- WALL (AS NOTED ON PLAN)

SIGNS:

(B)	BUS STOP (R7-7)
(DNE)	DO NOT ENTER (R5-1)
(FL)	NO PARKING - FIRE LANE (R7-94)
(HC)	HANDICAP (FTP-25)
(KR)	KEEP RIGHT (R4-7A)
(KL)	KEEP LEFT (R4-8A)
(LTO)	LEFT TURN ONLY (R3-5L)
(ME)	MEDIAN (R4-7) (R4-8)
(ND)	NO DUMPING
(NL)	NO LEFT TURN (R3-2)
(NLI)	NO LITTERING
(NOR)	NO RIGHT TURN (R3-1)
(NOT)	NO TRUCKS (R5-2A)
(NP)	NO PARKING (R7-1)
(NPLZ)	NO PARKING LOADING ZONE (R7-6)
(1W)	ONE WAY (R6-1L) (R6-1R)
(PE)	PEDESTRIAN CROSSING (W11-2)
(RTO)	RIGHT TURN ONLY (R3-5R)
(R1)	ROW NUMBER
(SL)	SPEED LIMIT (R2-X)
(ST)	STOP (R1-1)
(TZ)	TOW AWAY ZONE (R7-201)
(TE)	TRUCK ENTRANCE
(WL)	WEIGHT LIMIT (R12-5)
(WW)	WRONG WAY (R5-1A)
(Y)	YIELD (R1-2)
(DT)	RESERVED DRIVE-THRU PARKING

NOTE:
ITEMS SHOWN DASHED / SCREENED REPRESENT EXISTING CONDITIONS. ITEMS SHOWN SOLID / BOLD REPRESENT PROPOSED CONDITIONS.

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Engineer No. 3215
Surveyor No. LB7143
Architect. No. AA26000926
Landscape No. LC000298

PHILIP P. MOYER LICENSE No. 69057 STATE OF FLORIDA PROFESSIONAL ENGINEER

No.	Date	Revision
1	10/26/18	OUT TO BID

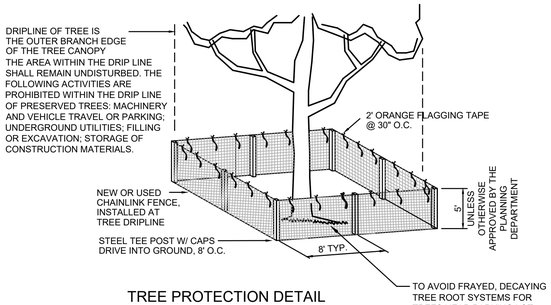
Designed: K. Upp
Drawn: K. Upp
Checked: D. Moyer
Job No.: M13104.2
Date: 09/25/17

GENERAL NOTES, LEGENDS AND SYMBOLS SHEET

PARKING LOT IMPROVEMENT PLANS FOR WARNER'S BAYOU
MANATEE COUNTY / FLORIDA

THIS SHEET NOT VALID FOR CONSTRUCTION WITHOUT COMPLETE SET OF PLANS. SEE GENERAL NOTES FOR MASTER LEGEND.

Sheet No.
C0.2



TREE PROTECTION DETAIL

N.T.S.

NOTE: ALL TREES WITHIN THE AREA PROPOSED FOR CONSTRUCTION ACTIVITIES THAT ARE TO BE PRESERVED SHALL HAVE PROTECTIVE BARRICADES CONSTRUCTED AT THEIR DRIPLINES PRIOR TO COMMENCEMENT OF CONSTRUCTION. NO IMPROVEMENTS, FILL, GRADE CHANGES OR COMPACTION OF SOIL DUE TO HEAVY MACHINERY WILL BE PERMITTED WITHIN THE DRIPLINE OF TREES PROPOSED TO BE PRESERVED.

NOTES:

BEST MANAGEMENT PRACTICES FROM THE FLORIDA DEPARTMENT OF TRANSPORTATION INCLUDE THE FOLLOWING:

- PLACE WEATHER RESISTANT SIGN EVERY 50' ALONG THE BARRIER, WITH 6" MINIMUM TEXT HEIGHT AND PROVIDE TEXT IN ENGLISH AND IN SPANISH. SIGN SHOULD READ "KEEP OUT TREE PROTECTION AREA".
- AVOIDING PLACEMENT OF SILT FENCE UNDER TREE DRIP LINES. IF UNAVOIDABLE, FOLLOW INSTRUCTIONS BELOW:

  NOTE TO SILT FENCE INSTALLER: TO FACILITATE "EFFECTIVE" PRESERVATION OF TREES (THOSE WITH DRIP LINES DEPICTED ON PLAN) SILT FENCE SHALL NOT BE TRENCHED IN WITHIN DRIP LINES OF TREES WHERE AVOIDABLE. IF UNAVOIDABLE THEN INSTALL SILT FENCE AT GRADE (NO TRENCHING).

LEGEND:

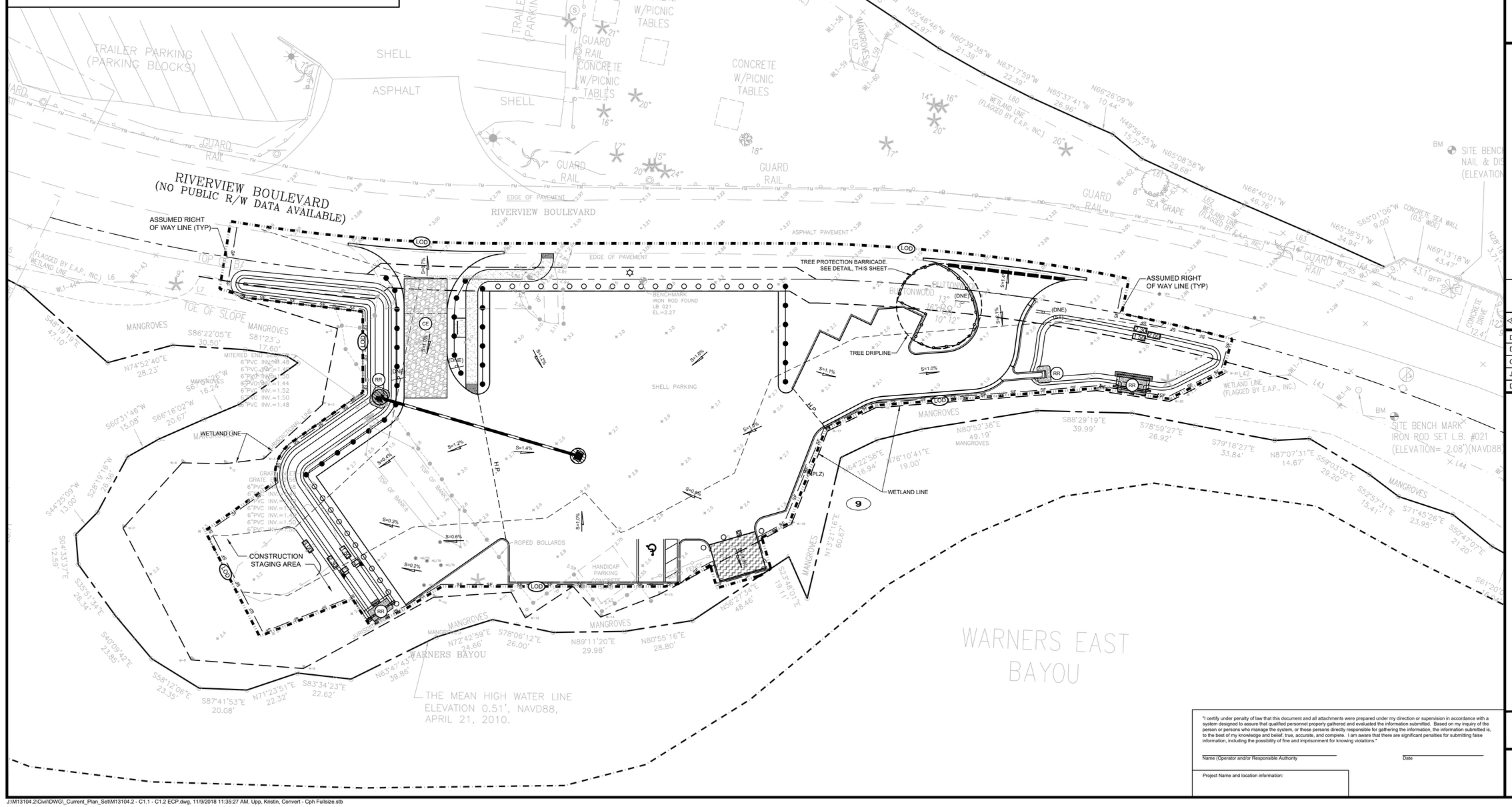
- LOD — LIMITS OF DISTURBANCE
- SOIL BOUNDARY
- SF — SILT FENCE PER STATE OF FLORIDA EROSION AND SEDIMENT CONTROL MANUAL (LATEST EDITION)
- BARRICADE (AT ALL ENTRANCE LOCATIONS W/O TEMPORARY CONSTRUCTION ACCESS)
- INLET / FLUME PROTECTION
- CE — CONSTRUCTION ENTRANCE PER STATE OF FLORIDA EROSION AND SEDIMENT CONTROL MANUAL (LATEST EDITION)
- RR — RIPRAP - 1 ~ CY OF RUBBLE RIP RAP PER FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, SPECIFICATION NO. 530
- 9 — SOIL TYPE: CANAVERAL SAND, FILLED

ACREAGE SUMMARY	
TOTAL SITE AREA	3.50 A.C.
TOTAL DISTURBED AREA	1.10 A.C.

N

20 0 20 40

Graphic Scale in Feet



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No.	Date	Revision
1	10/26/18	OUT TO BID
2		
3		
4		
5		
6		

Designed: K. Upp
Drawn: K. Upp
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Job No.: M13104.2
Date: 09/25/17

STORMWATER POLLUTION PREVENTION PLAN

PARKING LOT IMPROVEMENT PLANS FOR WARNER'S BAYOU

MANATEE COUNTY / FLORIDA

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Name (Operator and/or Responsible Authority

Date

Project Name and location information:

THIS SHEET NOT VALID FOR CONSTRUCTION WITHOUT COMPLETE SET OF PLANS. SEE GENERAL NOTES FOR MASTER LEGEND.

Sheet No.
C1.1

STORMWATER POLLUTION PREVENTION NOTES

THESE PLANS HAVE BEEN PREPARED TO ASSIST THE CONTRACTOR IN OBTAINING COVERAGE UNDER THE FDEP GENERIC PERMIT FOR STORMWATER DISCHARGE FROM LARGE AND SMALL CONSTRUCTION ACTIVITIES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO REVIEW THE PERMIT REQUIREMENTS AND MODIFY THESE PLANS AS NEEDED TO BE IN COMPLIANCE WITH THE PERMIT REQUIREMENTS.

SITE DESCRIPTION

A. SITE LOCATION

THE SITE IS LOCATED AT 5800 RIVERVIEW BLVD., MANATEE COUNTY, FLORIDA
SECTION 20, TOWNSHIP 34 SOUTH, RANGE 17 EAST
LATITUDE: 27°30'33.06"N LONGITUDE: 82°37'3.40"W

B. SITE CONDITIONS & ACTIVITIES NARRATIVE:
THE EXISTING CONDITION OF THE SITE IS DEVELOPED. DURING CONSTRUCTION THE SITE WILL BE CLEARED AND GRUBBED. THIS PROJECT WILL HAVE NO MAJOR EFFECT ON ANY THE ABUTTING PROPERTIES.

WETLANDS/BUFFERS

WETLANDS EXIST ON SITE, HOWEVER, THIS PROJECT WILL NOT IMPACT THEM.

SWPPP INTENT

THE INTENT OF THIS SWPPP IS TO COMPLY WITH THE INTENT OF THE GENERIC PERMIT AND TO PREVENT THE RELEASE OF SOILS, TRASH, CHEMICALS, TOXINS AND OTHER POLLUTANTS, BY WATER , AIR, VEHICLE TRANSPORT OR OTHER MEANS THAT CAN IMPACT STORM WATER QUALITY. THE CONTRACTOR SHALL OBTAIN A COPY OF THE GENERIC PERMIT AND RETAIN ON-SITE FOR FUTURE REFERENCE. THE CONTRACTOR SHALL READ AND UNDERSTAND THE PERMIT, AND ENSURE THAT THE BMP'S ARE INSTALLED AND THE EXECUTION OF THE WORK IS PERFORMED TO MEET THE INTENT OF THE GENERIC PERMIT AND THE SWPPP.

POTENTIAL SOURCES OF POLLUTION

THE POTENTIAL SOURCES OF POLLUTION THAT MAY REASONABLY BE EXPECTED TO AFFECT THE QUALITY OF STORM WATER DISCHARGE ASSOCIATED WITH CONSTRUCTION ACTIVITY INCLUDE: SEDIMENT, PESTICIDES, FERTILIZER, PLASTER, CLEANING SOLVENTS, ASPHALT, CONCRETE, GLUE, ADHESIVES, PAINTS, CURING COMPOUNDS, WOOD PRESERVATIVES, HYDRAULIC OIL FLUIDS, GASOLINE, DIESEL FUEL AND KEROSENE.

SEQUENCE OF CONSTRUCTION

THE SEQUENCE OF CONSTRUCTION HAS BEEN DEVELOPED AS A GUIDE FOR THE CONTRACTOR. THE CONTRACTOR SHALL SEQUENCE THE CONSTRUCTION AS NEEDED BASED ON BEST MEANS AND METHODS IN ORDER TO BE IN COMPLIANCE WITH STATE AND LOCAL REQUIREMENTS. THE INSTALLATION OR REMOVAL OF BMPS, EARTH DISTURBANCE, GRADING, TEMPORARY STABILIZATION AND PERMANENT STABILIZATION SHALL BE IMMEDIATELY NOTED IN THE SWPPP IMPLEMENTATION LOG. ALL TEMPORARY BMPS SHALL BE REPAIRED AND MAINTAINED UNTIL STABILIZATION HAS OCCURRED AND THERE IS NO RISK OF DISCHARGE. TEMPORARILY SEED, IMMEDIATELY AND THROUGHOUT CONSTRUCTION, DENUDED AREAS THAT WILL BE INACTIVE FOR 7 DAYS OR MORE. PERMANENTLY STABILIZE AREAS TO BE VEGETATED AS THEY ARE BROUGHT TO FINAL GRADE.

1. POST A COPY OF THE NOI OR LETTER FROM FDEP CONFIRMING COVERAGE UNDER THE GENERIC PERMIT, AND THE NAME AND PHONE NUMBER OF THE CONTRACTOR'S REPRESENTATIVE RESPONSIBLE FOR EROSION AND SEDIMENTATION CONTROL INSTALLATION AND MAINTENANCE ON A 24 HOUR BASIS.
2. INSTALL PERIMETER CONTROLS IMMEDIATELY DOWNSTREAM OF THE PLANNED LOCATION OF THE CONSTRUCTION EXIT.
3. INSTALL STABILIZED CONSTRUCTION EXIT.
4. INSTALL PERMITER CONTROLS. THE CONTRACTOR SHALL INSTALL THE REMAINING BMPS AS SHOWN AND AS REQUIRED TO MEET PERMIT REQUIREMENTS. SOME BMP INSTALLATIONS MAY NOT BE POSSIBLE AT THE BEGINNING OF THE PROJECT BUT MUST BE INSTALLED AS SOON AS POSSIBLE TO ENSURE COMPLIANCE.
5. INSTALL TEMPORARY STAGING AND STORAGE AREAS.
6. CONSTRUCT AND STABILIZE THE SEDIMENT BASINS AND SEDIMENT TRAPS WITH APPROPRIATE OUTFALL STRUCTURES, IF REQUIRED.
7. CONSTRUCT AND STABILIZE HYDRAULIC CONTROLS (DITCHES, SWALES, DIKES, CHECK DAMS, ETC.), IF REQUIRED.
8. BEGIN DEMOLITION, CLEARING AND GRUBBING OPERATIONS AS APPLICABLE.
9. BEGIN CONSTRUCTION OF SITE IMPROVEMENTS.
10. PAVE SITE AND STABILIZE PER PLAN.
11. REMOVE ALL TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES AFTER SITE HAS ACHIEVED FINAL STABILIZATION.
12. SUBMIT NOTICE OF TERMINATION (NOT) ONCE ALL CONSTRUCTION IS COMPLETE AND ALL AREAS ARE STABILIZED PER PLAN.

GENERAL NOTES

A. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FILE "NOTICE OF INTENT TO USE GENERIC PERMIT FOR STORMWATER DISCHARGE FROM CONSTRUCTION ACTIVITIES" (DEP FORM 62-621.300(4)(B) OR LATEST VERSION) TO FDEP TO THE FOLLOWING ADDRESS OR THROUGH THE FDEP ON-LINE SYSTEM AT LEAST TWO (2) DAYS BEFORE COMMENCEMENT OF CONSTRUCTION:

NPDES STORMWATER NOTICES CENTER, MS #2510 FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION, 2600 BLAIR STONE ROAD, TALLAHASSEE, FLORIDA 32399-2400

THE CONTRACTOR SHALL SUBMIT A NOTICE OF TERMINATION (NOT) WITHIN 14 CALENDAR DAYS AFTER THE SITE HAS ACHIEVED FINAL STABILIZATION (I.E. ALL DISTURBED SOILS AT THE SITE HAVE BEEN FINAL STABILIZED), TEMPORARY BMPS HAVE BEEN REMOVED, AND STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY FROM THE SITE AUTHORIZED BY THE PERMIT HAVE BEEN ELIMINATED.

AN ENVIRONMENTAL RESOURCE PERMIT IS REQUIRED FOR THE PROJECT. CONTRACTOR SHALL PROVIDE THE PERMIT INFORMATION ON THE NOI APPLICATION.

THE CONTRACTOR SHALL PROVIDE A COPY OF THE NOI AND SUBSEQUENT NOT OR THE ACKNOWLEDGEMENT LETTERS FOR THE NOI OR NOT TO THE MS4 WITHIN 7 DAYS OF RECEIPT. THE CONTRACTOR SHALL ALSO COORDINATE WITH THE MS4 TO ENSURE THAT ALL SPECIFIC REQUIREMENTS ARE MET.

B. WHERE PRACTICAL, STORMWATER SHALL BE CONVEYED BY SWALES. SWALES SHALL BE CONSTRUCTED AS SHOWN ON PLANS.

C. EROSION CONTROL MEASURES SHALL BE EMPLOYED TO MINIMIZE TURBIDITY OF SURFACE WATERS LOCATED DOWNSTREAM OF ANY CONSTRUCTION ACTIVITY. WHILE THE VARIOUS MEASURES REQUIRED WILL BE SITE SPECIFIC, THEY SHALL BE EMPLOYED AS NEEDED IN ACCORDANCE WITH THE FOLLOWING:

I. IN GENERAL, EROSION SHALL BE CONTROLLED AT THE FURTHEST PRACTICAL UPSTREAM LOCATION.
II. NEW AND EXISTING STORMWATER INLETS AND OUTFALL STRUCTURES SHALL BE PROTECTED DURING CONSTRUCTION. PROTECTION MEASURES SHALL BE EMPLOYED IMMEDIATELY AS REQUIRED DURING THE VARIOUS STAGES OF CONSTRUCTION.
III. PERIMETER EROSION CONTROL DEVICES SHALL REMAIN IN PLACE UNTIL FINAL SITE STABILIZATION HAS BEEN ESTABLISHED

D. CLEARING AND GRUBBING OPERATIONS SHALL BE CONTROLLED SO AS TO MINIMIZE UNPROTECTED ERODIBLE AREAS EXPOSED TO WEATHER. GENERAL EROSION CONTROL BMP'S SHALL BE EMPLOYED TO MINIMIZE SOIL EROSION AND OFF-SITE SEDIMENTATION. WHILE THE VARIOUS TECHNIQUES REQUIRED WILL BE SITE AND PLAN SPECIFIC, THEY SHOULD BE EMPLOYED PRIOR TO ANY CONSTRUCTION ACTIVITY.

E. THE CONTRACTOR SHALL FURNISH, INSTALL PER THE SEQUENCE OF CONSTRUCTION, MAINTAIN AND SUBSEQUENTLY REMOVE, ALL NECESSARY TEMPORARY BMPS. THE CONTRACTOR WILL FURNISH AND INSTALL ALL NECESSARY PERMANENT BMPS.

F. THE CONTRACTOR SHALL ADJUST, ADD OR MODIFY BMPS AS NECESSARY TO COMPLY WITH THE INTENT OF THE GENERIC NPDES PERMIT AND THE SWPPP FOR NO ADDITIONAL COMPENSATION. THE CONTRACTOR SHALL CONSULT WITH THE ENGINEER PRIOR TO ADJUSTING, ADDING OR MODIFYING BMPS THAT AFFECT THE HYDRAULICS OF THE SITE OR BEFORE ADDING BMPS NOT DETAILED IN THE SWPPP.

G. THE CONTRACTOR IS ADVISED THAT THE CONTRACT DRAWINGS ONLY INDICATE EROSION, SEDIMENT, AND TURBIDITY CONTROLS AT LOCATIONS DETERMINED IN THE DESIGN PROCESS. HOWEVER, THE CONTRACTOR IS REQUIRED TO PROVIDE ANY ADDITIONAL CONTROLS NECESSARY TO PREVENT THE POSSIBILITY OF SILTING ANY ADJACENT LOWLAND PARCEL OR RECEIVING WATER.

H. EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE PLACED PRIOR TO, OR AS THE FIRST STEP IN CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH ALL EROSION CONTROL MEASURES SHOWN ON THE PLANS. THE EROSION CONTROL SYSTEM DESCRIBED WITHIN THE CONSTRUCTION DOCUMENTS SHOULD BE CONSIDERED TO REPRESENT THE MINIMUM ACCEPTABLE STANDARDS FOR THIS PROJECT. ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED DEPENDENT UPON THE STAGE OF CONSTRUCTION, THE SEVERITY OF THE RAINFALL EVENT AND/OR AS DEEMED NECESSARY AS A RESULT OF ON-SITE INSPECTIONS BY THE OWNER, THEIR REPRESENTATIVES, OR THE APPLICABLE JURISDICTIONAL AUTHORITIES. THESE ADDITIONAL MEASURES (IF NEEDED) SHALL BE INSTALLED AT NO ADDITIONAL COST TO THE OWNER. IT SHOULD BE NOTED THAT THE MEASURES IDENTIFIED ON THIS PLAN ARE ONLY SUGGESTED BEST MANAGEMENT PRACTICES (BMPS). THE CONTRACTOR SHALL PROVIDE POLLUTION PREVENTION AND EROSION CONTROL MEASURES AS SPECIFIED IN FDOT INDEXES #100 THROUGH #102 AND AS NECESSARY FOR EACH SPECIFIC APPLICATION. IT IS THE CONTRACTOR'S ULTIMATE RESPONSIBILITY TO ASSURE THAT THE STORMWATER DISCHARGE FROM THE SITE DOES NOT EXCEED THE TOLERANCES ESTABLISHED BY ANY OF THE APPLICABLE JURISDICTIONAL AUTHORITIES.

I. THE CONTRACTOR SHALL KEEP THE SWPPP CURRENT AT ALL TIMES. THE CONTRACTOR SHALL SIGN AND DATE ANY CHANGES TO THE SWPPP AND KEEP THEM AS ATTACHMENTS TO THE ORIGINAL PLAN. WHENEVER ANY OF THE FOLLOWING EVENTS OCCUR, THE CONTRACTOR SHALL UPDATE THE SWPPP WITHIN 7 DAYS:

I. THERE IS A CHANGE IN DESIGN, CONSTRUCTION OPERATION OR MAINTENANCE THAT HAS A SIGNIFICANT EFFECT ON THE DISCHARGE FROM THE PROJECT
II. THERE IS A NEW DISCHARGE POINT OUR OUTFALL
III. THERE IS A CHANGE IN THE LOCATION OF A DISCHARGE POINT OF OUTFALL
IV. AN INSPECTION REVEALS THAT BMPS ARE INEFFECTIVE AT ELIMINATING OR MINIMIZING POLLUTANTS IN THE STORMWATER DISCHARGED FROM THE SITE.
V. THERE IS A NEW SUBCONTRACTOR IMPLEMENTING ANY PORTION OF THE SWPPP
VI. A RELEASE CONTAINING A HAZARDOUS SUBSTANCE IN AN AMOUNT EQUAL TO OR GREATER THAN A REPORTABLE QUANTITY OCCURS DURING A 24-HOUR PERIOD

J. THE CONTRACTOR SHALL ENSURE THAT THE CONTRACTOR AND ALL SUBCONTRACTORS RESPONSIBLE FOR IMPLEMENTING SWPPP CONTROL MEASURES FILL OUT THE CONTRACTOR / SUBCONTRACTOR CERTIFICATION TABLE INCLUDED IN THIS SWPPP.

K. THE CONTRACTOR SHALL COMPLETE THE CONSTRUCTION SEQUENCE TABLE INCLUDING IN THIS SWPPP PRIOR TO PROCEEDING WITH THE INSTALLATION OF BMPS AND PRIOR TO GROUND DISTURBING ACTIVITIES. THE CONTRACTOR SHALL COMPLETE THE TABLE WITH ANTICIPATED DATES IN WHICH THE BMP WILL BE UTILIZED OR THE ACTIVITY WILL OCCUR.

TURBIDITY

A. TURBIDITY REDUCTION TO NO MORE THAN 29 NTUs ABOVE BACKGROUND LEVEL PRIOR TO DISCHARGE OFF SITE.

B. CONTRACTOR TO FILE FOR A FDEP NOTICE OF INTENT (NOI) WITHIN 14 DAYS OF CONSTRUCTION COMPLETION.

STABILIZATION

A. STABILIZATION MEASURES SHALL BE INITIATED IMMEDIATELY IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED AND WILL REMAIN UNDISTURBED FOR 7 DAYS OR MORE. STABILIZE BY COVERING WITH ADEQUATE AMOUNTS OF MULCH OVER SEED AND PERIODICALLY WATER TO PROMOTE AND MAINTAIN GROWTH OF THE TEMPORARY GROUNDCOVER, OR BY THE USE OF AN APPROPRIATE ALTERNATIVE BMP.

B. PERMANENT SOIL EROSION CONTROL MEASURES FOR ALL SLOPES, CHANNELS, DITCHES OR ANY DISTURBED LAND AREAS SHALL BE COMPLETED IMMEDIATELY AFTER FINAL GRADING. WHEN IT IS NOT POSSIBLE TO PERMANENTLY PROTECT A DISTURBED AREA IMMEDIATELY AFTER GRADING OPERATIONS, TEMPORARY EROSION CONTROL MEASURES SHALL BE INSTALLED. ALL TEMPORARY PROTECTION SHALL BE MAINTAINED UNTIL PERMANENT MEASURES ARE IN PLACE AND ESTABLISHED.

C. ALL GRASS SLOPES CONSTRUCTED STEEPER THAN 4H:1V SHALL BE SODDED IMMEDIATELY AFTER FINAL GRADE IS ESTABLISHED.

DUST CONTROL

A. BARE EARTH AREAS SHALL BE WATERED DURING CONSTRUCTION AS NECESSARY TO MINIMIZE THE TRANSPORT OF FUGITIVE DUST. IN NO CASE SHALL FUGITIVE DUST BE ALLOWED TO LEAVE THE SITE UNDER CONSTRUCTION.

B. AS REQUIRED AFTER COMPLETION OF CONSTRUCTION, BARE EARTH AREAS SHALL BE VEGETATED.

AT ANY TIME BOTH DURING AND AFTER SITE CONSTRUCTION THAT WATERING AND/OR VEGETATION ARE NOT EFFECTIVE IN CONTROLLING WIND EROSION AND/OR TRANSPORT OF FUGITIVE DUST, OTHER METHODS AS ARE NECESSARY FOR SUCH CONTROL SHALL BE EMPLOYED. THESE METHODS MAY INCLUDE ERECTION OF DUST CONTROL FENCES.

WASTE MANAGEMENT

A. THE CONTRACTOR SHALL ENSURE THAT ALL WASTE AND DEBRIS ARE MANAGED DAILY SUCH THAT THEY WILL NOT IMPACT STORMWATER OR LEAVE THE PERMITTED AREA, AND DISPOSED OF PROPERLY IN ACCORDANCE WITH APPLICABLE STATE, LOCAL AND FEDERAL REGULATIONS.

B. THE CONTRACTOR SHALL ENSURE THAT ALL CHEMICALS, OILS, FUELS, HAZARDOUS WASTE, UNIVERSAL WASTE AND TOXIC SUBSTANCES ARE PROPERLY MANAGED AND DISPOSED OF IN ACCORDANCE WITH APPLICABLE STATE, LOCAL AND FEDERAL REGULATIONS. THE CONTRACTOR SHALL ENSURE THAT WASTE IS NOT DISCHARGED FROM THE SITE, AND DOES NOT IMPACT STORMWATER OR GROUNDWATER.

C. THE CONTRACTOR SHALL PROVIDE APPROPRIATE AND ADEQUATE WASHOUT FACILITIES TO ENSURE THAT CHEMICALS AND WASTE IS NOT DISCHARGED FROM THE SITE, AND DO NOT IMPACT STORMWATER OR GROUNDWATER. (E.G. CONCRETE/MASONRY WASHOUT, PAINT WASHOUT, EIFS, ETC.) THE CONTRACTOR SHALL CLEAN UP SPILLS PROMPTLY AND ENSURE THAT WASHOUT AREAS ARE PROPERLY MAINTAINED TO PROVIDE ADEQUATE VOLUME TO PREVENT OVERFLOW.

D. THE CONTRACTOR SHALL PROVIDE ADEQUATE SANITARY FACILITIES FOR SITE PERSONNEL, MAINTAIN THROUGHOUT CONSTRUCTION, AND PROVIDE FOR PROPER DISPOSAL IN ACCORDANCE WITH APPLICABLE STATE, LOCAL AND FEDERAL REGULATIONS. SANITARY FACILITIES SHALL BE PROPERLY SECURED TO PREVENT TIPPING.

E. A SPILL CONTROL AND CONTAINMENT KIT (CONTAINING FOR EXAMPLE, ABSORBENT MATERIAL SUCH AS KITTY LITTER OR SAWDUST, ACID, BASE, NEUTRALIZING AGENT, BROOMS, DUST PANS, MOPS, RAGS, GLOVES, GOGGLES, PLASTIC AND METAL TRASH CONTAINERS, ETC.) SHALL BE PROVIDED AT THE CONSTRUCTION SITE AND IT'S LOCATION(S) SHALL BE IDENTIFIED WITH LEGIBLE SIGNAGEAND SHOWN ON THE SITE MAPS.

A. THE SPILL CONTROL AND CONTAINMENT KIT SHALL BE OF SUFFICIENT QUANTITIES AND APPROPRIATE CONTENT TO CONTAIN A SPILL FROM THE LARGEST ANTICIPATED PIECE OF EQUIPMENT AND FROM THE LARGEST ANTICIPATED QUANTITIES OF PRODUCTS STORED ON THE SITE AT ANY GIVEN TIME.

F. WHEN A SPILL OF REPORTABLE QUANTITIES IS DISCOVERED ON THE SITE, THE CONTRACTOR SHALL CLEAN UP ALL SPILLED MATERIALS AND DISPOSE OF IN ACCORDANCE WITH APPLICABLE LAWS AND REGULATIONS. THE CONTRACTOR SHALL NOTIFY THE APPROPRIATE AUTHORITIES IN ACCORDANCE WITH APPLICABLE LAWS AND REGULATIONS, THE OWNER AND PROJECT ENGINEER. THE CONTRACTOR SHALL RETAIN CLEANUP INFORMATION AS WELL AS DISPOSAL MANIFESTS WITH THEIR SWPPP.

MATERIALS MANAGEMENT, AND EQUIPMENT STAGING AND MAINTENANCE

A. EXCAVATED MATERIAL SHALL NOT BE DEPOSITED IN LOCATIONS WHERE IT COULD BE WASHED AWAY BY HIGH WATER OR STORM WATER RUNOFF. STOCKPILED MATERIAL SHALL BE COVERED OR ENCIRCLED WITH SEDIMENT CONTAINMENT DEVICES.

B. HEAVY CONSTRUCTION EQUIPMENT PARKING AND MAINTENANCE AREAS SHALL BE DESIGNED TO PREVENT OIL, GREASE, AND LUBRICANTS FROM ENTERING SITE DRAINAGE FEATURES INCLUDING STORMWATER COLLECTION AND TREATMENT SYSTEMS. CONTRACTORS SHALL PROVIDE BROAD DIKES OR SILT SCREENS AROUND, AND SEDIMENT SUMPS WITHIN, SUCH AREAS AS REQUIRED TO CONTAIN SPILLS OR OIL, GREASE, LUBRICANTS, OR OTHER CONTAMINANTS. CONTRACTOR SHALL HAVE AVAILABLE, AND SHALL USE, ABSORBENT FILTER PADS TO CLEAN UP SPILLS IMMEDIATELY AFTER ANY OCCURRENCE.

C. THE CONTRACTOR SHALL ENSURE THAT ALL TOXIC / HAZARDOUS SUBSTANCES AND CHEMICALS ARE PROPERLY STORED, OUT OF THE WEATHER, AND USED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. THE CONTRACTOR SHALL ENSURE THAT THESE PRODUCTS ARE STORED AND USED IN SUCH A MANNER THAT WILL NOT NEGATIVELY IMPACT STORMWATER, GROUNDWATER OR PROTECTED SPECIES.

D. THE CONTRACTOR SHALL ENSURE THAT ALL MATERIALS, EQUIPMENT, DEBRIS, WASTE, TRAILERS, AND OTHER SUPPORT RELATED ITEMS ARE CONTAINED WITHIN THE PERMITTED LIMITS OF DISTURBANCE. THE CONTRACTOR SHALL ENSURE THAT THE STORAGE AND USE OF SUCH ITEMS DOES NOT NEGATIVELY IMPACT STORMWATER OR GROUNDWATER.

OFFSITE VEHICLE TRACKING

A. THE CONTRACTOR SHALL ENSURE THAT THE CONSTRUCTION EXIT IS USED BY ALL VEHICLES AND EQUIPMENT ENTERING OR LEAVING THE JOBSITE. THE CONTRACTOR SHALL MONITOR AND MAINTAIN THE CONSTRUCTION EXIT TO ENSURE THAT NO SOILS ARE TRACKED OFFSITE BY TIRES OR TRACKS, AND THAT NO SOILS ARE SPILLED BY TRUCKS OR EQUIPMENT LEAVING THE SITE. ALL TRACKED OR SPILLED SOILS SHALL BE SHOVELED OR SWEPT FROM THE ROADWAY AND RETURNED TO THE SITE. WATER SHALL NOT BE USED TO CLEAN THE SOILS FROM THE ROADWAY UNLESS THE WATER AND SOILS ARE RECOVERED BY THE USE OF A VACUUM TRUCK OR SIMILAR DEVICE.

FERTILIZERS, HERBICIDES AND PESTICIDES

A. THE CONTRACTOR SHALL ENSURE THAT ALL FERTILIZERS, HERBICIDES, PESTICIDES AND SIMILAR PRODUCTS ARE PROPERLY STORED, OUT OF THE WEATHER, AND APPLIED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. THE CONTRACTOR SHALL ENSURE THAT THESE PRODUCTS ARE USED IN SUCH A MANNER THAT WILL NOT NEGATIVELY IMPACT STORMWATER, GROUNDWATER OR PROTECTED SPECIES.

B. NUTRIENTS SHALL BE APPLIED ONLY AT RATES NECESSARY TO ESTABLISH AND MAINTAIN VEGETATION.

INSPECTIONS AND MAINTENANCE

A. THE CONTRACTOR SHALL INSPECT BMPS (I.E. DISCHARGE LOCATIONS, CONSTRUCTION EXIT, PERIMETER CONTROLS, INLET PROTECTION, STABILIZATION, EROSION CONTROL, DOCUMENTATION, WASTE DISPOSAL AREAS, MATERIAL STORAGE AREAS, ETC.) TO ENSURE THAT BMPS ARE NOT CAUSING OR CONTRIBUTION TO VIOLATIONS OF WATER QUALITY STANDARDS OR RESULTING IN OFFSITE SEDIMENTATION; ENSURE THAT BMPS ARE INSTALLED, MAINTAINED AND OPERATING CORRECTLY AND EFFECTIVELY; ENSURE THAT BMPS ASSOCIATED WITH STORAGE AND WASTE DISPOSAL AREAS ARE BEING USED AND MAINTAINED PROPERLY; ENSURE THAT THE CONSTRUCTION EXIT IS FUNCTION PROPERLY TO PREVENT OFFSITE TRACKING OF SEDIMENT; ENSURE THAT EROSION PREVENTION MEASURES ARE MAINTAINED TO PREVENT VISIBLE EROSION OF DISTURBED AREAS AND SEDIMENTATION AT THE DISCHARGE POINTS; AND DETERMINE IF CONSTRUCTION ACTIVITIES HAVE ALTERED THE EFFECTIVENESS OF BMPS. INSPECTIONS MUST BE COMPLETED AT LEAST ONCE EVERY SEVEN (7) CALENDAR DAYS, AND WITHIN 24 HOURS AFTER A RAINSTORM OF 0.50 INCHES OR GREATER EVEN IF IT RAINS ON THE WEEKEND OR A HOLIDAY.

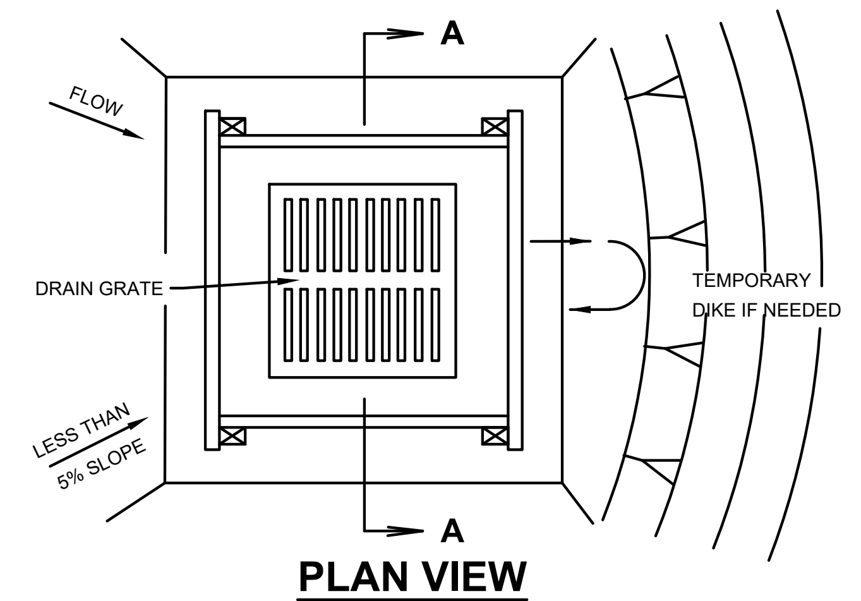
B. THE CONTRACTOR SHALL REPORT ALL INSPECTION FINDINGS AND CORRECTIVE ACTIONS TAKEN AS A RESULT OF THE INSPECTION USING THE STORMWATER POLLUTION PREVENTION PLAN INSPECTION REPORT FORM PROVIDED BY FDEP OR AN EQUIVALENT FORM. INSPECTION REPORTS SHALL BE SIGNED BY THE INSPECTOR AND A RESPONSIBLE AUTHORITY AS DEFINED BY THE PERMIT. INSPECTION REPORTS SHALL BE MAINTAINED WITH THE SWPPP. THE INSPECTOR MUST BE A QUALIFIED EROSION AND SEDIMENT CONTROL INSPECTOR AS DEFINED BY THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION.

C. ANY MAINTENANCE, REPAIR AND NECESSARY REVISIONS TO BMP ITEMS SHALL BE ADDRESSED IN A TIMELY MANNER, BUT IN NO CASE LATER THAN 7 CALENDAR DAYS FOLLOWING THE INSPECTION OR IDENTIFICATION OF THE ISSUE. UNLESS OTHERWISE SPECIFIED, ACCUMULATED SEDIMENTS SHOULD BE REMOVED BEFORE THEY REACH ONE-HALF OF THE CAPACITY OF THE CONTROL DEVICE.

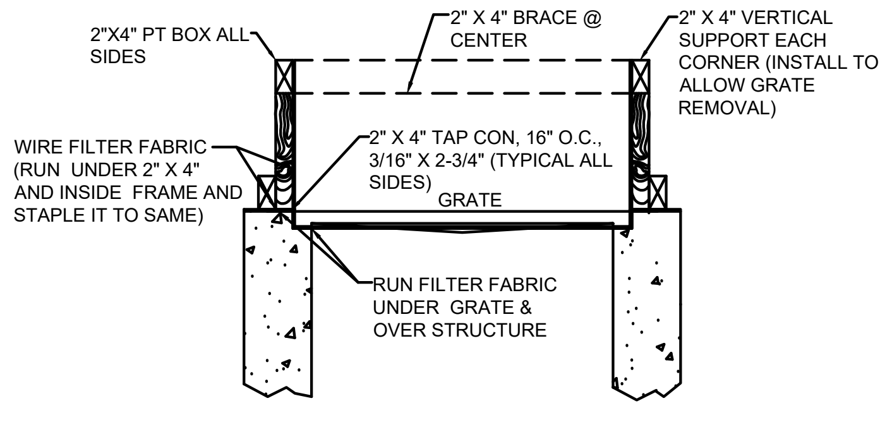
ALLOWABLE NON-STORMWATER DISCHARGES

THE GENERIC PERMIT FOR STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITIES PROHIBIT MOST NON-STORMWATER DISCHARGES DURING THE CONSTRUCTION PHASE. CERTAIN DISCHARGES ARE ALLOWED BY THE PERMIT, PROVIDED APPROPRIATE BMP'S ARE UTILIZED AND THE DISCHARGE DOES NOT CAUSE OR CONTRIBUTE TO A VIOLATION OF WATER QUALITY STANDARDS. ALLOWABLE NON-STORMWATER DISCHARGES THAT OCCUR DURING CONSTRUCTION ON THIS PROJECT PER PART 3.2 OF THE GENERIC PERMIT ARE:

DISCHARGES FROM FIRE FIGHTING ACTIVITIES.
FIRE HYDRANT FLUSHINGS.
WATERS WITHOUT DETERGENTS USED TO SPRAY OFF LOOSE SOLIDS FROM VEHICLES.
WATERS USED TO CONTROL DUST.
POTABLE WATER SOURCES SUCH AS WATERLINE FLUSHINGS.
LANDSCAPE IRRIGATION AND DRAINAGE.
ROUTINE EXTERNAL BUILDING WASHDOWN PROVIDED NO DETERGENTS ARE USED.
PAVEMENT WASHWATERS THAT DO NOT CONTAIN DETERGENTS, LEAKS, SPILLS OF TOXIC OR HAZARDOUS MATERIALS.
AIR CONDITIONING CONDENSATE.
SPRING WATER.
FOUNDATION OR FOOTING DRAIN FLOWS THAT ARE NOT CONTAMINATED WITH PROCESS MATERIAL SUCH AS SOLVENTS.
NONCONTAMINATED GROUND WATER ASSOCIATED WITH DEWATERING ACTIVITIES AS DESCRIBED IN PART 3.4 OF THE GENERIC PERMIT.



