

# Loxahatchee River Environmental Control District

## Alternate A1A 24-Inch Force Main Cleaning & Inspection

### Contract Documents and Technical Specifications





**BAXTER & WOODMAN**  
Consulting Engineers

**CONTRACT DOCUMENTS  
AND  
TECHNICAL SPECIFICATIONS**

**FOR**

**ALTERNATE A1A 16-INCH FORCE MAIN CLEANING  
& INSPECTION**

**LOXAHATCHEE RIVER  
ENVIRONMENTAL CONTROL DISTRICT**

**JUNE 2020**

**Prepared by:**



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# NOTICE TO CONTRACTORS

## **Bid # 20-004-ALTA1AFMCLN ALTERNATE A1A 24-INCH FORCE MAIN CLEANING AND INSPECTION**

Sealed Bids will be received by the Loxahatchee River Environmental Control District (the "District,") via DemandStar until **2:00 p.m.** local time on **August 25, 2020**. Any Bids received after **2:00 p.m.** local time on **August 25, 2020**, will not be accepted under any circumstances. Any uncertainty regarding the time a Bid is received will be resolved against the Bidder. The Bids will be publicly opened and read aloud on **August 25, 2020** at **2:00 p.m.** local time in the Governing Board room of the District, at the above address. The Work to be performed is located in Palm Beach County, and consists of furnishing all labor, tools, materials, and equipment necessary to investigate the condition of the existing 24-inch ductile iron ball and socket, subaqueous force main as shown on the Contract Plans and Specifications and as specified herein to include:

**The Contractor's Work will be to clean, inspect (via closed circuit television (CCTV)) and evaluate the existing 24-inch force main's condition using non-destruction testing (NDT) methods(s), as specified herein.**

The District reserves the right to determine material elements of the Bid and to award the Contract, if at all, to the lowest, qualified, responsive, and responsible Bidder. The District further reserves the right to reject any and all Bids; to not proceed with the Project; and/or to waive any irregularities contained in a Bid.

A pre-bid conference will be held at **2:00 p.m.**, local time on **August 13, 2020** via Microsoft Teams. A meeting invite will be distributed to all plan holders prior to the scheduled date and time. If a bidder downloads Bid Documents from the District's website the bidder must send a request to be included in the pre-bid conference meeting invite to **purchasing@lrecd.org**. All contractors planning to submit Bids on this Project are encouraged to attend.

Bid Documents may be downloaded at the District's website, <https://loxahatcheeriver.org/governance/purchasing-bids/> or DemandStar. Bid Documents will be available on **July 27, 2020** after **8:00 a.m.** local time. The Bid Documents are made available on the above terms solely for the purpose of obtaining Bids and do not confer a license or grant for any other use.

Character and amount of security to be furnished by each Bidder are stated in the Instruction to Bidders. The Bidder shall hold its Bid open for acceptance by the District for a period of not less than ninety (90) calendar days following the date of the Bid opening.

The solicitation Invitation to Bid **20-004-ALTA1AFMCLN** has been issued as an Electronic Bid with the same title on DemandStar. To submit a response for this bid electronically follow the instructions on DemandStar. Electronic responses are the only method allowed for Bidders to respond to this solicitation. Bids shall be submitted on or before the date and time specified.