PLAN VIEW



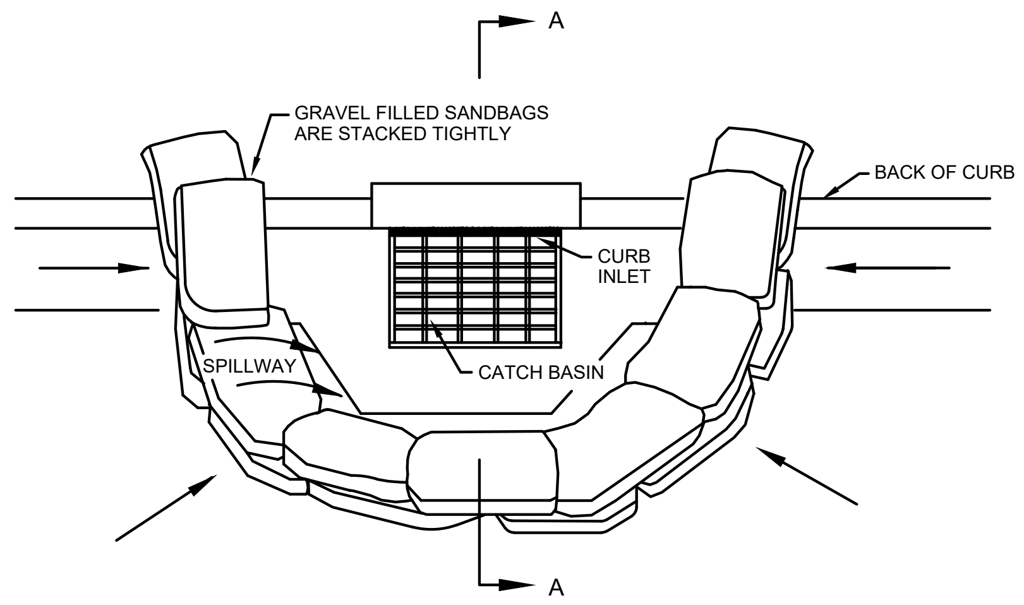
SECTION A - A

NOTES:
1. DROP INLET SEDIMENT BARRIERS ARE TO BE USED FOR SMALL, NEARLY LEVEL DRAINAGE AREAS. (LESS THAN 5%).
2. THE TOP OF THE FRAME (PONDING HEIGHT) MUST BE WELL BELOW THE GROUND ELEVATION DOWNSLOPE TO PREVENT RUNOFF FROM BYPASSING THE INLET. A TEMPORARY DIKE MAY BE NECESSARY ON THE DOWNSLOPE SIDE OF THE STRUCTURE.
3. FASTEN FRAMING TO STRUCTURE TO ALLOW GRATE REMOVAL.
4. LEAVE EXPOSED EDGE TO ALLOW FOR PAVING TO GRADE

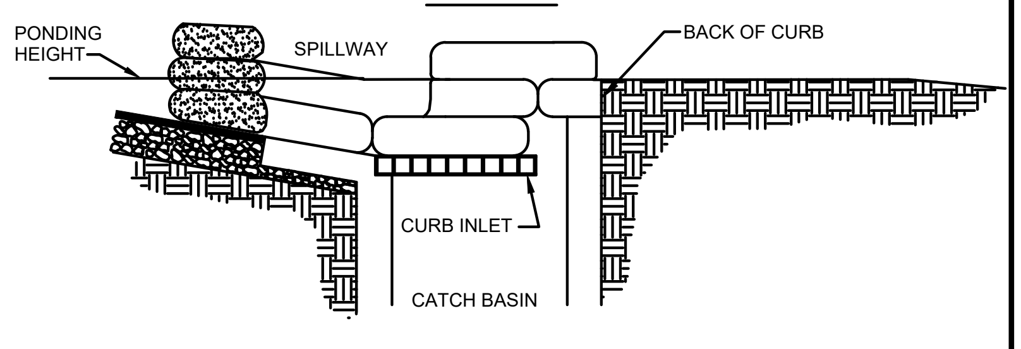
FILTER FABRIC INLET PROTECTION DETAIL

N.T.S.

**NOTE:
AVOID USING IN TRAFFIC AREAS AS THIS CAN CAUSE A HAZARD.**



PLAN VIEW



SECTION A-A

NOTES:
1. PLACE CURB TYPE SEDIMENT BARRIERS ON GENTLY SLOPING STREET SEGMENTS WHERE WATER CAN POND AND ALLOW SEDIMENT TO SEPARATE FROM RUNOFF.
2. SANDBAGS OF EITHER BURLAP OR WOVEN GEOTEXTILE FABRIC, ARE FILLED WITH GRAVEL, LAYERED AND PACKED TIGHTLY.
3. LEAVE ONE SANDBAG GAP IN THE TOP ROW TO PROVIDE A SPILLWAY FOR OVERFLOW.
4. INSPECT BARRIERS AND REMOVE SEDIMENT AS NECESSARY. SEDIMENT AND GRAVEL MUST BE REMOVED FROM THE TRAVELED WAY IMMEDIATELY.

CURB INLET PROTECTION DETAIL

N.T.S.

CONTRACTOR / SUBCONTRACTOR CERTIFICATION TABLE

THIS SWPPP MUST CLEARLY IDENTIFY, FOR EACH MEASURE IDENTIFIED WITHIN THE SWPPP, THE CONTRACTOR(S) OR SUBCONTRACTOR(S) WHO WILL IMPLEMENT EACH MEASURE. ALL CONTRACTOR(S) AND SUBCONTRACTOR(S) IDENTIFIED IN THE SWPPP MUST SIGN THE FOLLOWING CERTIFICATION:

"I CERTIFY UNDER PENALTY OF LAW THAT I UNDERSTAND, AND SHALL COMPLY WITH, THE TERMS AND CONDITIONS OF THE STATE OF FLORIDA GENERIC PERMIT FOR STORMWATER DISCHARGE FROM LARGE AND SMALL CONSTRUCTION ACTIVITIES AND THIS STORMWATER POLLUTION PREVENTION PLAN."

Name / Signature	Title	Company Name, Address and Phone Number	Date

NOTE: CONTRACTOR TO ADD SHEETS TO CERTIFICATION TABLE AS NECESSARY.

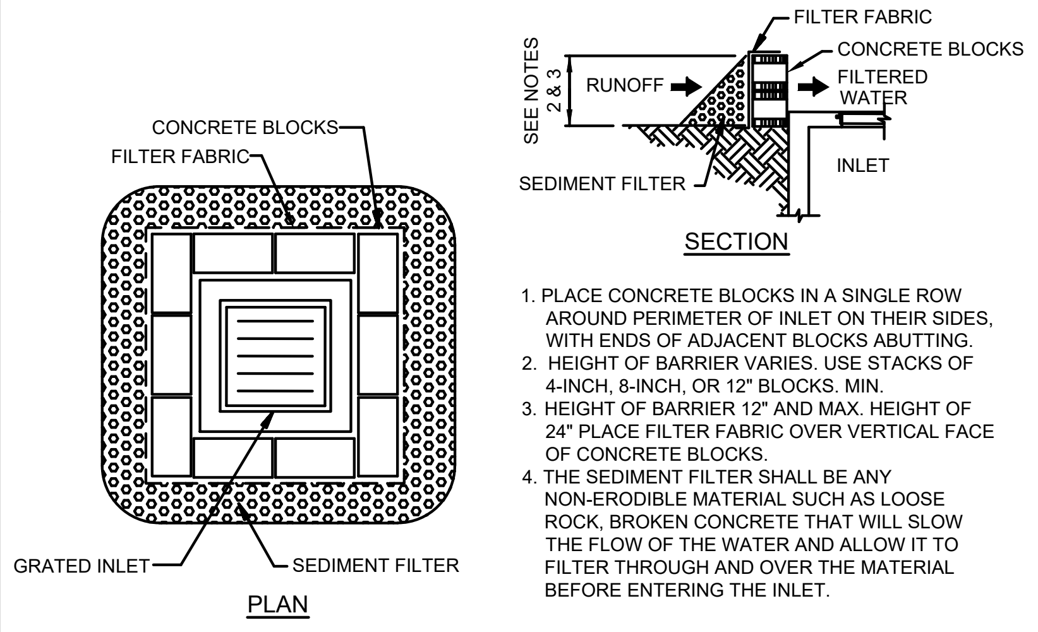
SWPPP IMPLEMENTATION LOG

A RECORD OF DATES WHEN BMPs ARE INSTALLED OR REMOVED, STABILIZATION MEASURES ARE INITIATED, MAJOR GRADING ACTIVITIES OCCUR, AND CONSTRUCTION ACTIVITIES TEMPORARILY OR PERMANENTLY CEASE ON PORTIONS OF THE SITE. THIS FORM MUST BE UPDATED CONTINUOUSLY THROUGHOUT THE PROJECT UNTIL THE NOTICE OF TERMINATION (NOT) IS FILED.

DESCRIPTION OF ACTIVITY	LOCATION	CONTRACTOR	BEGIN DATE	END DATE

NOTE: CONTRACTOR TO ADD SHEETS TO THE SWPPP IMPLEMENTATION LOG AS NECESSARY.

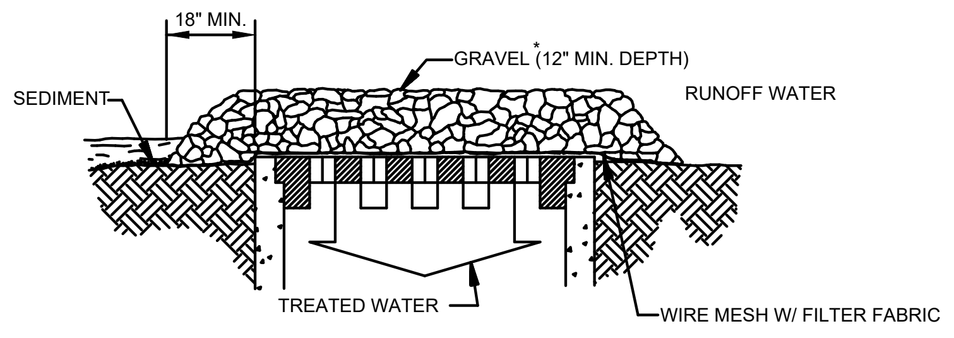
**NOTE:
AVOID USING IN TRAFFIC AREAS AS THIS CAN CAUSE A HAZARD.**



1. PLACE CONCRETE BLOCKS IN A SINGLE ROW AROUND PERIMETER OF INLET ON THEIR SIDES, WITH ENDS OF ADJACENT BLOCKS ABUTTING.
2. HEIGHT OF BARRIER VARIES. USE STACKS OF 4-INCH, 8-INCH, OR 12" BLOCKS. MIN.
3. HEIGHT OF BARRIER 12" AND MAX. HEIGHT OF 24" PLACE FILTER FABRIC OVER VERTICAL FACE OF CONCRETE BLOCKS.
4. THE SEDIMENT FILTER SHALL BE ANY NON-ERODIBLE MATERIAL SUCH AS LOOSE ROCK, BROKEN CONCRETE THAT WILL SLOW THE FLOW OF THE WATER AND ALLOW IT TO FILTER THROUGH AND OVER THE MATERIAL BEFORE ENTERING THE INLET.

BLOCK AND AGGREGATE INLET SEDIMENT FILTER

N.T.S.



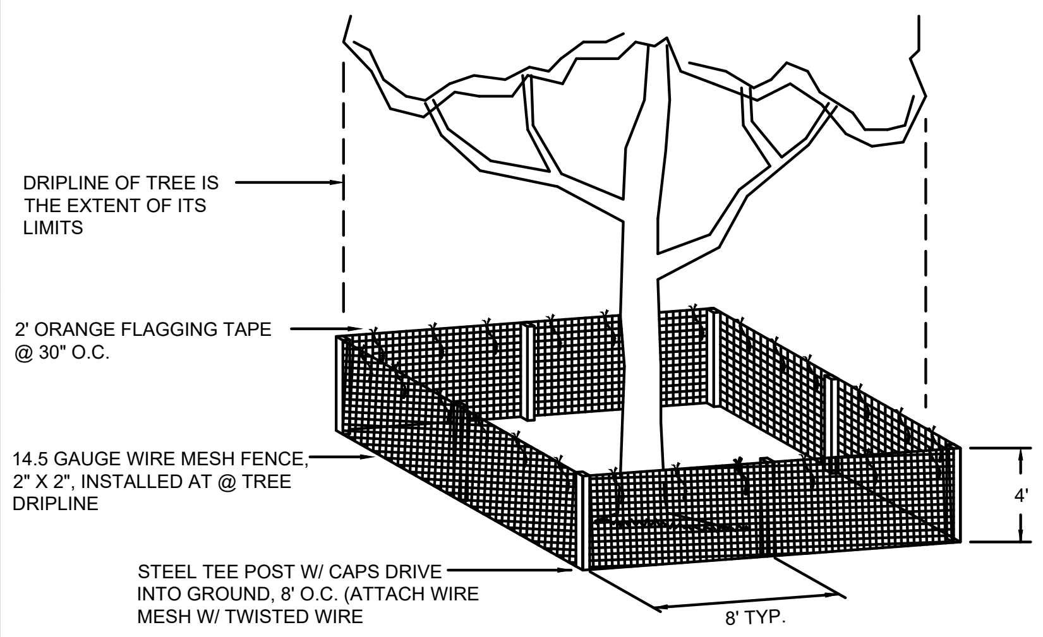
SPECIFIC APPLICATION

THIS METHOD OF INLET PROTECTION IS APPLICABLE WHERE HEAVY CONCENTRATED FLOWS ARE EXPECTED, BUT NOT WHERE PONDING AROUND THE STRUCTURE MIGHT CAUSE EXCESSIVE INCONVENIENCE OR DAMAGE TO ADJACENT STRUCTURES AND UNPROTECTED ACRES.

* GRAVEL SHALL BE 2"-3" CLEAN STONE

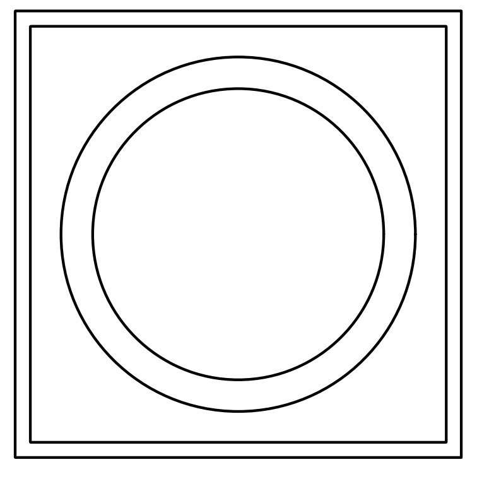
GRAVEL & WIRE MESH INLET SEDIMENT FILTER

N.T.S.

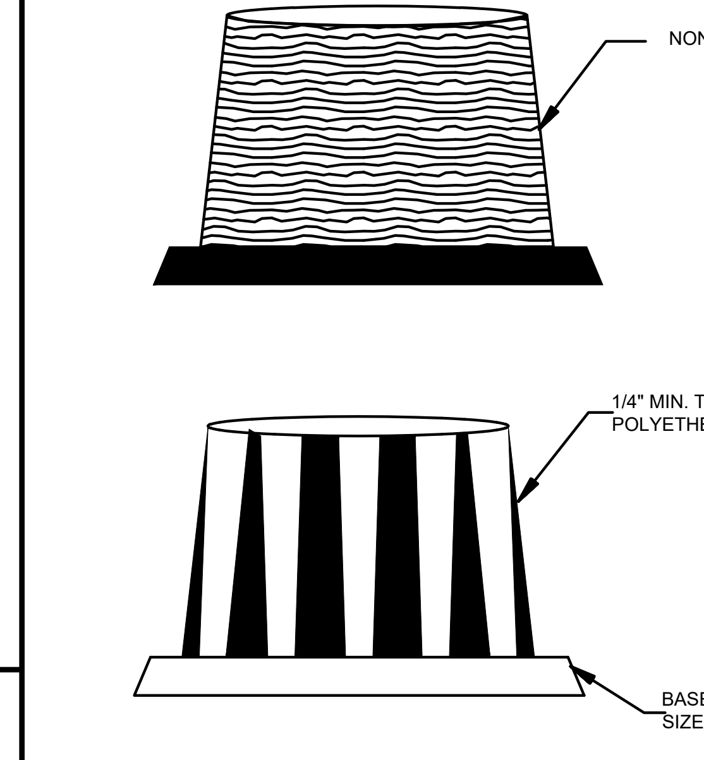


TREE PROTECTION DETAIL

N.T.S.



TOP VIEW



SIDE VIEW

TYPICAL CONSTRUCTION SEQUENCE FOR DOME FRAME & COVER

1. EXCAVATE APPROXIMATELY 4" TO 6" BELOW THE TOP OF THE INLET STRUCTURE.
2. PLACE THE FRAME ONTO THE INLET STRUCTURE, ENSURING PROPER SEATING OF FRAME TO STRUCTURE.
3. SLIDE THE COVER OVER THE FRAME.
4. FILL THE COVER POCKETS WITH SOIL, #57 GRAVEL OR EQUIVALENT. THE COVER POCKETS SHOULD BE COMPLETELY FILLED TO ENSURE A GOOD SEAL BETWEEN THE GROUND AND INLET STRUCTURE.
5. BACK FILL AROUND THE FRAME AND COVER ASSEMBLY IS NOT REQUIRED TO COMPLETE INSTALLATION; HOWEVER, BACKFILLING MAY BE NECESSARY TO COMPLETE EXCAVATION REQUIREMENTS FOR THE SITE.

DOMED INLET PROTECTION (PREFABRICATED)

N.T.S.

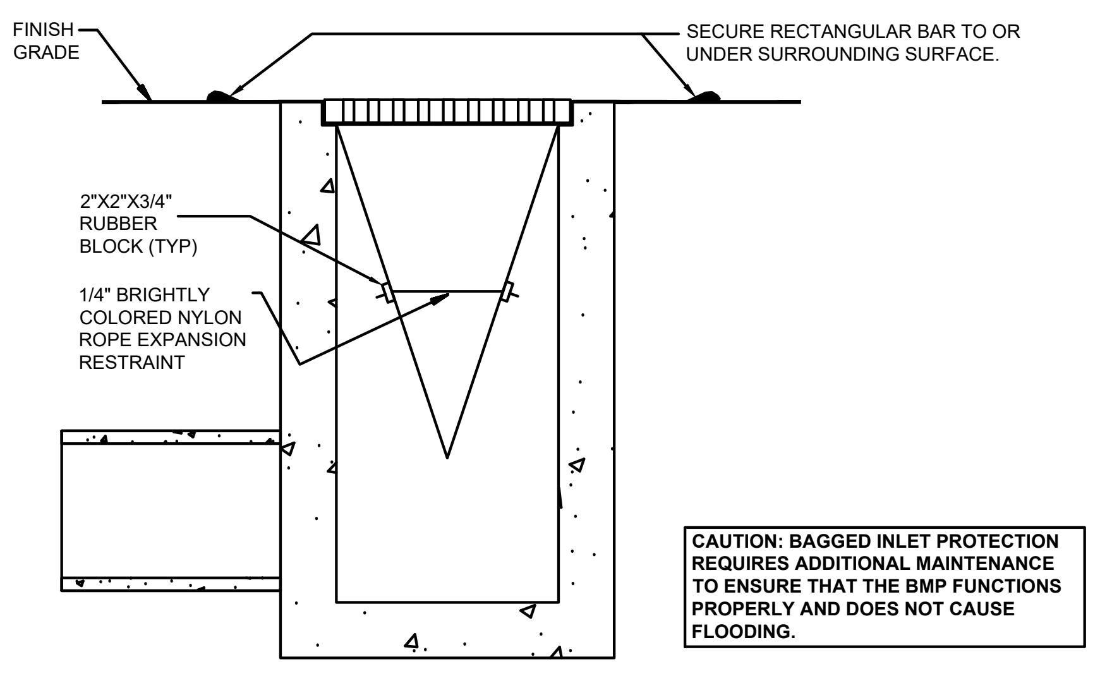
1. REMOVE TRAPPED SEDIMENT WHEN BRIGHTLY COLORED EXPANSION RESTRAINT CAN NO LONGER BE SEEN.
2. GEOTEXTILE SHALL BE A WOVEN POLYPROPYLENE FABRIC THAT MEETS OR EXCEEDS REQUIREMENTS IN THE SPECIFICATIONS TABLE.
3. PLACE AN OIL ADSORBENT PAD OR PILLOW OVER INLET GRATE WHEN OIL SPILLS ARE A CONCERN.
4. INSPECT PER REGULATORY EQUIREMENTS.
5. THE WIDTH, "W", OF THE FILTER SACK SHALL MATCH THE INSIDE WIDTH OF THE GRATED INLET BOX.
6. THE DEPTH, "D", OF THE FILTER SACK SHALL BE BETWEEN 18 INCHES AND 36 INCHES.
7. THE LENGTH, "L", OF THE FILTER SACK SHALL MATCH THE INSIDE LENGTH OF THE GRATED INLET BOX.
8. EXTRA CARE SHALL BE TAKEN TO ENSURE REGULAR MAINTENANCE OF FILTER SACKS USED IN RIGHT OF WAY TO ENSURE ADEQUATE DRAINAGE CAPACITY.

LOW TO MODERATE FLOW GEOTEXTILE FABRIC SPECIFICATION TABLE

PROPERTIES	TEST METHOD	UNITS
GRAB TENSILE STRENGTH	ASTM D-4632	300 LBS
GRAB TENSILE ELONGATION	ASTM D-4632	20 %
PUNCTURE	ASTM D-4833	120 LBS
MULLEN BURST	ASTM D-3786	800 PSI
TRAPEZOID TEAR	ASTM D-4533	120 LBS
UV RESISTANCE	ASTM D-4355	80 %
APPARENT OPENING SIZE	ASTM D-4751	40 US SIEVE
FLOW RATE	ASTM D-4491	40 GAL/MIN/SQ FT
PERMITTIVITY	ASTM D-4491	0.55 SEC -1

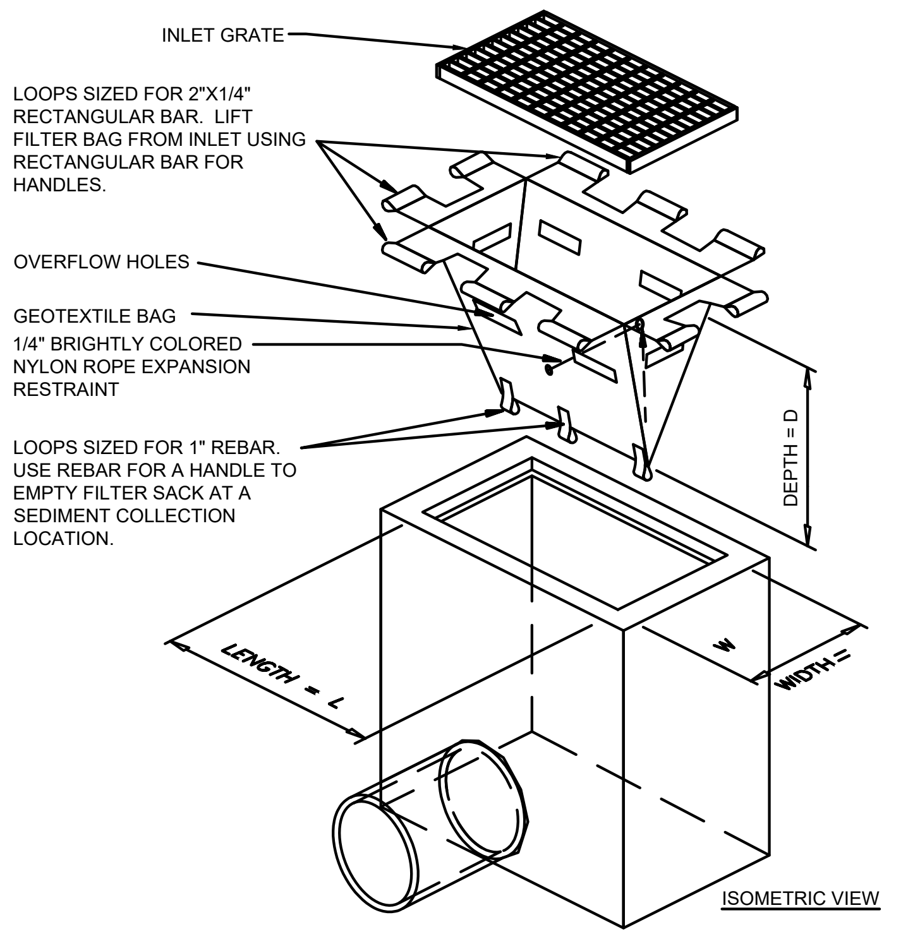
MODERATE TO HIGH FLOW GEOTEXTILE FABRIC SPECIFICATION TABLE

PROPERTIES	TEST METHOD	UNITS
GRAB TENSILE STRENGTH	ASTM D-4632	265 LBS
GRAB TENSILE ELONGATION	ASTM D-4632	20 %
PUNCTURE	ASTM D-4833	135 LBS
MULLEN BURST	ASTM D-3786	420 PSI
TRAPEZOID TEAR	ASTM D-4533	45 LBS
UV RESISTANCE	ASTM D-4355	90 %
APPARENT OPENING SIZE	ASTM D-4751	20 US SIEVE
FLOW RATE	ASTM D-4491	200 GAL/MIN/SQ FT
PERMITTIVITY	ASTM D-4491	1.5 SEC -1



SECTION VIEW
PROFILE VIEW OF INSTALLED FILTER SACK

CAUTION: BAGGED INLET PROTECTION REQUIRES ADDITIONAL MAINTENANCE TO ENSURE THAT THE BMP FUNCTIONS PROPERLY AND DOES NOT CAUSE FLOODING.

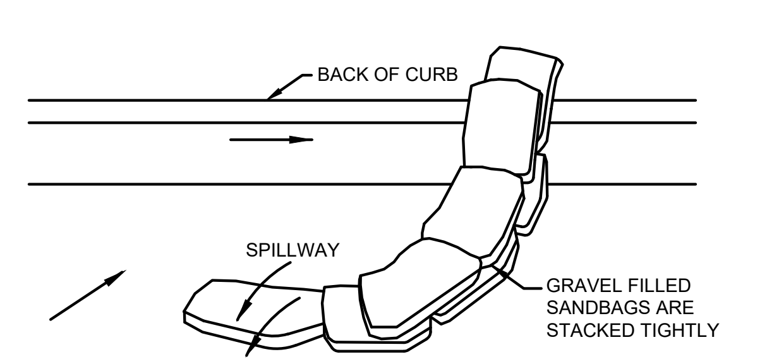


ISOMETRIC VIEW

GEOTEXTILE BAG INLET PROTECTION DETAIL

N.T.S.

**NOTE:
AVOID USING IN TRAFFIC AREAS AS THIS CAN CAUSE A HAZARD.**



NOTES:
1. PLACE CURB TYPE SEDIMENT BARRIERS ON GENTLY SLOPING STREET SEGMENTS WHERE WATER CAN POND AND ALLOW SEDIMENT TO SEPARATE FROM RUNOFF.
2. SANDBAGS OF EITHER BURLAP OR WOVEN GEOTEXTILE FABRIC, ARE FILLED WITH GRAVEL, LAYERED AND PACKED TIGHTLY.
3. TAPER TO ONE SANDBAG TO PROVIDE A SPILLWAY FOR OVERFLOW.
4. INSPECT BARRIERS AND REMOVE SEDIMENT AS NECESSARY. SEDIMENT AND GRAVEL MUST BE REMOVED FROM THE TRAVELED WAY IMMEDIATELY.

CURB LINE PROTECTION DETAIL

N.T.S.

CONSTRUCTION SEQUENCING TABLE

ANTICIPATED CONSTRUCTION SEQUENCE*	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
CONSTRUCTION ENTRANCE												
TEMPORARY CONTROL MEASURES												
STORM FACILITIES												
ROUGH GRADE / SEDIMENT CONTROL												
FOUNDATION / BUILDING CONSTRUCTION												
SITE CONSTRUCTION												
FINISH GRADING												
PERMANENT CONTROL MEASURES												

* THIS IS ONLY A GUIDE, CONTRACTOR IS TO USE HIS JUDGMENT TO MODIFY AS NEEDED.

Stormwater Team

Description	Name	Company
Contractor:		
Contractor's Responsible Authority:		
Qualified Inspector(s):		
Maintenance Personnel:		

The contractor shall complete this table identifying the individuals of the stormwater team and their responsibilities.

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Sarasota, FL 34237
Ph: 941.365.4771

Plans Prepared By:
CPH ,Inc.
State of Florida Licenses:
Engineer No. 3215
Surveyor No. LB7143
Architect. No. AA26000926
Landscape No. LC000298

DANIEL P. MOYER
No. 69057

No.	Date	Revision
1	10/26/18	OUT TO BID
2		
3		
4		
5		
6		
7		

Designed: K. Upp
Drawn: K. Upp
Checked: D. Moyer
Job No.: M13104.2
Date: 09/25/17

STORMWATER POLLUTION PREVENTION PLAN

PARKING LOT IMPROVEMENT PLANS FOR
WARNER'S BAYOU
MANATEE COUNTY / FLORIDA

THIS SHEET NOT VALID FOR CONSTRUCTION WITHOUT COMPLETE SET OF PLANS. SEE GENERAL NOTES FOR MASTER LEGEND.

Sheet No.
C1.2

LEGEND:

HEAVY DUTY CONCRETE. REF. SHEET C5.4

BID ALTERNATE #4

HEAVY DUTY CONCRETE W/ BROADCAST SHELL. REF. SHEET C5.5. FOR DETAIL.

STANDARD DUTY CONCRETE. REF. SHEET C5.2

BID ALTERNATE #4

STANDARD DUTY CONCRETE W/ BROADCAST SHELL. REF. SHEET C5.5. FOR DETAIL.

CONCRETE SIDEWALK

BID ALTERNATE #4

CONCRETE SIDEWALK W/ BROADCAST SHELL. REF. SHEET C5.5. FOR DETAIL.

BID ALTERNATE #1

FLEXI-PAVE CANOE / KAYAK LAUNCH PAD. REF. SHEET C5.5

PERVIOUS / IMPERVIOUS AREAS (SOUTH PARKING LOT)

PRE DEVELOPMENT:			
PERVIOUS AREA:	18,128 S.F.	(0.42 A.C.)	(38.18%)
IMPERVIOUS AREA:	29,837 S.F.	(0.68 A.C.)	(61.82%)
TOTAL DISTURBED AREA:	47,965 S.F.	(1.10 A.C.)	(100.00%)

POST DEVELOPMENT:			
PERVIOUS AREA:	22,914 S.F.	(0.52 A.C.)	(47.28%)
IMPERVIOUS AREA:	25,051 S.F.	(0.58 A.C.)	(52.72%)
TOTAL DISTURBED AREA:	47,965 S.F.	(1.10 A.C.)	(100.00%)

NOTE: EXISTING SHELL CONSIDERED IMPERVIOUS AREA

PARKING INFORMATION (SOUTH PARKING LOT):

PARKING SPACES PROVIDED	
BOAT TRAILER	17
STD. VEHICLE	10
ADA	1
TOTAL PARKING SPACES	28

FLOOD ZONE INFORMATION:

HAVING CONSULTED THE NATIONAL FLOOD INSURANCE PROGRAM, FLOOD INSURANCE RATE MAP (FIRM) COMMUNITY PANEL NO. 12081C0163E REVISED DATE 03/17/2014, THE SUBJECT PROPERTY APPEARS TO LIE IN ZONE AE WITH A BASE FLOOD ELEVATION OF 7' NAVD 1988.

SITE DATA INFORMATION:

PARCEL NUMBER: 3047600006 (3.5± A.C.)

ADDRESS: 5800 RIVERVIEW BLVD. BRADENTON FL, 34209

SECTION - 20 / TOWNSHIP - 34 S / RANGE - 17 E

ON-SITE LAND INFORMATION:

CURRENT LAND USE: RSF-2 (RESIDENTIAL SINGLE FAMILY)

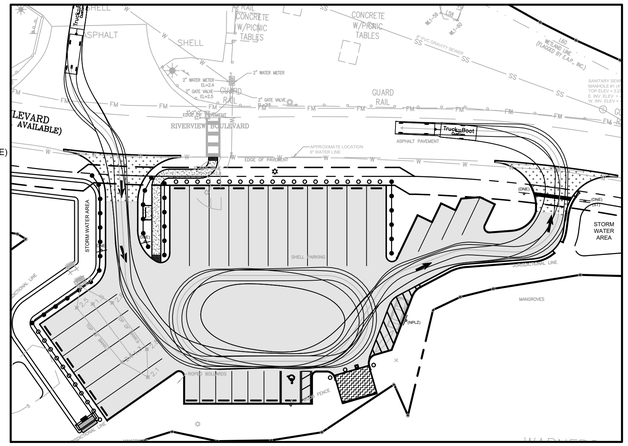
FUTURE LAND USE: R-OS (MAJOR RECREATION / OPEN SPACE)

AREA OF PROPOSED IMPROVEMENTS: 51,160 S.F. (1.17 A.C.)

DEVELOPMENT TYPE: PARK / RECREATION

ADJACENT LAND INFORMATION:

EXISTING LAND USE (EAST): RES-3, R-OS



TRUCK WITH TRAILER ROUTE

N.T.S.

NOTE:

1. NO NEW LIGHTING IS PROPOSED AS PART OF THESE IMPROVEMENTS. EXISTING LIGHTING NOTED ON PLAN AND SHALL REMAIN.
2. MAINTAIN 36" MINIMUM COVER OVER EXISTING WATER MAINS.

BID ALTERNATE #2

PROPOSED LIGHT POLE AND FIXTURE. REF. SHEET C5.5. FOR FIXTURE SPECIFICATION. CONTRACTOR TO PROVIDE POLE AND MOUNTING BRACKET. CONTRACTOR TO PROVIDE SHOP DRAWINGS TO ENGINEER FOR APPROVAL.

BID ALTERNATE #3

REMOVE EXIST. LIGHT FIXTURE AND REPLACE WITH NEW LIGHT FIXTURE. REF. SHEET C5.5. FOR FIXTURE SPECIFICATION.

BID ALTERNATE #1

FLEXI-PAVE CANOE / KAYAK LAUNCH PAD. CONTRACTOR TO REGRADE EXISTING SHELL AS NECESSARY TO ENSURE SMOOTH SLOPE PRIOR TO INSTALLATION. PROVIDE RIBBON CURB ALONG THE BOTTOM EDGE OF THE RAMP. NO WORK IS ALLOWED BELOW THE MEAN HIGH WATER LINE. REF. SHEET C5.5.

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Architect. No. AA26000926
Landscape No. LC000298

No.	Date	Revision
1	10/26/18	OUT TO BID

Designed: K. Upp
Drawn: K. Upp
Checked: D. Moyer
Job No.: M13104.2
Date: 09/25/17
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SITE DIMENSION PLAN

PARKING LOT IMPROVEMENT PLANS FOR WARNER'S BAYOU

MANATEE COUNTY / FLORIDA

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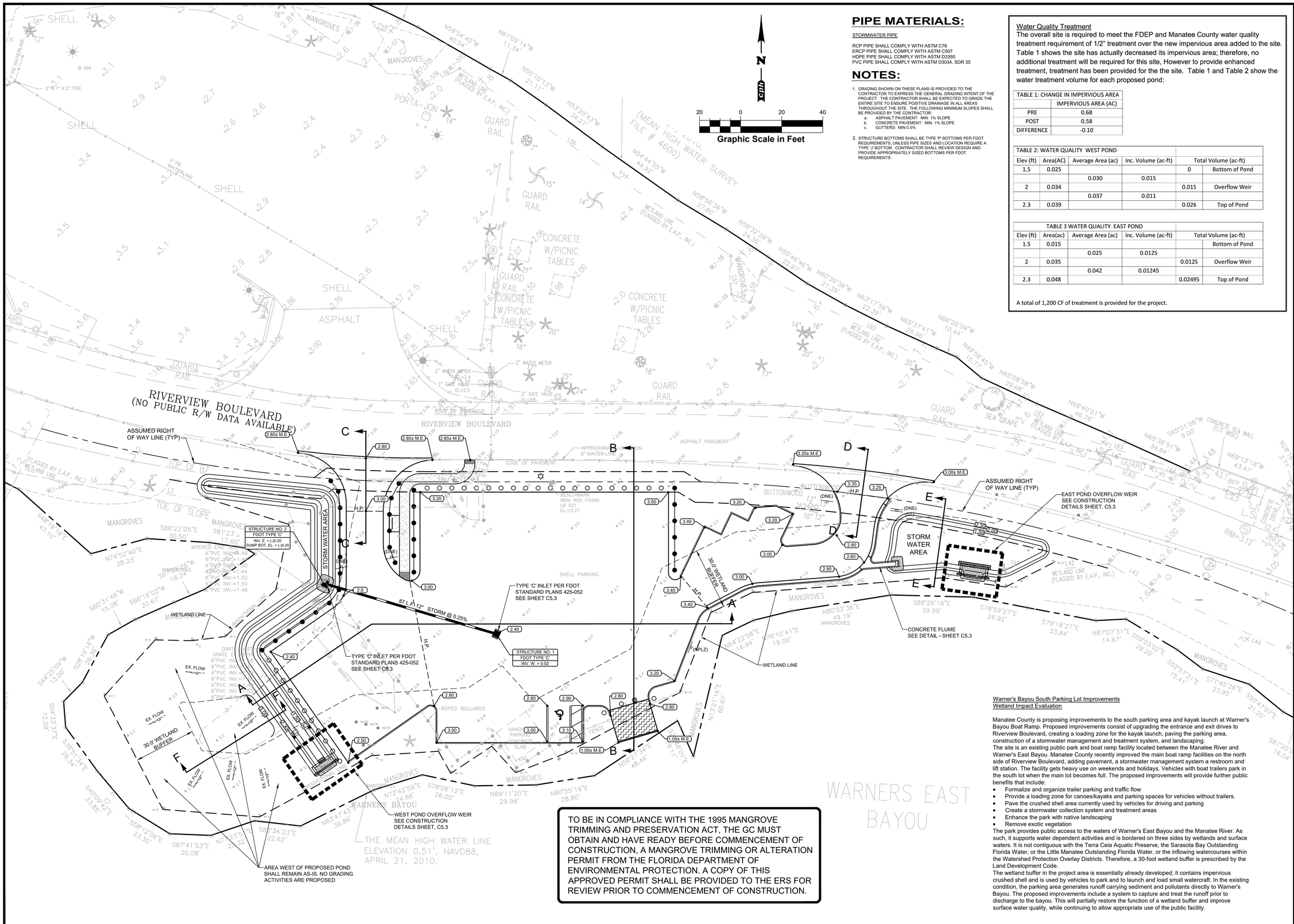
Sheet No.
C1.3



TO BE IN COMPLIANCE WITH THE 1995 MANGROVE TRIMMING AND PRESERVATION ACT, THE GC MUST OBTAIN AND HAVE READY BEFORE COMMENCEMENT OF CONSTRUCTION, A MANGROVE TRIMMING OR ALTERATION PERMIT FROM THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION. A COPY OF THIS APPROVED PERMIT SHALL BE PROVIDED TO THE ERS FOR REVIEW PRIOR TO COMMENCEMENT OF CONSTRUCTION.

PIPE MATERIALS:

STORMWATER PIPE

RCP PIPE SHALL COMPLY WITH ASTM C76
ERCP PIPE SHALL COMPLY WITH ASTM C507
HDPE PIPE SHALL COMPLY WITH ASTM D3350
PVC PIPE SHALL COMPLY WITH ASTM D3034, SDR 35

NOTES:

1. GRADING SHOWN ON THESE PLANS IS PROVIDED TO THE CONTRACTOR TO EXPRESS THE GENERAL GRADING INTENT OF THE PROJECT. THE CONTRACTOR SHALL BE EXPECTED TO GRADE THE ENTIRE SITE TO ENSURE POSITIVE DRAINAGE IN ALL AREAS THROUGHOUT THE SITE. THE FOLLOWING MINIMUM SLOPES SHALL BE PROVIDED BY THE CONTRACTOR:
   a. ASPHALT PAVEMENT: MIN. 1% SLOPE
   b. CONCRETE PAVEMENT: MIN. 1% SLOPE
   c. GUTTERS: MIN 0.5%
2. STRUCTURE BOTTOMS SHALL BE TYPE 'P' BOTTOMS PER FDOT REQUIREMENTS, UNLESS PIPE SIZES AND LOCATION REQUIRE A TYPE 'J' BOTTOM. CONTRACTOR SHALL REVIEW DESIGN AND PROVIDE APPROPRIATELY SIZED BOTTOMS PER FDOT REQUIREMENTS.

Water Quality Treatment

The overall site is required to meet the FDEP and Manatee County water quality treatment requirement of 1/2" treatment over the new impervious area added to the site. Table 1 shows the site has actually decreased its impervious area; therefore, no additional treatment will be required for this site, However to provide enhanced treatment, treatment has been provided for the the site. Table 1 and Table 2 show the water treatment volume for each proposed pond:

TABLE 1: CHANGE IN IMPERVIOUS AREA	
	IMPERVIOUS AREA (AC)
PRE	0.68
POST	0.58
DIFFERENCE	-0.10

TABLE 2: WATER QUALITY WEST POND					
Elev (ft)	Area(AC)	Average Area (ac)	Inc. Volume (ac-ft)	Total Volume (ac-ft)	
1.5	0.025			0	Bottom of Pond
		0.030	0.015		
2	0.034			0.015	Overflow Weir
		0.037	0.011		
2.3	0.039			0.026	Top of Pond

TABLE 3 WATER QUALITY EAST POND					
Elev (ft)	Area(ac)	Average Area (ac)	Inc. Volume (ac-ft)	Total Volume (ac-ft)	
1.5	0.015				Bottom of Pond
		0.025	0.0125		
2	0.035			0.0125	Overflow Weir
		0.042	0.01245		
2.3	0.048			0.02495	Top of Pond

A total of 1,200 CF of treatment is provided for the project.

Warner's Bayou South Parking Lot Improvements
Wetland Impact Evaluation

Manatee County is proposing improvements to the south parking area and kayak launch at Warner's Bayou Boat Ramp. Proposed improvements consist of upgrading the entrance and exit drives to Riverview Boulevard, creating a loading zone for the kayak launch, paving the parking area, construction of a stormwater management and treatment system, and landscaping.
The site is an existing public park and boat ramp facility located between the Manatee River and Warner's East Bayou. Manatee County recently improved the main boat ramp facilities on the north side of Riverview Boulevard, adding pavement, a stormwater management system a restroom and lift station. The facility gets heavy use on weekends and holidays. Vehicles with boat trailers park in the south lot when the main lot becomes full. The proposed improvements will provide further public benefits that include:

- Formalize and organize trailer parking and traffic flow
- Provide a loading zone for canoes/kayaks and parking spaces for vehicles without trailers.
- Pave the crushed shell area currently used by vehicles for driving and parking
- Create a stormwater collection system and treatment areas
- Enhance the park with native landscaping
- Remove exotic vegetation

The park provides public access to the waters of Warner's East Bayou and the Manatee River. As such, it supports water dependent activities and is bordered on three sides by wetlands and surface waters. It is not contiguous with the Terra Ceia Aquatic Preserve, the Sarasota Bay Outstanding Florida Water, or the Little Manatee Outstanding Florida Water, or the inflowing watercourses within the Watershed Protection Overlay Districts. Therefore, a 30-foot wetland buffer is prescribed by the Land Development Code.
The wetland buffer in the project area is essentially already developed; it contains impervious crushed shell and is used by vehicles to park and to launch and load small watercraft. In the existing condition, the parking area generates runoff carrying sediment and pollutants directly to Warner's Bayou. The proposed improvements include a system to capture and treat the runoff prior to discharge to the bayou. This will partially restore the function of a wetland buffer and improve surface water quality, while continuing to allow appropriate use of the public facility.

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Job No.: M13104.2
Date: 09/25/17

GRADING AND STORM DRAINAGE PLAN

PARKING LOT IMPROVEMENT PLANS FOR WARNER'S BAYOU

MANATEE COUNTY / FLORIDA

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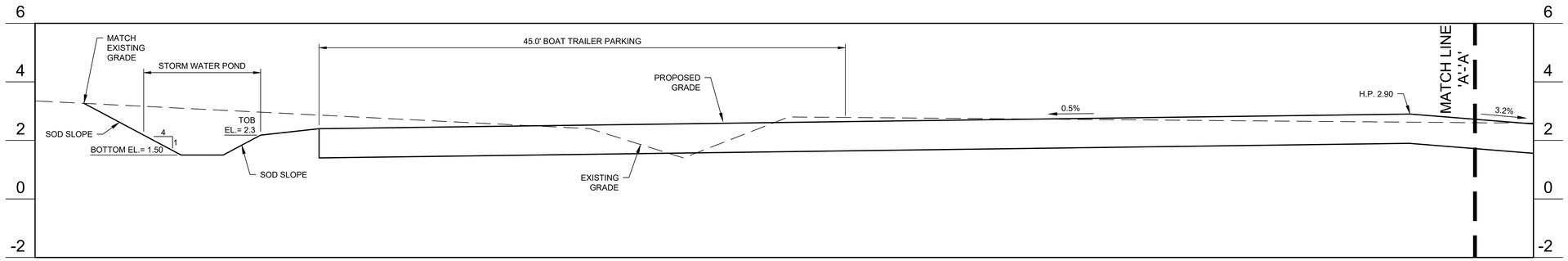
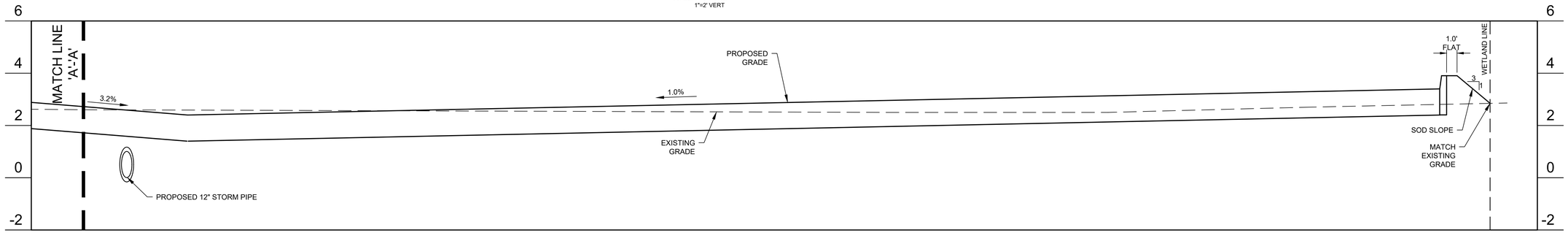
Sheet No.
C1.4



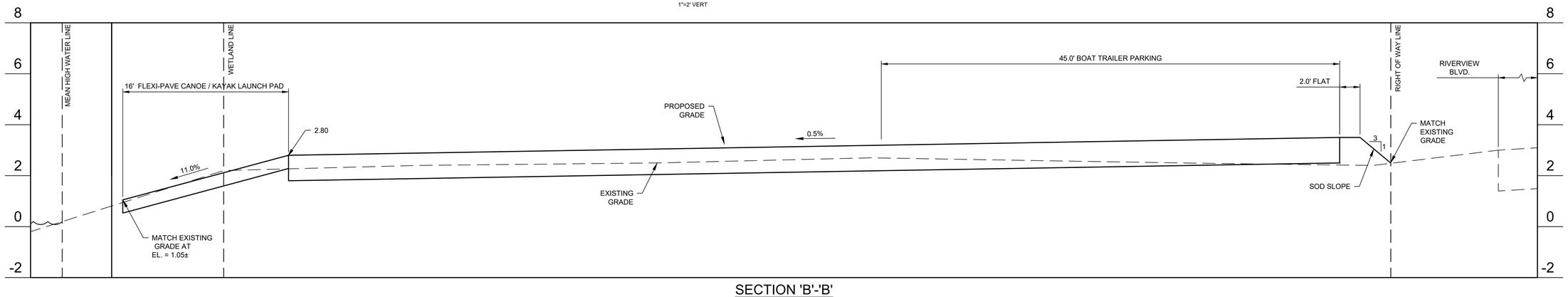
SECTION 'A'-'A'

SCALE: 1"=5' HORIZ
1"=2' VERT



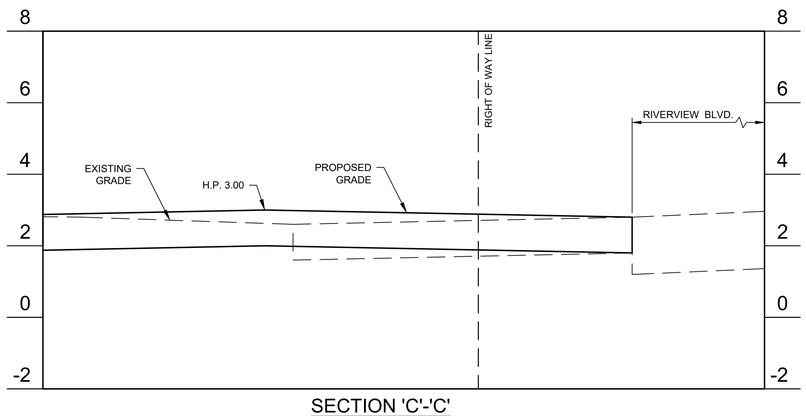
SECTION 'A'-'A'

SCALE: 1"=5' HORIZ
1"=2' VERT



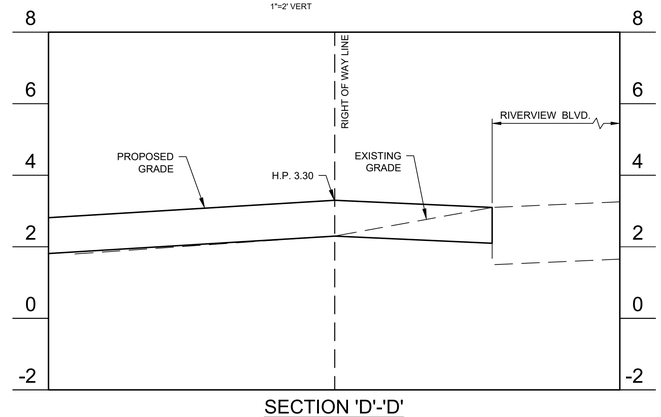
SECTION 'B'-'B'

SCALE: 1"=5' HORIZ
1"=2' VERT



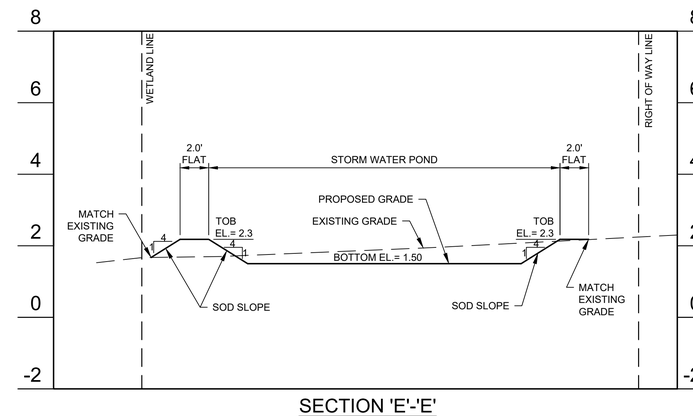
SECTION 'C'-'C'

SCALE: 1"=5' HORIZ
1"=2' VERT



SECTION 'D'-'D'

SCALE: 1"=5' HORIZ
1"=2' VERT



SECTION 'E'-'E'

SCALE: 1"=5' HORIZ
1"=2' VERT

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DANIEL P. MOYER LICENSE No. 69057 STATE OF FLORIDA PROFESSIONAL ENGINEER

No.	Date	Revision
1	10/26/18	OUT TO BID

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Drawn: K. Upp
Checked: D. Moyer
Job No.: M13104.2
Date: 09/25/17

CONSTRUCTION DETAILS SHEET

PARKING LOT IMPROVEMENT PLANS FOR WARNER'S BAYOU

MANATEE COUNTY / FLORIDA

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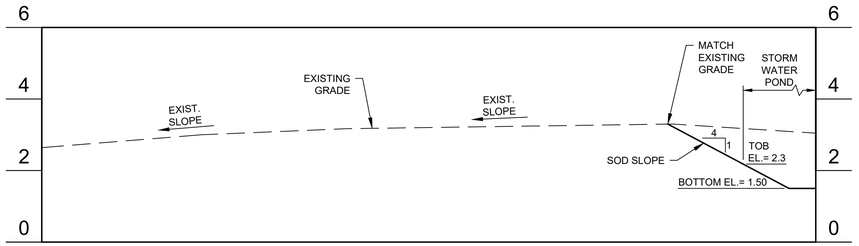
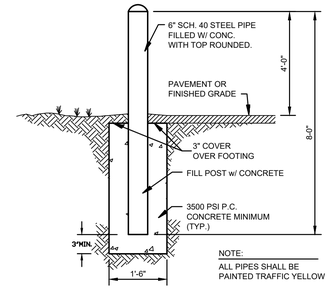
Sheet No.
C5.1



SECTION 'F'-'F'

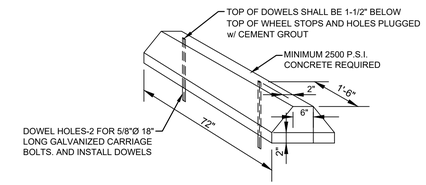
SCALE: 1"=5' HORIZ
1"=2' VERT



NOTE:
ALL PIPES SHALL BE PAINTED TRAFFIC YELLOW

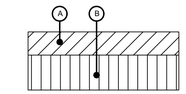
PIPE BOLLARD

N.T.S.



CONCRETE WHEEL STOP DETAIL

N.T.S.

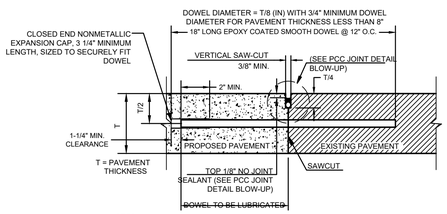


(A) 5" MINIMUM 3000 PSI 28 DAY COMPRESSIVE STRENGTH (6X6 #10 WWR)

(B) 12" STABILIZED BASE (98% DENSITY OF MODIFIED PROCTOR)

STANDARD DUTY CONCRETE PAVEMENT

N.T.S.



NOTES:

1. DOWEL BARS SHALL BE DRILLED 9" DEEP, 12" ON CENTER INTO VERTICAL FACE OF EXISTING PAVEMENT BY USE OF A MECHANICAL RIG; CLEAN HOLES THOROUGHLY.

2. **DRILLING BY HAND OR PUSHING DOWEL BARS INTO GREEN CONCRETE IS NOT ACCEPTABLE.**

3. COMPLETELY FILL HOLE WITH EPOXY GROUT AND INSERT DOWEL WITH EXPANSION CAPS SHOWN IN DETAIL; INSTALL EXPANSION CAPS ON THE FREE END OF THE DOWELS.

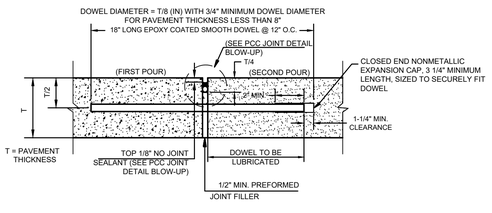
4. DOWELS SHALL BE ALIGNED PERPENDICULAR TO THE JOINT.

5. DRILLING, CLEANING, AND GROUTING SHALL BE PERFORMED PER THE EPOXY MANUFACTURER'S REQUIREMENTS FOR THIS SPECIFIC APPLICATION.

6. FOR EPOXY GROUT, THE HOLE DIAMETER SHALL BE NOT MORE THAN 1/8" LARGER THAN THE DOWEL DIAMETER OR AS DIRECTED BY THE EPOXY MANUFACTURER.

6. FOR CEMENT-BASED GROUT, THE HOLE DIAMETER SHALL BE ATLEAST 1/4" LARGER AND NOT MORE THAN 3/8" LARGER THAN THE DOWEL DIAMETER OR AS DIRECTED BY THE EPOXY MANUFACTURER.

BUTT JOINT

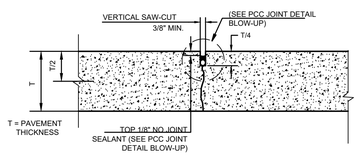


NOTES:

1. DOWELS SHALL BE SUPPORTED BY AN APPROVED DEVICE, DRILLING BY HAND OR PUSHING DOWEL BARS INTO GREEN CONCRETE IS NOT ACCEPTABLE.

2. REFERENCE SPECIFICATION FOR JOINT SPACING.

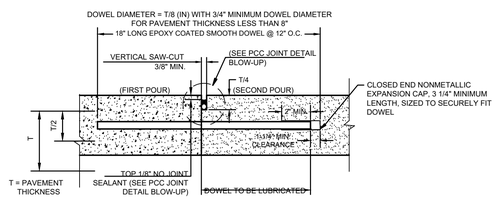
TRANSVERSE EXPANSION JOINT



NOTE:

1. REFERENCE SPECIFICATIONS FOR JOINT SPACING.

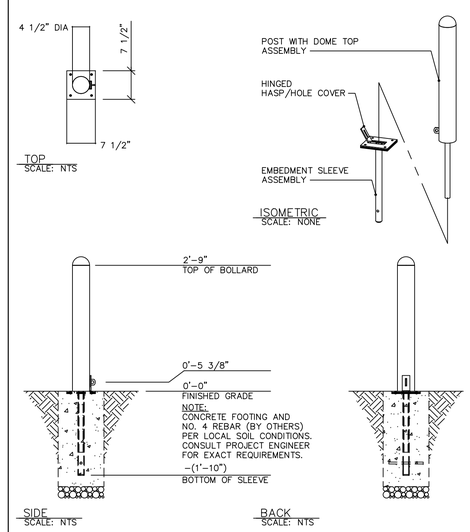
CONTRACTION JOINT



NOTE:

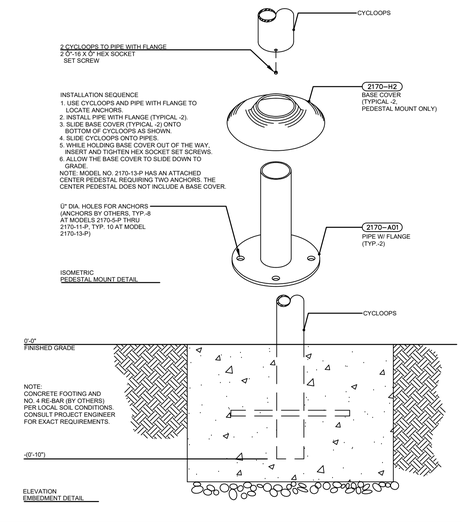
1. DOWELS SHALL BE SUPPORTED BY AN APPROVED DEVICE, DRILLING BY HAND OR PUSHING DOWEL BARS INTO GREEN CONCRETE IS NOT ACCEPTABLE.

CONSTRUCTION JOINT



REMOVABLE BOLLARD

N.T.S.



Date	Revision	By
DATE	REVISION	DWN/CHK
DATE	REVISION	DWN/CHK
DATE	REVISION	DWN/CHK
DATE	REVISION	DWN/CHK

Scale: SCALE | Drawn by: DRAWN-BY | DATE-DWN
O.V. by: CK D-BY | DATE-CHK

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Makers of TimberForm ® Pipe, Lock ® Railway ® and TimberForm ® 2 and CycLoops ® Products.
1300 S.W. Sixth Avenue, Suite 310 Telephone 503/223-1157
Portland, Oregon 97201-3464 Facsimile 503/223-6330
U.S.A.

Title: SERIES
MODEL-NO.
MODEL-DESCRIPTION
MODEL-DESCRIPTION
PROJECT-NAME
PROJECT-LOCATION
CUST-NAME
Drawing No.: DWG-NO.
Sheet: S of T

Date	Revision	By
07-26-07	DEL ETC-DS	DL/CL
08-24-04	ADD ETC-S	JJ/TB
12-20-00	ADD DIMENSION	JJ/TB
12-08-00	REVISE	DL/CL

Scale: AS-NOTED | Drawn by: DK | 10-26-00
O.V. by: CL | 10-26-00

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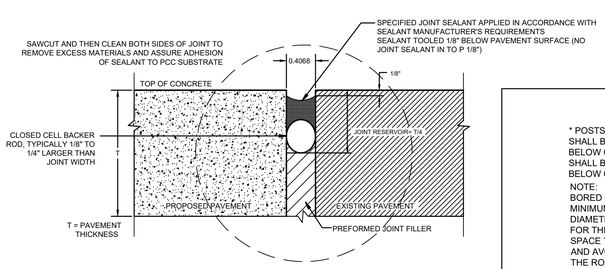
Title: TIMBERFORM CYCLOOPS
ORIGINAL CYCLOOPS
Drawing No.: E-2170
Sheet: 1 of 1



NOTES:

1. ASSURE SAW JOINTS ARE CLEAN AND DRY PRIOR TO THE APPLICATION OF THE JOINT SEALANT.

2. INSTALL CLOSED CELL BACKER ROD AFTER JOINTS HAVE BEEN CLEANED AND DRIED IN ACCORDANCE WITH SEALANT MANUFACTURER'S REQUIREMENTS.

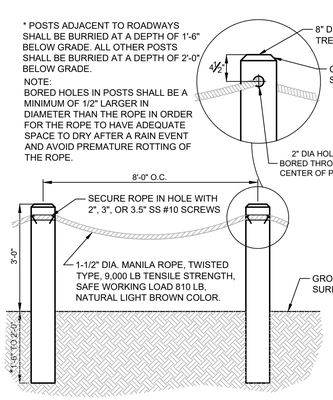
3. INSTALL BACKER ROD AT CONSISTENT AND UNIFORM DEPTH.

4. JOINT SEALANT APPLICATION SHALL BE IN STRICT COMPLIANCE WITH SEALANT MANUFACTURER'S REQUIREMENTS.

PCC JOINT DETAIL BLOW-UP (TYP.)

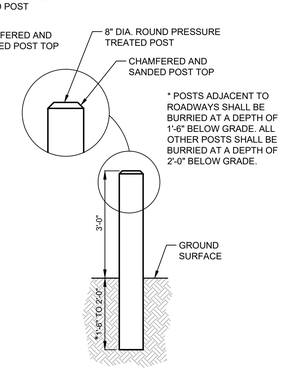
CONCRETE JOINT DETAILS

N.T.S.



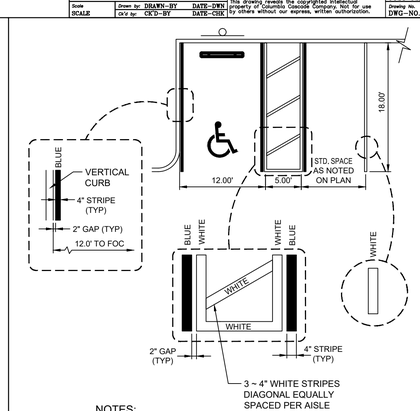
POST AND ROPE DETAIL

N.T.S.



WOOD BOLLARD DETAIL

N.T.S.

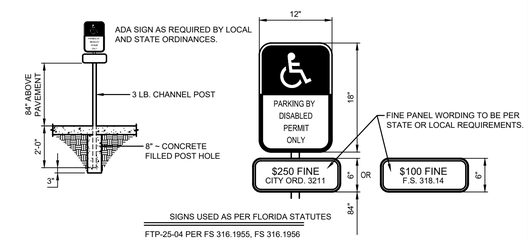


NOTES:

1. DIMENSIONS ARE FROM CENTER OF WHITE LINE TO CENTER OF WHITE LINE.
2. GUTTER PANS CAN BE INCLUDED IN THE WIDTH AND LENGTH OF THE PARKING SPACE, HOWEVER, THEY MUST NOT EXCEED 1.5% CROSS SLOPE.
3. STRIPES REPRESENTED IN THIS DETAIL ARE 4" WIDE (TYP). GOVERNING CODE REQUIREMENTS MAY DIFFER.

HANDICAP STRIPING DETAIL

N.T.S.



SIGNS USED AS PER FLORIDA STATUTES

FTP-25-04 PER FS 316.1955, FS 316.1956

NOTES: (HANDICAP SIGN ONLY)

1. THE SIGN'S FACE SHALL BE OF AN ENGINEERING GRADE REFLECTORIZED MATERIAL.
2. ALL LETTERS ARE 1 INCH SERIES "C" PER THE MUTCD.
3. THE TOP PORTION OF THE SIGN SHALL HAVE A BLUE BACKGROUND WITH A WHITE LEGEND AND BORDER.
4. THE BOTTOM PORTION OF THE SIGN SHALL HAVE A WHITE BACKGROUND WITH A BLACK OPAQUE LEGEND AND BORDER.
5. THE FINE NOTIFICATION SIGN SHALL HAVE A WHITE BACKGROUND WITH A BLACK OPAQUE LEGEND AND BORDER.
6. ONE SIGN SHALL BE REQUIRED FOR EACH PARKING SPACE.
7. EACH SIGN SHALL HAVE A CLEARANCE OF 7 FEET FROM THE BOTTOM OF THE SIGN TO FINAL GRADE OR THE TOP OF CURB, WHICHEVER IS GREATER. SIGNS SHALL NOT BE FARTHER THAN 5 FEET FROM THE FRONT OF THE PARKING SPACE.
8. ALL SIGNS SHALL BE MOUNTED ON 3 POUND CHANNEL POSTS. SIGNS MAY BE MOUNTED ON BUILDINGS WITH CITY APPROVAL.

ACCESSIBLE SIGN

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Architect. No. AA26000926
Landscape No. LC000298

DANIEL P. MOYER ★ LICENSE No. 69057 ★ STATE OF Florida ★ PROFESSIONAL ENGINEER

No.	Date	Revision
1	10/26/18	OUT TO BID
2		
3		
4		
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Designed: K. Upp
Drawn: K. Upp
Checked: D. Moyer
Job No.: M13104.2
Date: 09/25/17

CONSTRUCTION DETAILS SHEET

PARKING LOT IMPROVEMENT PLANS FOR WARNER'S BAYOU

MANATEE COUNTY / FLORIDA

THIS SHEET NOT VALID FOR CONSTRUCTION WITHOUT COMPLETE SET OF PLANS. SEE GENERAL NOTES FOR MASTER LEGEND.

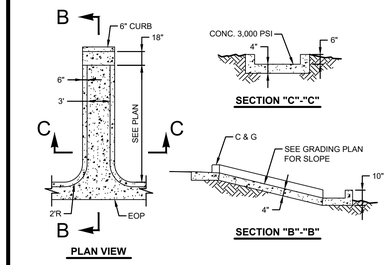
Sheet No.
C5.2

PLAN VIEW
1"=5'

WEST POND OVERFLOW WEIR
SCALE: AS NOTED

PLAN VIEW
1"=5'

EAST POND OVERFLOW WEIR
SCALE: AS NOTED



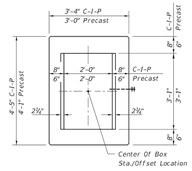
PLAN VIEW

SECTION "C"-"C"

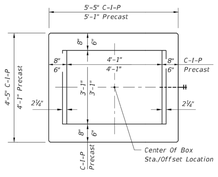
SECTION "B"-"B"

CONCRETE: 28 DAY COMPRESSION STRENGTH, 3,000 P.S.I., 4"THICK MINIMUM W/ 6X6-W1.4XW1.4 WWF.

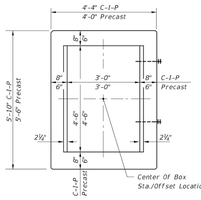
FLUME DETAIL
N.T.S.



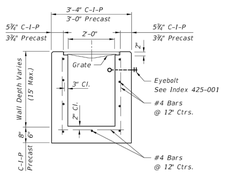
PLAN



PLAN



PLAN



SECTION

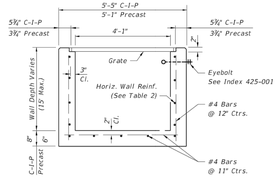
HORIZONTAL WALL REINFORCING SCHEDULES (TABLE 1)

WALL DEPTH	SCHEDULE	AREA (in.²/ft.)	MAX. SPACING	
			BARS	WWF
0'-15'	A12	0.20	12"	8"

TYPE C

Recommended Maximum Pipe Size:

2'-0" Wall - 18" Pipe
3'-1" Wall - 24" Pipe (18" where an 18" pipe enters a 2'-0" wall)



SECTION

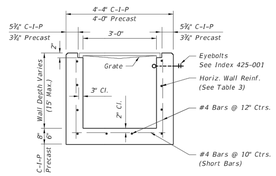
HORIZONTAL WALL REINFORCING SCHEDULES (TABLE 2)

WALL DEPTH	SCHEDULE	AREA (in.²/ft.)	MAX. SPACING	
			BARS	WWF
0'-6'	A12	0.20	12"	8"
6'-10'	A6	0.20	6"	5"
10'-13'	A4	0.20	4"	3"
10'-15'	B5.5	0.24	5½"	5"

TYPE D

Recommended Maximum Pipe Size:

3'-1" Wall - 24" Pipe
4'-1" Wall - 36" Pipe



SECTION

HORIZONTAL WALL REINFORCING SCHEDULES (TABLE 3)

WALL DEPTH	SCHEDULE	AREA (in.²/ft.)	MAX. SPACING	
			BARS	WWF
0'-5'	A12	0.20	12"	8"
0'-7.5'	A6	0.20	6"	5"
7.5'-10'	B5.5	0.24	5½"	5"
10'-15'	C6.5	0.37	6½"	6"

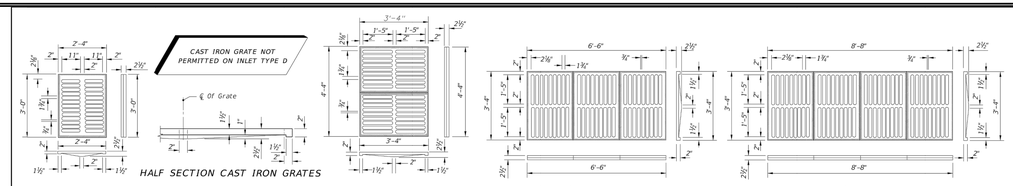
TYPE E

Recommended Maximum Pipe Size:

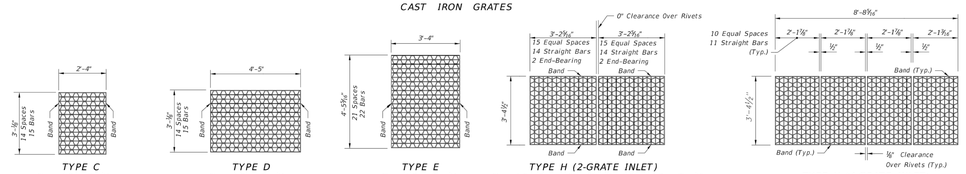
3'-0" Wall - 24" Pipe
4'-6" Wall - 36" Pipe

LAST REVISION	DESCRIPTION:
11/01/17	

FDOT — FY 2018-19 STANDARD PLANS — DITCH BOTTOM INLET TYPES C, D, E AND H — INDEX 425-052 — SHEET 1 of 7



CAST IRON GRATES



TYPE C
Straight Bars 2" x ¼"
Reticuline Bars 1½" x 9/16"
Bands 2" x ¼"
Approx. Weight 104 Lbs.

TYPE D
Straight Bars 2" x ¼"
Reticuline Bars 1½" x 9/16"
Bands 2" x ¼"
Approx. Weight 190 Lbs.

TYPE E
Straight Bars 2" x ¼"
Reticuline Bars 1½" x 9/16"
Bands 2" x ¼"
Approx. Weight 215 Lbs.

TYPE H (2-GRATE INLET)
Straight End-Bearing Bars 2" x ⅜"
Straight Bearing Bars 2" x ¼"
Reticuline Bars 1½" x 9/16"
Banding Bars 2" x ¼"
Approx. Total Weight 310 Lbs.

TYPE H (4-GRATE INLET)
Straight End-Bearing Bars 2" x ¼"
Reticuline Bars 1½" x 9/16"
Banding Bars 2" x 9/16"
Approx. Total Weight 388 Lbs.

STEEL GRATES

NOTE: Steel Grates Are Required On Inlets With Traversable Slots And On Inlets where Bicycle Traffic Is Anticipated.

GENERAL NOTES

1. These inlets are suitable for bicycle traffic and are to be used in ditches, medians and other areas subject to infrequent traffic loadings but are not to be placed in areas subject to any heavy wheel loads. These inlets may be placed in areas subject to occasional pedestrian traffic such as landscaped areas and pavement areas where pedestrians can walk around the inlet.
2. Inlets subject to minimal debris should be constructed without slots. Where debris is a problem inlets should be constructed with slots. Slotted inlets located within roadway clear zones and areas subject to pedestrians shall have traversable slots. The traversable slot modification is not adaptable to inlet Type H. Slots may be constructed at either or both ends as shown on plans. Traversable slots shall not be used in areas subject to occasional bicycle traffic.
3. Steel grates are to be used on all inlets where bicycle traffic is anticipated. Steel grates are to be used on all inlets with traversable slots. Either cast iron or steel grates may be used on inlets without slots where bicycle traffic is not anticipated. Either cast iron or steel grates may be used on all inlets with non-traversable slots. Subject to the selection described above, when Alternate G grate is specified in the plans, either the steel grate, hot dip galvanized after fabrication, or the cast iron grate may be used, unless the plans stipulate the particular type.
4. Recommended maximum pipe sizes shown are for concrete pipe. Size for other types of pipe must be checked for fit.
5. All exposed edges and corners shall be ⅜" chamfer or tooled to ½" radius.
6. Concrete inlet pavement to be used on inlets without slots and inlets with non-traversable slots only when called for in the plans; but required on all traversable slot inlets. Cost to be included in contract unit price for inlets. Quantities shown are for information only.
7. Traversable slots constructed in existing inlets shall be paid for as inlets partial. For conversion work and method of payment see "TRAVERSABLE SLOT INLETS (PARTIAL) FOR EXISTING INLETS".
8. Sodding to be used on all inlets not located in paved areas and paid for under contract unit price for Performance Turf, SY.
9. For supplementary details see Index 425-001.
10. All reinforcing is Grade 60 bars with 2" min. cover unless otherwise noted. Bars to be cut or bent for 1½" clearance around pipe opening. Provide one additional #4 bar above and at each side of pipe opening.

LAST REVISION	DESCRIPTION:
11/01/17	

FDOT — FY 2018-19 STANDARD PLANS — DITCH BOTTOM INLET TYPES C, D, E AND H — INDEX 425-052 — SHEET 3 of 7

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Landscape No. LC000298

DANIEL P. MOYER LICENSE No. 69057 STATE OF Florida PROFESSIONAL ENGINEER

No.	Date	Revision
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Designed: K. Upp
Drawn: K. Upp
Checked: D. Moyer
Job No.: M13104.2
Date: 09/25/17
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CONSTRUCTION DETAILS SHEET

PARKING LOT IMPROVEMENT PLANS FOR WARNER'S BAYOU

MANATEE COUNTY / FLORIDA

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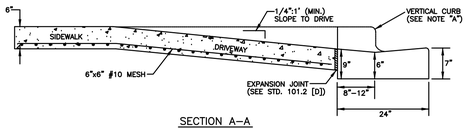
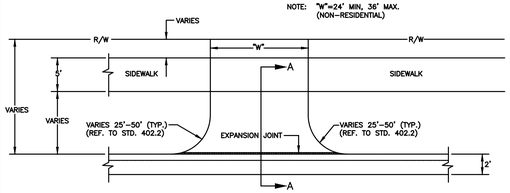
Sheet No.
C5.3



SECTION A–A

NOTE: "W"=24' MIN, 36' MAX. (NON–RESIDENTIAL)



PLAN VIEW

A) IF REPLACING VERTICAL CURB AND GUTTER, REPLACE WITH MIAMI CURB AND GUTTER.
* NO CHANGE WITH 3' VALLEY CROSSING

B) SIDEWALK, CONSTRUCT WITH 6" CONCRETE, 6"X6" #10 MESH, 3000 PSI AT 28 DAYS.

C) DRIVEWAY CONSTRUCTED WITH 6" CONCRETE WITH 6"X6" #10 MESH, 3000 PSI AT 28 DAYS.

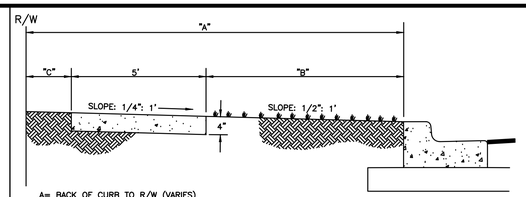
D) EXPANSION JOINT 1/2" PREFORMED JOINT FILLER PER FDOT SECTION 932–1.1 OR APPROVED ALTERNATE.
* IF DRIVE IS WIDER THAN 12', ADD JOINTS AT 10' CENTERS

E) 5' SIDEWALK ON LOCAL STREETS, 5' SIDEWALK ON THOROUGHFARES.
(MIXED USE PATHS MAY REQUIRE 8' SIDEWALKS PER LAND DEVELOPMENT CODE.)

MANATEE COUNTY
TRANSPORTATION DEPARTMENT

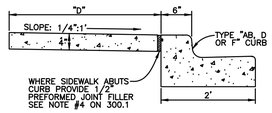
REV.BY	DATE	
		6/12/07 DATE OF B.O.C.C. APPROVAL

COMMERCIAL & INDUSTRIAL DRIVE — 101.3



A= BACK OF CURB TO R/W (VARIES)
B= UNPAVED AREA (VARIES), REFER TO F.D.O.T. GREEN BOOK, TABLE 3–12, LATEST REVISION.
C= VARIES, SEE 401 SERIES

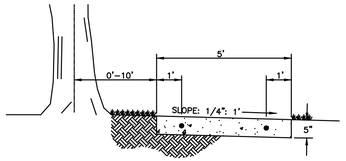
TYPICAL SIDEWALK LOCATION



D= SIDEWALK WIDTH SHALL BE 6' STANDARD, WHERE WALK ABUTS TYPE "AB, D OR F" CURB. WHERE SPEED LIMIT IS 25 MPH OR LESS, WIDTH CAN BE 5'–6'.

* SEE SHEET 300.1 "GENERAL NOTES" FOR FURTHER INFORMATION

ALTERNATE SIDEWALK LOCATION



SIDEWALK LOCATION CLOSE TO TREES

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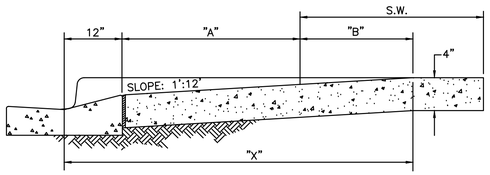
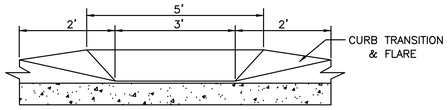
REV.BY	DATE	
		6/12/07 DATE OF B.O.C.C. APPROVAL

SIDEWALK REQUIREMENTS — 301.1



SECTION A–A
(SEE SHEET 301.0)

S.W.= SIDEWALK	"A"	S.W.+ A + 10"	"X"	"B"
5'	0	5.8'	5.8'	5'
6'	0	6.8'	6.8'	6'
7'	0	7.8'	7.3'	6.5'
8'	0	8.8'	7.3'	6.5'
5'	2'	7.8'	7.8'	5'
5'	2.5'	8.3'	8.1'	4.8'
5'	3'	8.8'	8.2'	4.4'
5'	3.5'	9.3'	8.4'	4.1'
5'	4'	9.8'	8.6'	3.8'
5'	4.5'	10.3'	8.7'	3.4'
5'	5'	10.8'	9.1'	3.1'



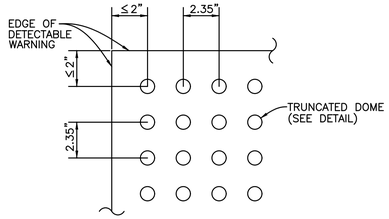
SECTION B–B
(SEE SHEET 301.0)

NOTE: FOR COMPLETE HANDICAP, PUBLIC SIDEWALK AND CURB RAMP DETAILS, SEE F.D.O.T. DESIGN STANDARDS, 2006 EDITION, INDEX 304, SHEETS 1 THROUGH 6.

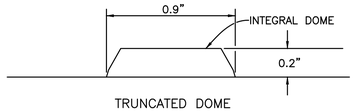
TRANSPORTATION DEPARTMENT

REV.BY	DATE	
		6/12/07 DATE OF B.O.C.C. APPROVAL

HANDICAPPED RAMP SHEET 2 — 302.2



PLAN VIEW



TRUNCATED DOME

CURB RAMP DETECTABLE WARNING DETAIL

NOTES:

DETECTABLE WARNINGS ON WALKING SURFACES

THE DETECTABLE WARNING SHALL EXTEND THE FULL WIDTH AND DEPTH OF THE CURB RAMP.

DETECTABLE WARNINGS SHALL CONSIST OF RAISED TRUNCATED DOMES WITH A DIAMETER OF NOMINAL 0.9 INCH, A HEIGHT OF NOMINAL 0.2 INCH AND A CENTER–TO–CENTER SPACING OF NOMINAL 2.35 INCH AND SHALL CONTRAST VISUALLY WITH ADJOINING SURFACES, EITHER LIGHT–ON–DARK, OR DARK–ON–LIGHT.

THE MATERIAL USED TO PROVIDE CONTRAST SHALL BE AN INTEGRAL PART OF THE WALKING SURFACE. DETECTABLE WARNINGS USED ON INTERIOR SURFACES SHALL DIFFER FROM ADJOINING WALKING SURFACES IN RESILIENCY OR SOUND–ON–CANE CONTACT.

THE MATERIAL USED TO PROVIDE CONTRAST SHOULD CONTRAST BY AT LEAST 70%. CONTRAST IN PERCENT IS DETERMINED BY:

$$\text{CONTRAST} = [(B1-B2)/B1] \times 100$$

WHERE B1 = LIGHT REFLECTANCE VALUE (LRV) OF THE LIGHTER AREA AND B2 = LIGHT REFLECTANCE VALUE (LRV) OF THE DARKER AREA.

NOTE THAT IN ANY APPLICATION BOTH WHITE AND BLACK ARE NEVER ABSOLUTE; THUS, B1 NEVER EQUALS 100 AND B2 IS ALWAYS GREATER THAN 0.

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REV.BY	DATE	
		6/12/07 DATE OF B.O.C.C. APPROVAL

CURB RAMP DETECTABLE WARNINGS — 302.3

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MANATEE COUNTY DETAILS SHEET

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Sheet No.
C5.4

SPECIFICATIONS

KBI

flexipave **HD2000 SPECIFICATIONS**

Section _____Flexible Porous Paving

1. GENERAL

1.1. The Flexible Porous Paving shall be KBI Flexi-Pave HD2000 made from recycled passenger tires, crushed stone and a urethane binding agent as manufactured by K.B. Industries, Inc. (KBI), 4600 140th Ave. N, Suite 200, Clearwater, FL 33762. Tel 727 723 3300.
1.2. All components, materials and compounds shall be 100% sourced and manufactured in the USA.
1.3. The Flexible Porous Paving shall be supplied by a manufacturer with at least 10 years experience that can supply references for similar applications and installations in the USA.

2. SUBMITTALS

2.1. The Flexible Porous Paving manufacturer shall submit;
2.1.1.Certificates stating that materials meet or exceed the specified contract requirements.
2.1.2.Site handling and storage instructions.
2.1.3.Mixing and installation instructions.
2.1.4.A sample that reflects the characteristics of the material to be installed. The sample, upon approval, shall be maintained as the standard of minimum quality for all the proposed surfacing and paving work required for the project.

3. CONTRACTOR

3.1. The Contractor's craftsmen or crew chief, installing the Flexible Porous Paving shall attend a training webinar and an on-site installation training session prior to installing KBI Flexi-Pave HD2000.
3.2. Contractors bidding on the installation of KBI Flexi-Pave HD2000 may start the training process by contacting KBI and attending a training webinar prior to contract award. On-site installation training may occur after the contract is awarded.
3.3. The Contractor shall;
3.3.1.Furnish all labor, materials, tools, equipment, and incidentals required to install KBI Flexi-Pave HD2000.
3.3.2.Provide an adequate number of skilled workers who are trained and experienced with installing KBI Flexi-Pave HD2000 and are familiar with the specified contract requirements and the methods needed for its installation.
3.3.3.Install the crushed stone sub-base as described in the specifications and shown on the contract drawing unless the sub-base is installed/provided.
3.3.4.Install the KBI Flexi-Pave HD2000 to depth and width as described in the specifications and shown in the contract drawings.
3.3.5.Reduce the risk of damage to the Flexible Porous Paving surface by not allowing track vehicles (metal or rubber), forklifts (warehouse-variable reach), main lifts (booms or scissors), and/or dumpsters or roll-off containers on the KBI Flexi-Pave HD 2000 either during or following installation. Any explicit or implied warranty is voided through failure to comply with this section.

4. PRODUCTS
4.1. Recommended sub-base shall be either; crushed stone or for KBI Flexi-Pave HD2000 Titan Series use UltraBaseSystems Pro interlocking panels. KBI will provide advice on appropriate sub base for each installation and the materials based on the application and project location.
4.2. Crushed Stone;
4.2.1.For load bearing applications KBI Flexi-Pave HD2000 shall be installed over a minimum of 4" (100mm) of compacted crushed concrete or crushed stone aggregate to a density of 95% minimum.
4.2.2.The sizing of the stone and base soil will directly represent the desired "Curve Number" (percolation rate) required.

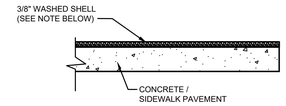
SPECIFICATIONS

4.3. UltraBaseSystems Pro interlocking panels shall;
4.3.1.Measure 28" x 28" by 1¼ "deep manufactured from recycled post industrial polymeric materials.
4.3.2.Have a vertical drainage rating of 341" per hour and a horizontal flow rate of 96.4" per hour and each panel shall store up to 3.58 gallons of water.
4.3.3.Have a static load capacity of 1664 psi.
4.3.4.Be suitable for installation over properly prepared earth sub base without the need for compacted rock, concrete or asphalt.

4.4. KBI Flexi-Pave HD2000.
4.4.1.The KBI Flexi-Pave HD2000 shall be installed in accordance with the manufacturers written instructions to an average depth of 1.5 inches over the prepared sub-base.
4.4.2.The KBI Flexi-Pave HD2000 shall be Natural colors; Black / Cypress / Redwood / Bark Brown / Green / Granite or ZX vibrant colors Brick Red / Concrete / Emerald / Mahogany / Olive Brown / Pitch Black / Sand Stone / Sky Blue / Slate in color.
4.4.3.The KBI Flexi-Pave HD2000 shall be mixed with a urethane binding agent based on MDI Polyether Polyols and shall be free of extender oils to prevent leaching over time. Binders that use extender oils will not be acceptable.
4.4.4.The KBI Flexi-Pave HD2000 shall be cured and fit for use within 24 hours of installation.
4.4.5.The KBI Flexi-Pave HD2000 shall have a composition of 50% stone aggregate and 50% chipped rubber tires by weight for trails, carts paths, sidewalks and tree surrounds. For vehicular applications, such as driveways and parking lots, the composition shall be 50% stone aggregate and 50% chipped rubber tires by volume.

5. QUALITY ASSURANCE
5.1. The Contractor is responsible for supplying and installing a warranted material that meets, or exceeds, the manufacturer's specifications and testing:
5.1.1.ASTM C 666/C/666M- Freeze-Thaw testing with no cracks or breaks through 300 cycles of testing.
5.1.2.Designated as "Highly Permeable" under FL DOT FM 5-565 permeability testing.
5.1.3.Independent testing showing a perk rate of 2400 gph (40 gpm) per sq. ft. or higher.
5.1.4.Scuff/Power Steering Resistance in accordance with ISSA TB 100 / ISSA TB 139.
5.1.5.Accelerated Weathering using ASTM 4798.
5.1.6.Hamburg Loaded Wheel Testing TX DOT 242-F, must be equivalent or better than 2.3 rut depth at 8,000 cycles and full recovery within 24 hours.
5.1.7.Static Creep Testing TX DOT 231-F, shall be equivalent to or better than total strain +2.703% and permanent strain equal to 0.514%.
5.1.8.Resilient Modulus Testing in accordance with ASTM D 4123 shall be equivalent or better than 68,495 pounds.
5.1.9.Slip resistant and ADA compliant, in accordance with ASTM D 2047 testing.
5.1.10. Heat resilient to 400 degrees in accordance with ASTM D 4123 testing.
5.1.11. Sound absorbent, in accordance with ASTN C423-09a / E795-05 testing.
5.1.12. Compression tested and be able to withstand 250 psi without permanent deformation or damage.
5.1.13. Has a leachate less than 6 parts per billion and containing no organic compounds or heavy metals.
5.1.14. The material shall be resistant to the following elements: transmission, hydraulic, and brake fluids, gasoline, diesel, saltwater, oil, chlorine, ozone, bromine, and muriatic acid.

6. PROJECT CONDITIONS
6.1. The Contractor shall provide appropriate and adequate protection to adjacent areas including but not limited to:
6.1.1.Protection of adjacent work space from splashing of Flexible Porous Paving materials.
6.1.2.Remove all stains from exposed surfaces of paving, structures, and grounds.
6.1.3.Remove all waste and spillage.
6.1.4.Provide suitable protection to assure no damage or disturbance to existing improvements or vegetation before starting work and maintain protection throughout the course of the



3/8" WASHED SHELL CONCRETE NOTE:

THE SURFACE AGGREGATE SHALL BE COMMON 3/8" WASHED SHELL. CONTRACTOR TO SEED THE APPROVED SHELL AGGREGATE ONTO THE SLAB SURFACE IMMEDIATELY AFTER THE CONCRETE HAS BEEN PLACED AND BULL FLOATED. AGGREGATE TO BE PLACED UNIFORMLY ONTO THE SURFACE AND EMBEDDING WITH A BULL FLOAT UNTIL COMPLETELY COVERED BY A THIN LAYER OF CONCRETE. CONTRACTOR TO HOSE DOWN THE CONCRETE UNTIL THE TOP OF THE DECORATIVE SHELL IS REVEALED. SURFACE SHALL BE CLEANED AND SEALED. THE CONTRACTOR SHALL CONSTRUCT A 2'X2' TEST POUR USING THE PRESCRIBED METHOD FOR APPROVAL BY THE ENGINEER PRIOR TO INSTALLATION. SEVERAL OF THESE TEST POURS MAY BE NECESSARY TO ACHIEVE THE DESIRED RESULTS. THE COST OF THE TEST POURS AND CEMENT FINISHING SHALL BE INCLUDED IN THE BASE BID. CONTRACTOR TO ENSURE THAT THE CONCRETE IS WITHIN THE ALLOWABLE TOLERANCES OF THE FLORIDA BUILDING CODE FOR AN ADA ACCESSIBLE ROUTE.

CONCRETE SIDEWALK / PAVEMENT W/ BROADCAST SHELL FINISH DETAIL

N.T.S.

SPECIFICATIONS

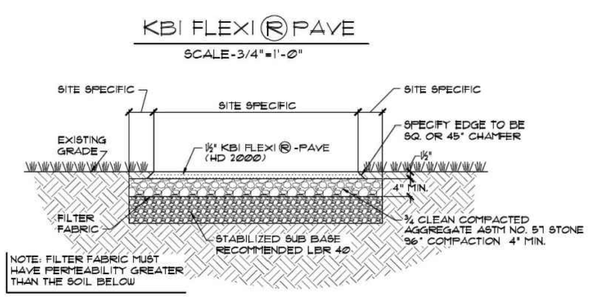
work.
6.1.5.Restore and repair areas, at no additional cost to the owner, that have been damaged as a result of construction work, including existing paving on or adjacent to the site, to their original condition or repair as directed to the satisfaction of the Owner's Representative.

7. WEATHER
7.1. KBI Flexi-Pave HD2000 urethane binder is engineered based on the geographical location of the project and climate expectations during installation. KBI will provide the appropriate binder for each installation and the materials delivered will be based on project location and seasonality.
7.2. KBI Flexi-Pave HD2000 shall not be installed when the ambient air temperature in the shade near the installation site is above 95° F or below 32° F. Temperatures below 50° F can extend the curing time and would fall outside of normal "use ready in 24 hours" guidelines.
7.3. The urethane binder shall be stored on site at between 40°- 77° F and used within 12 months of delivery.
7.4. The Contractor shall not pave on days when rain or snow is forecast, unless a change in the weather results in favorable paving conditions as determined by the Owner's Representative.
7.5. In the event of rain on days prior to installation, the sub base must be dry and not contain any standing or moving water.

8. SAFETY AND TRAFFIC CONTROL
8.1. When construction work will interfere with existing, traffic and sidewalks the Contractor shall notify and cooperate with local authorities, and other jurisdictional organizations, and provide temporary barriers, signs, warning lights, flaggers, and other protections as required by the authorities to assure the safety of pedestrians and vehicles around the construction area and to organize the smooth flow of traffic.

9. MAINTENANCE
9.1. KBI Flexi-Pave HD 2000 installations are designed to operate and function trouble free with only minimal routine maintenance over the lifetime of the product.
9.2. The frequency and scope of the routine maintenance required will largely be dependent on the application and project location. The key objective will be to keep the surface clean and clear of debris to maintain the hydraulic conveyance capacity of KBI Flexi- Pave over time as well as maintaining the aesthetic appeal of the surface.
9.3. Prior to undertaking routine maintenance of KBI Flexi- Pave it is recommended that an annual inspection be completed to evaluate the condition of the surface. The following are suggested annual maintenance inspection points:
9.3.1.Inspect the surface of the KBI Flexi- Pave for evidence of sediment deposition, organic debris, staining or ponding. If any signs of clogging are noted, schedule a vacuum sweeper (no brooms or water spray) to remove deposited material. Cleaned sections may then be tested by pouring water from a five-gallon bucket to ensure full hydraulic conveyance capacity has been restored.
9.3.2.Inspect the structural integrity of the KBI Flexi- Pave surface, looking for signs of damage or surface deterioration, such as raveling, slumping, cracking, etc. Replace or repair affected areas, as necessary.
9.3.3.Check for potential need to overspray/roll with urethane binder after 4-6 years.
9.4. If in doubt or should any unexpected situations or observations occur during the maintenance inspection, please contact KBI for consultation and advice.

10. WARRANTY
10.1. The KBI Flexi- Pave HD2000 shall have a material warranty of 1 year from the date of installation (extended warranties are available with the addition of a maintenance program)
10.2. The Manufacturers' warranty shall be issued on completion of the installation and final inspection.
10.3. The Manufactures' warranty is based on the installation completed by an on-site installation trained and qualified team of tradesmen. Faulty workmanship by tradesmen will be cause to void the warranty.



KBI

K.B. Industries, Inc.
7300 Brian Dairy Rd, Ste 400, Largo, FL 33777
(727) 723-3300 • www.kbiglobal.com

DRAWN BY: TJG
DATE 10/22/14
SCALE 3/4"=1'-0"

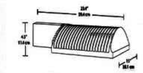
Created: 10/29/2013

ALED3T78

Specification Grade Area lights available in IES Type II, III and IV distributions. For use in parking lots, roadways, pathways and general area lighting. Mounts to 4" square steel poles at 15-25'. Designed to replace 250W Metal Halide Area Lights. Patent Pending thermal management system. 5 Year Warranty.

Color: Bronze

Weight: 30.4 lbs



LED Info

Watts:	78W
Color Temp:	5100K (Cool)
Color Accuracy:	68
L70 Lifespan:	100000
LM79 Lumens:	4,959
Efficacy:	55 LPW

Driver Info

Type:	Constant Current
120V:	0.78A
208V:	0.50A
240V:	0.44A
277V:	0.38A
Input Watts:	91W
Efficiency:	86%

Technical Specifications

Lumen Maintenance:
100,000-hour LED lifespan based on IES LM-80 results and TM-21 calculations.

IES Classification:
The Type III distribution is ideal for roadway, general parking and other area lighting applications where a larger pool of lighting is required. It is intended to be located near the side of the area, allowing the light to project outward and fill the area.

IP Rating:
Ingress Protection rating of IP66 for dust and water.

LEDs:
Six (6) multi-chip, 13W, high-output, long-life LEDs.

Drivers:
Three drivers, constant current, Class 2, 100 - 277V, 50 - 60 Hz, 100 - 277VAC .04 Amps.

THD:
13.1% at 120V

Fixture Efficacy:
55 Lumens per Watt

Ambient Temperature:
Suitable for use in 40°C ambient temperatures.

Surge Protection:
6 KV

Cold Weather Starting:
The minimum starting temperature is -40°F/-40°C.

Thermal Management:
Superior heat sinking with external Air-Flow fins.

Effective Projected Area:
EPA = 0.75

Housing:
Die cast aluminum housing, lens frame and mounting arm.

Color Consistency:
3-step MacAdam Ellipse binning to achieve consistent fixture-to-fixture color.

Color Stability:
LED color temperature is warrantied to shift no more than 200K in CCT over a 5 year period.

Color Accuracy:
68 CRI

Color Temperature (Nominal CCT):
5100K

Color Uniformity:
RAB's range of CCT (Correlated color temperature) follows the guidelines of the American National Standard for Specifications for the Chromaticity of Solid State Lighting (SSL) Products, ANSI C78.377-2008.

Reflector:
Specular aluminum.

Gaskets:
High temperature silicone gaskets.

Finish:
Our environmentally friendly polyester powder coatings are formulated for high-durability and long-lasting color, and contains no VOC or toxic heavy metals.

Created: 10/29/2013

ALED3T78 - continued

Surge Protector:
ALED78 is available with a 6kV surge protector (SP6). SP6 available .

Green Technology:
Mercury and UV free.

IESNA LM-79 & IESNA LM-80 Testing:
RAB LED luminaires have been tested by an independent laboratory in accordance with IESNA LM-79 and 80, and have received the Department of Energy "Lighting Facts" label.

Replacement:
The ALED78 replaces 250W Metal Halide Area Lights.

California Title 24:
ALED78 complies with California Title 24 building and electrical codes.

Warranty:
RAB warrants that our LED products will be free from defects in materials and workmanship for a period of five (5) years from the date of delivery to the end user, including coverage of light output, color stability, driver performance and fixture finish. See our full warranty .

Patents:
The ALED design is protected by patents in the U.S. Pat. 668,370, Canada Pat. 144956, China ZL201230100154.X, and Mexico Pat. 38423. Pending patents in Taiwan.

For use on LEED Buildings:
IDA Dark Sky Approval means that this fixture can be used to achieve LEED Credits for Light Pollution Reduction.

Dark Sky Approved:
The International Dark Sky Association has approved this product as a full cutoff, fully shielded luminaire.

UL Listing:
Suitable for wet locations as a downlight.

NOTE:
ALL FIXTURES ARE 20' MOUNTING HEIGHT, USING EITHER EXISTING OR NEW POLES

cph
www.cphcorp.com
A Full Service A & E Firm
3277A Fruitville Road, Suite 2
Sarasota, FL 34237
Ph: 941.365.4771

Plans Prepared By:
CPH, Inc.
State of Florida Licenses:
Engineer No. 3215
Surveyor No. LB7143
Architect. No. AA26000926
Landscape No. LC000298

DANIEL P. MOYER ★ LICENSE No. 69057 ★ STATE OF FLORIDA ★ PROFESSIONAL ENGINEER

No.	Date	Revision
1	10/26/18	OUT TO BID

Designed: K. Upp
Drawn: K. Upp
Checked: D. Moyer
Job No.: M13104.2
Date: 09/25/17 © 2018

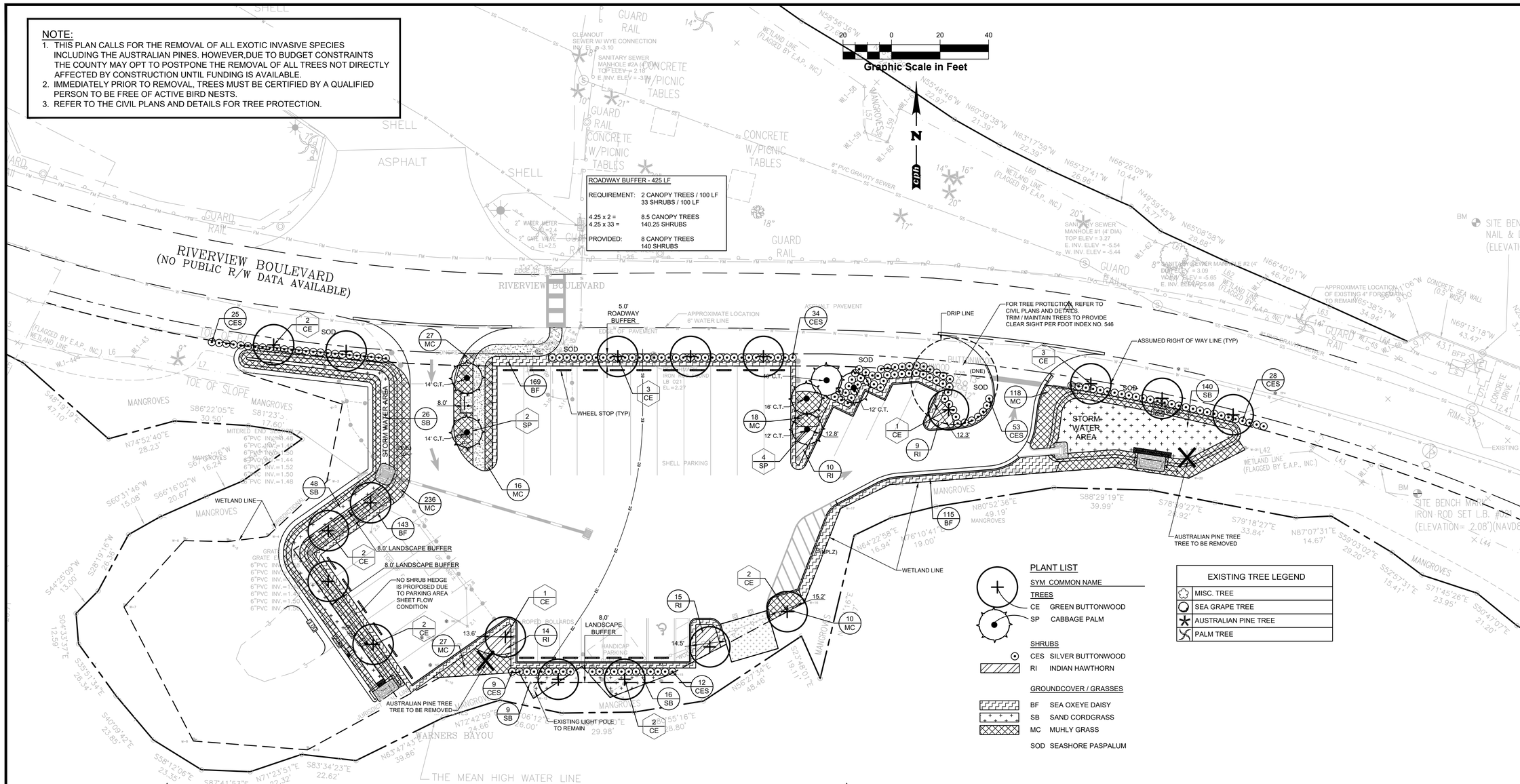
BID ALTERNATE SHEET

PARKING LOT IMPROVEMENT PLANS FOR WARNER'S BAYOU
MANATEE COUNTY / FLORIDA

THIS SHEET NOT VALID FOR CONSTRUCTION WITHOUT COMPLETE SET OF PLANS. SEE GENERAL NOTES FOR MASTER LEGEND.

Sheet No.
C5.5

NOTE:
1. THIS PLAN CALLS FOR THE REMOVAL OF ALL EXOTIC INVASIVE SPECIES INCLUDING THE AUSTRALIAN PINES. HOWEVER,DUE TO BUDGET CONSTRAINTS THE COUNTY MAY OPT TO POSTPONE THE REMOVAL OF ALL TREES NOT DIRECTLY AFFECTED BY CONSTRUCTION UNTIL FUNDING IS AVAILABLE.
2. IMMEDIATELY PRIOR TO REMOVAL, TREES MUST BE CERTIFIED BY A QUALIFIED PERSON TO BE FREE OF ACTIVE BIRD NESTS.
3. REFER TO THE CIVIL PLANS AND DETAILS FOR TREE PROTECTION.

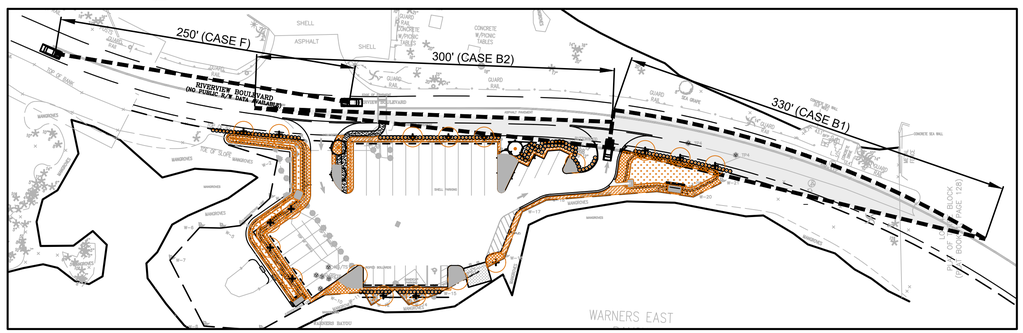


PLANT LIST

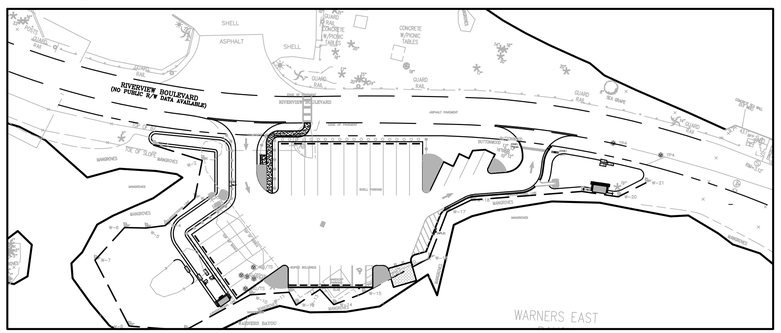
SYM	COMMON NAME
TREES	
CE	GREEN BUTTONWOOD
SP	CABBAGE PALM
SHRUBS	
CES	SILVER BUTTONWOOD
RI	INDIAN HAWTHORN
GROUNDCOVER / GRASSES	
BF	SEA OXEYE DAISY
SB	SAND CORDGRASS
MC	MUHLY GRASS
SOD	SEASHORE PASPALUM

EXISTING TREE LEGEND

	MISC. TREE
	SEA GRAPE TREE
	AUSTRALIAN PINE TREE
	PALM TREE



INTERSECTION SIGHT DISTANCE
1"=60'



VEHICULAR USE LANDSCAPE AREA GRAPHIC
1"=60'

VEHICULAR USE LANDSCAPE DATA

REQUIRED AREA: 504 SF

360 SF / 20 PARKING SPACES
28 PROPOSED PARKING SPACES / 20 = 1.4
1.4 x 360 SF = 504 SF

PROPOSED AREA: 1056 SF

REQUIRED TREES: 6 CANOPY TREES

4 CANOPY TREES / 20 PARKING SPACES
4 x 1.4 = 5.6 CANOPY TREES

PROPOSED TREES: 6 CANOPY TREES

REQUIRED SHRUBS: 28 SHRUBS

20 SHRUBS / 20 PARKING SPACES
20 x 1.4 = 28 SHRUBS

PROPOSED SHRUBS:

Always call 811 two full business days before you dig.
Sunshine811.com
www.sunshine811.com

THIS SHEET NOT VALID FOR CONSTRUCTION UNLESS STAMPED APPROVED

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Plans Prepared By:
CPH, Inc.
State of Florida Licenses:
Engineer No. 3215
Surveyor No. LB7143
Architect. No. AA26000926
Landscape No. LC000298

Dennis R. Bryant, RLA
Lic. No. 0667001
Oct 25, 2018

No.	Date	Revision
1	10/26/18	OUT TO BID
2	08/23/18	PER ERS COMMENTS
3	06/XX/18	PER COUNTY / FDEP COMMENTS

Designed: K. Upp
Drawn: K. Upp
Checked: D. Moyer
Job No.: M13104.2
Date: 09/25/17 © 2018

LANDSCAPE PLAN

PARKING LOT IMPROVEMENT PLANS FOR WARNER'S BAYOU

MANATEE COUNTY / FLORIDA

THIS SHEET NOT VALID FOR CONSTRUCTION WITHOUT COMPLETE SET OF PLANS. SEE GENERAL NOTES FOR MASTER LEGEND.

Sheet No.
L1.1

LANDSCAPE NOTES:

1. The landscape Contractor shall be responsible for all materials and all work as called for on the Landscape Plans and in the Landscape Specifications. In the event of variation between quantities shown on plant list and the plans, the plans shall control. The Landscape Contractor shall verify all quantities and report any discrepancies at the time of bidding.

2. The Landscape Contractor shall review architectural/engineering plans and become thoroughly familiar with surface and subsurface utilities.

3. Prior to construction, the contractor shall be responsible for locating all underground utilities and shall avoid damage to all utilities during the course of the work. Locations of existing buried utility lines shown on the plans are based upon best available information and are considered to be approximate. It shall be the responsibility of the contractor 1) to verify the locations of utility lines within and adjacent to the work area 2) to protect all utility lines during the construction period 3) to repair any and all damage to utilities, structures, site appurtenances, etc. which occurs as a result of the construction 4) To field adjust the location of proposed trees and palms 10' off the center of the utility lines. Notify the Landscape Architect if a 10' offset does not function.

4. The work shall be coordinated with other trades to prevent conflicts. Coordinate the planting with the irrigation work to assure availability and proper location of irrigation items and plants.

5. Contractor shall ensure that there are no visual obstructions to vehicle lines of sight and traffic controls. Contractor shall field adjust tree and/or large shrub locations to avoid any such obstructions.

6. Trees shall be maintained by the owner to avoid future such obstructions by pruning trees and/or shrubs as necessary utilizing horticulturally sound techniques.

7. All planting shall be performed by personnel familiar with planting procedure and under the supervision of a qualified planting foreman.

8. All plant material shall be graded Florida No. 1 or better as outlined under Grades and Standards for Nursery Stock, Part I and II, published by the Florida Department of Agriculture and Consumer Services.

9. The Landscape Architect or Owner shall have the right, at any stage of the operations, to reject any and all work and materials which, in his opinion, do not meet with the requirements of these specifications.

10. Except as otherwise specified, the Landscape Contractor's work shall conform to accepted horticultural practices as used in the trade.

11. The minimum acceptable size of all plants, measured after pruning, with branches in normal positions, shall conform to the measurements specified on the plant list or as indicated on the landscape drawing. Height and spread dimensions refer to main body of the plant and not extreme branch tip to tip. Trunk caliper (trunk diameter) is measured 6 inches from the ground on trees up to and including 4 inches in caliper, and 12 inches from the ground for larger trees. Since trunks are seldom round, the average of the largest diameter and that perpendicular to it is referred to as caliper.

12. Plants shall be protected upon arrival at the site, by being thoroughly watered and properly maintained until planted.

13. All tree pits shall be excavated to size and depth in accordance with the Florida Grades & Standards for Nursery Stock, unless shown otherwise on the drawings, and backfilled with the specified planting soil. The Landscape Contractor shall test fill all tree pits with water before planting to assure proper drainage percolation is available.

14. The Landscape Contractor shall be responsible for proper watering of all plants. All plants shall be thoroughly watered at time of planting and kept adequately watered until time of acceptance. It shall be the Landscape Contractor's responsibility to assure that plants are not over watered.

15. It shall be the Landscape Contractor's responsibility to prevent plants from falling or being blown over, to re-straighten and replant all plants which lean or fall and to replace all plants which are damaged due to lack of proper guying or staking. The Landscape Contractor shall be legally liable for any damage caused by instability of any plant material.

16. All Palms to be staked as indicated per Palm staking details. All other trees to be stabilized utilizing 8' lodge poles per tree planting details.

17. Plants blown over by high winds, within the guaranteed period, shall not be cause for additional expense to the Owner, but shall be the responsibility of the Landscape Contractor. Damaged plants shall be replaced by the Landscape Contractor at no additional cost to the Owner.

18. Sod shall be of a species specified on the drawings and originate from a commercial turf grower. It shall be a dense stand of live turf, reasonably free of weeds, well matted with grass roots in rectangles 12 inch by 24 inch or in 12 inch wide rolls in a length consistent with the equipment and methods used to handle the rolls and place the sod. Any netting contained within the sod shall be certified by the manufacturer to be bio-degradable. The soil and root mat shall be a minimum of 1-1/2 inch thick and must hold together during placement. Sod shall be place adjacent to one another to avoid gaps and overlaps. Joints shall be staggered between the rows. Sod placed on slopes exceeding 3:1 shall be pinned with turf staples. Sod turf, shall have been mowed a minimum of one week prior to cutting and delivery, so that the length of the turf is no longer than 4 inches at time of delivery. Place sod within 48 hours of cutting the sod. The sod shall be kept moist throughout the 48 hour period to maintain the health and viability of the sod. Submit a letter of certification to the Owner's CEI Representative, at time of delivery, as to the source of the sod, the time it was cut, the species and cultivars provided, last mowing date, and that the sod is free of fire ants. Sod which has been cut for longer than 48 hours after being cut shall not be used unless specifically authorized by Owner's CEI Representative.

19. It shall be the Contractor's responsibility to measure and determine the exact quantity of sod required for a complete job at the time of bidding or providing a price quote. The Owner shall not be responsible for additional cost due to the Contractor's under estimating of the quantity of sod for the original bid area.

20. The Landscape Contractor shall insure adequate vertical drainage in all plant beds, planters, and sod areas. Vertical drilling through any compacted fill to native soil shall be accomplished to insure drainage. If well drained fill is necessary to assure positive drainage, this issue shall be brought up by the Landscape Contractor at time of bidding.

21. The Landscape Contractor shall insure that his work does not interrupt established or projected drainage patterns.

22. The Landscape Contractor shall prune, shape and remove dead foliage/limbs from existing plant material to remain. Confirm with the Landscape Architect or Owner the extent of work required at time of Bidding.

23. Mulch - All plant beds shall be top dressed with 4" shredded hardwood mulch (or approved equal).

24. Transplanted Material - The Landscape Contractor shall be responsible for determining and evaluating which plant materials are suitable for transplanting and shall verify this with the Landscape Architect or Owner. The Landscape Contractor shall take all reasonable, horticulturally acceptable measures to assure the successful transplanting of determined plant materials. The Landscape Contractor shall be responsible for replacing any relocated plant materials which die if such measures are not taken, as determined by the Landscape Architect or Owner. Replacement plants shall be of identical species and size if required.

25. MAINTENANCE PRIOR TO FINAL INSPECTION AND ACCEPTANCE:

    Maintenance shall commence after each plant is planted and the maintenance period shall continue until the job or specific phase of the job is accepted by the Landscape Architect or Owner. Extreme care shall be taken to instruct the Owner or his representatives in general maintenance procedures.

    Plant maintenance shall include watering, pruning, weeding, cultivating, mulching, tightening, and repairing of guys, replacement of sick or dead plants, resetting plants to proper grades or upright positions and restoration of the planting saucer and all other care needed for proper growth of the plants.

    During the maintenance period and up to the date of final acceptance, the Landscape Contractor shall do all seasonal spraying and/or dusting of trees and shrubs. Upon completion of all planting, an inspection for acceptance of work will be held. The Landscape Contractor shall notify the Landscape Architect or Owner for scheduling of the inspection 10 days prior to the anticipated date.

    At the time of the inspection, if all of the materials are acceptable, a written notice will be given by the Landscape Architect or Owner to the Landscape Contractor Stating the date when the Maintenance Period ends.

    GUARANTEE AND REPLACEMENT:

    All plant materials shall be guaranteed for one (1) year from the time of final inspection and interim acceptance shall be alive and in satisfactory growth for each specific kind of plant at the end of the guaranteed period.

    At the end of the guarantee period, any plant required under this contract that is dead or not in satisfactory growth, as determined by the Owner or the Landscape Architect, shall be removed and replaced. Replacement plants shall have an extended guarantee, as noted above, from time of replacement.

    All replacements shall be planted of the same kind and size as specified on the plant list. They shall be the responsibility of the Landscape Contractor.

26. TOPSOIL

    Topsoil shall be natural, friable, fertile, fine loamy soil possessing characteristics of representative topsoil in the vicinity that produces heavy growth. Topsoil shall have a pH range of 5.5 to 7.4, free from subsoil, objectionable weeds, litter, sods, stiff clay, stones larger than 1-inch in diameter, stumps, roots, trash, toxic substances, or any other material which may be harmful to plant growth or hinder planting operations. Top soil shall contain a minimum of three percent organic material.

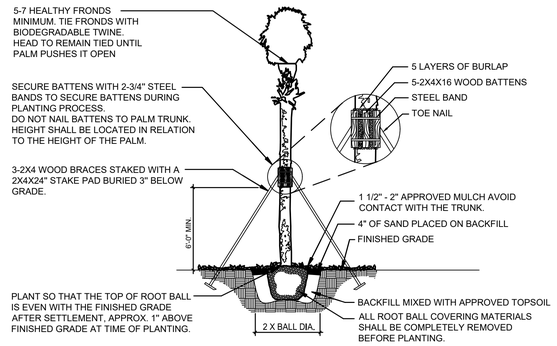
27. UNSUITABLE SUBSOILS
    Locations containing unsuitable subsoil shall be treated by one or more of the following:

    A. Where unsuitability is deemed by Owner or Owner's Representative to be due to excessive compaction caused by heavy equipment and where natural subsoil is other than AASHTO classification of A6 or A7, loosen such areas with spikes, discing, or other means to loosen soil to condition acceptable to Owner. Loosen soil to minimum depth of 12 inches with additional loosening as required to obtain adequate drainage. Contractor may introduce peat moss, sand, or organic matter into the subsoil to obtain adequate measures shall be considered as incidental, without additional cost to Owner.

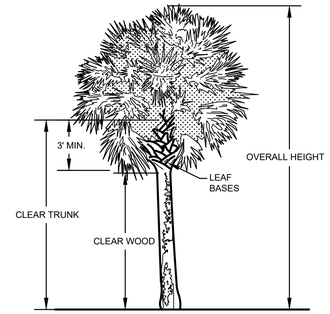
    B. Where unsuitability is deemed by Owner or Owner's Representative to be due to presence of boards, mortar, concrete, graded aggregate base, or other construction materials in sub grade and where natural subsoil is other than AASHTO classification of A6 or A7, remove debris and objectionable material. Such remedial measures shall be considered as incidental, without additional cost to Owner.

    C. Where unsuitability is deemed by Owner to be because natural subsoil falls into AASHTO classification of A6 or A7 and contains moisture in excess of 30 percent, then installation of sub drainage system or other means described elsewhere in Specifications shall be used. Where such conditions have not been known or revealed prior to planting time and they have not been recognized in preparation of The Drawings and Specifications, then Owner shall issue pricing order to install proper remedial measures.

    D. Planting beds where existing subsoil is determined by Owner to be unsuitable for plant growth in accordance paragraph Unsuitable Subsoil herein shall be excavated to a depth of 12 inches or as needed to provide adequate drainage. Replace excavated soil with planting soil.



PALM STAKING DETAIL
N.T.S.



* ALL PALMS TO HAVE CLEAR WOOD INDICATED ABOVE UNLESS OTHERWISE SPECIFIED.

SABAL PALM (NO CROWN SHAFT)

PALM MATRIX B

PALM HEIGHT/TRUNK SPECIFICATIONS

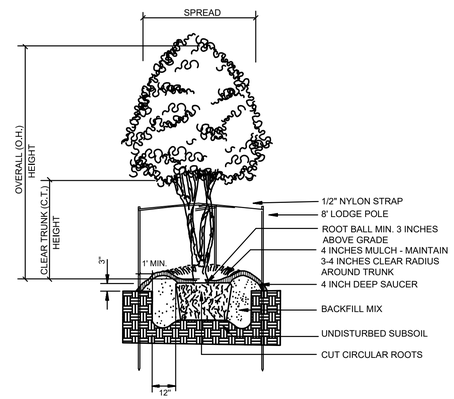
OVERALL HEIGHT(OA):
HIGHEST POINT IN THE CANOPY MEASURED FROM THE SOIL LINE TO THE NATURAL POSITION OF THE LAST FULLY EXPANDED LEAF. UNLESS SPECIFIED DIFFERENTLY, THE TERM HEIGHT, OR HEIGHT MEASUREMENTS SPECIFIED, WILL BE CONSIDERED OVERALL HEIGHT.

CLEAR TRUNK(CT):
A MEASUREMENT FROM THE SOIL LINE TO A POINT IN THE CANOPY WHERE THE TRUNK CALIPER BEGINS TO TAPER ABRUPTLY. ON MANY PALMS, THIS POINT WILL LIE AT THE BASE OF THE PETIOLE OF THE THIRD OR FOURTH YOUNGEST BUT FULLY EXPANDED LEAF.

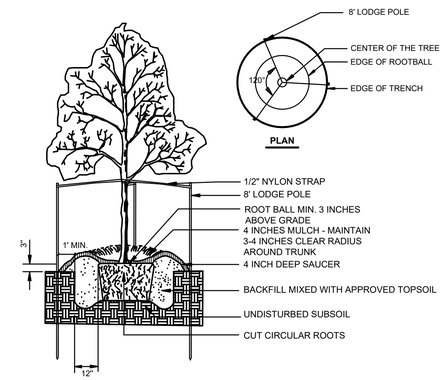
CLEAR WOOD(CW):
A MEASUREMENT FROM THE SOIL LINE TO THE HIGHEST POINT OF THE TRUNK FREE OF PERSISTENT LEAF BASES. ON PALMS WITH A CROWN SHAFT, THE MEASURE WILL BE FROM THE SOIL LINE TO THE BASE OF THE CROWN SHAFT. IT SHOULD BE NOTED THAT PALMS WITH VERY PERSISTENT LEAF BASES MAY NOT HAVE CLEAR WOOD.

DPI INSPECTION NOTES(REQUIRED)

D.P.I. PALM INSPECTION NOTE:
ALL PALMS SHALL HAVE A VALID AND CURRENT STATE OF FLORIDA, DIVISION OF PLANT INDUSTRY (DPI) INSPECTION CERTIFICATION PRIOR TO BEING TRANSPORTED TO THE CONSTRUCTION SITE. THE DPI CERTIFICATION MUST BE SUBMITTED TO CPH AND A COPY OF THIS CERTIFICATION MUST BE PROVIDED TO THE GENERAL CONTRACTOR AND MAINTAINED WITH THE CONSTRUCTION RECORDS.

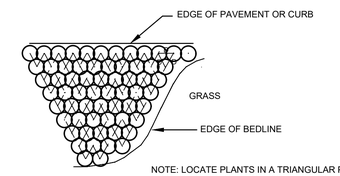


MULTI-TRUNK CONTAINER TREE PLANTING DETAIL
N.T.S.



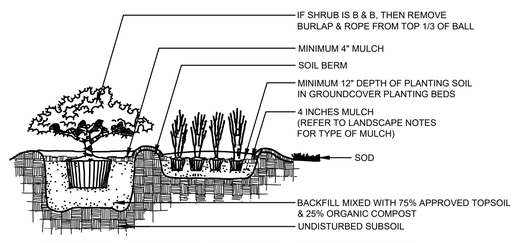
NOTE: SEE LANDSCAPE NOTES FOR THE TYPE OF MULCH MATERIAL TO USE.

CONTAINER TREE PLANTING DETAIL
N.T.S.



NOTE: LOCATE PLANTS IN A TRIANGULAR PATTERN AS SHOWN, SPACED EQUIDISTANT FROM EACH OTHER (AT SPACING SPECIFIED IN THE PLANT LIST).

SHRUB/GROUNDCOVER SPACING PLAN
N.T.S.



-PROVIDE MINIMUM PIT CLEARANCE AROUND ROOT BALL OF 6" SIDES AND BOTTOM.
-MAINTAIN 3"-4" MULCH FREE ZONE AROUND BASE OF PLANT.

SHRUB AND GROUNDCOVER PLANTING DETAIL
N.T.S.

WATERING:

EACH PLANT & TREE SHALL BE THOROUGHLY HAND WATERED IN AFTER PLANTING TO FILL EACH PLANTING WELL FULL. DAILY WATERING OF ALL NEWLY INSTALLED PLANT MATERIALS SHALL BE THE RESPONSIBILITY OF THE LANDSCAPE CONTRACTOR UNTIL FINAL ACCEPTANCE.

ALL TREES AND SHRUBS SHALL BE DEEP WATERED FOR A PERIOD OF 90 DAYS AFTER PLANTING. TREES AND SHRUBS SHALL BE DEEP WATERED FIVE TIMES PER WEEK DURING THE INITIAL 30 DAYS, THREE TIMES PER WEEK DURING THE FOLLOWING 30 DAYS, AND TWICE PER WEEK DURING THE LAST THIRTY DAYS. IF THE PLANTS EVIDENCE ANY STRESS DUE TO HEAT OR OTHER ACTS OF GOD, THE CONTRACTOR SHALL TAKE ANY AND ALL STEPS TO REMEDY THE SITUATION INCLUDING BUT NOT LIMITED TO REMEDIAL WATERING TWICE PER DAY UNTIL PLANT REVITALIZATION.

NOTE: REFER TO CIVIL PLANS AND DETAILS FOR THE TREE PROTECTION BARRICADES, SILT FENCE PLACEMENT, REQUIRED SIGNAGE, AND EXISTING TREE DRIP LINES.

PLANT LIST

SYM	COMMON NAME	BOTANICAL NAME	DESCRIPTION	QTY.	NATIVE
TREES					
CE	GREEN BUTTONWOOD	CONOCARPUS ERECTUS	2.5" CAL., 10' MIN. HT.	18	YE3
SP	CABBAGE PALM	SABAL PALMETTO	C.T. SHOWN ON PLAN. HURRICANE CUT. CLEAN TRUNK	6	YES
SHRUBS					
CES	SILVER BUTTONWOOD	CONOCARPUS ERECTUS 'SERICEUS'	3 GAL., 24" MIN. HT., 16" SPRD., 36" O.C.	161	YES
RI	INDIAN HAWTHORN	RHAPHEOLEPIS INDICA	3 GAL., 24" MIN. HT., 10" SPRD., 30" O.C.	48	NO
GROUNDCOVER / GRASSES					
BF	SEA OXEYE DAISY	BORRICHIA FRUTESCENS	1 GAL., FULL, 24" O.C.	427	YES
SB	SAND CORDGRASS	SPARTINA BAKERI	3 GAL., 15" HT., 10" SPRD., 36" O.C.	239	YES
MC	MUHLY GRASS	MUHLENBERGIA CAPILLARIS	3 GAL., 15" HT., 10" SPRD., 36" O.C.	452	YES
SOD	SEASHORE PASPALUM	PASPALUM VAGINATUM 'SEASHORE'	SOLID SOD, CONTRACTOR TO VERIFY QTY.		

NOTE:
- PLANT DESCRIPTIONS ARE FOR MINIMUM ACCEPTABLE SPECIFICATIONS. ALL CRITERIA LISTED FOR CONTAINER SIZE, CALIPER, HEIGHT, SPREAD, ETC. MUST BE MET FOR PLANT MATERIAL ACCEPTANCE. FOR EXAMPLE, IF A THREE GALLON SHRUB DONE NOT MEET THE HEIGHT OR SPREAD SPECIFICATION, IT WILL NOT BE ACCEPTED.
- IF SPECIFIED PLANTS ARE UNAVAILABLE AT TIME OF CONSTRUCTION, CONTRACTOR MAY REEPLACE SPECIFIED PLANTS WITH PLANTS APPROVED BY LANDSCAPE ARCHITECT AND CITY STAFF.
- ALL OPEN SPACE AREAS WITHIN THE PROPERTY SHALL BE SODDED UNLESS PAVED, SEEDED AND MULCHED OR PLANTED WITH SHRUBS AND GROUND COVER.
- CONTRACTOR SHALL REPLACE ANY EXISTING SOD OR OTHER PLANT MATERIALS DAMAGED DURING CONSTRUCTION IN AREAS THAT ARE OUTSIDE PROPOSED LANDSCAPE AS SHOWN ON THE PLAN.
- CONTRACTOR SHALL PROVIDE TEMPORARY WATER AS NEEDED TO ESTABLISH PLANTINGS AND PROVIDE WARRANTY COVERAGE.

- THERE SHALL BE 3' MINIMUM CLEARANCE FROM LANDSCAPE PLANTS TO THE EDGE OF THE METERS LESS THAN 3" AND 10' FOR METERS 3" AND LARGER.
- THERE SHALL BE 7.5' MINIMUM CLEARANCE FROM THE FRONT AND BOTH SIDES AND 4' FROM THE BACK FOR ALL FIRE HYDRANTS.
- NO TREES SHALL BE PLANTED WITHIN 10' OF ANY COUNTY MAINTAINED WATER OR SEWER MAIN.
- TOTAL PLANTS : 1278
- TOTAL NATIVE PLANTS: 1230 (96%)

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Plans Prepared By:
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State of Florida Licenses:
Engineer No. 3215
Surveyor No. LB7143
Architect. No. AA26000926
Landscape No. LC000298

Dustin R. Bryant RLA
Lic. No. 6670978
Oct 25, 2018

No.	Date	Revision
1	10/26/18	OUT TO BID
2	08/23/18	PER ERS COMMENTS

Designed: K. Upp
Drawn: K. Upp
Checked: D. Moyer
Job No.: M13104.2
Date: 09/25/17

LANDSCAPE NOTES AND DETAILS

PARKING LOT IMPROVEMENT PLANS FOR WARNER'S BAYOU
MANATEE COUNTY / FLORIDA

THIS SHEET NOT VALID FOR CONSTRUCTION WITHOUT COMPLETE SET OF PLANS. SEE GENERAL NOTES FOR MASTER LEGEND.

Sheet No.
L5.1