LOXAHATCHEE RIVER ENVIRONMENTAL CONTROL DISTRICT

Stephen B. Rockoff, Chairman

## **INSTRUCTIONS TO BIDDERS**

### **ARTICLE 1**

1. The following defined terms shall govern this Section and all other Contract Documents unless otherwise noted in the Contract Documents:
  - a. “Bid” shall mean the documents that comprise the submission for the Work of this Project.
  - b. “Bid Period” shall mean the time period from when the Bid Documents will become available to the deadline for submitting Bids.
  - c. “Bidder” shall mean one who submits a Bid directly to the District, as distinct from a sub-bidder, who submits a Bid to the Bidder.
  - d. “Bid Documents” include the Advertisement for Bids, Instructions to Bidders, Proposal, Questionnaire, the Bid Form, and the proposed Contract Documents (including all Addenda issued prior to receipts of Bids).
  - e. “Change Order” shall mean a written change, addition, or deletion to the Contract Documents signed by both Contractor and the District.
  - f. “Contract” shall mean the agreement between the Successful Bidder and the District for performance of the Work.
  - g. “Contract Documents” shall mean all documents that comprise the agreement of the parties related to the Project. The Contract Documents include the Notice to Contractors, Instructions to Bidders, Proposal, Questionnaire, Bid Security, Contract, Public Construction Bond, Sworn Statement of Public Entity Crimes, Opinion of District’s Attorney, Releases of Liens, Special Conditions, General Conditions, Technical Specifications, Standard Details and Plans, Plans and Specifications including all modifications, addenda, and Change Orders contained in any documents before or after execution of the Contract.
  - h. “Contract Sum” shall mean the total amount due to Contractor as a result of the Work performed on the Project, including any amounts due as a result of Change Orders.
  - i. “Contract Time” shall mean the time to complete the Project as set forth in the Contract Documents. Reference to “days” shall mean calendar days unless otherwise noted.
  - j. “Contractor” shall mean the Successful Bidder with whom the District executes a contract for the Work or its duly authorized agents.
  - k. “County” shall mean Palm Beach County, as may be applicable.
  - l. “Defective” shall mean the Work does not conform to the Contract Documents or does not meet the requirements of any applicable inspection, reference standard, test, or approval.

- m. “District” shall mean the Loxahatchee River Environmental Control District, acting through its properly authorized representatives.
- n. “Engineer” shall mean the engineer designated by the District as its engineering representative during the course of construction to make appropriate inspection and computation of payments, whether acting directly or through properly authorized agents, inspectors or representatives of the Engineer, acting within the scope of duties entrusted to them. The Engineer may or may not be an employee of the District.
- o. “Final Completion” shall mean the time when Engineer determines that all of the Work and associated punch list items have been completed in accordance with the Contract Documents.
- p. “Notice of Award” shall mean the District’s notification of award of the Contract to the Successful Bidder.
- q. “Plans” shall mean any and all drawings, plans, sketches, diagrams, designs, lists, or other graphic and pictorial portions of the Contract Documents showing the design, location, and dimensions of the Work for the Project.
- r. “Project” shall mean the entire construction to be performed as provided in the Contract Documents.
- s. “Specifications” shall mean the written requirements for materials, equipment, systems, standards, and workmanship for the Work, and performance of related services.
- t. “Substantial Completion” shall mean the date as certified by Engineer when the construction of the Project is sufficiently completed, in accordance with the Contract Documents, so that the Project can be utilized for the purposes for which it was intended; or if there be no such certification, the date when final payment is due in accordance with the Contract.
- u. “Successful Bidder” shall mean the lowest, qualified, responsible, and responsive Bidder to whom the District, based on the District’s evaluation hereinafter provided, makes an award.
- v. “Work” shall mean any and all obligations, duties and responsibilities necessary to the successful completion of the Project assigned to or undertaken by Contractor under the Contract Documents, including all labor, materials, equipment, services, and other incidentals and the furnishing, installation, and delivery thereof and all Work reasonably inferable therefrom.

2. **Bids:** Sealed Bids will be received by the Loxahatchee River Environmental Control District (the “District,”) via DemandStar until **2:00 p.m.** local time on **August 25, 2020**. Any Bids received after **2:00 p.m.** local time on **August 25, 2020**, will not be accepted under any circumstances. Any uncertainty regarding the time a Bid is received will be resolved against the Bidder. The Bids will be publicly opened and read aloud on **August 25, 2020** at **2:00 p.m.** local time in the Governing Board room of the District, at the above address. The Bidder shall hold its Bid open for acceptance by the



District for a period not less than ninety (90) calendar days following the date of the Bid opening.

Bid Documents may be downloaded at the District's website, <https://loxahatcheeriver.org/governance/purchasing-bids/> or via DemandStar. Bid Documents will be available on **July 27, 2020** after **8:00 a.m.** local time. The Bid Documents are made available on the above terms solely for the purpose of obtaining Bids and do not confer a license or grant for any other use.

A pre-bid conference will be held at **2:00 p.m.**, local time on **August 13, 2020** via Microsoft Teams. A meeting invite will be distributed to all plan holders prior to the scheduled date and time. If a bidder downloads Bid Documents from the District's website the bidder must send a request to be included in the pre-bid conference meeting invite to [purchasing@lrecd.org](mailto:purchasing@lrecd.org). All contractors planning to submit Bids on this Project are encouraged to attend.

All Bids shall be made on the blank form of proposal attached hereto. All blanks on the Bid Forms must be printed in blue or black ink or typed. Completed Bid Forms shall be scanned to PDF format and uploaded to DemandStar. The Bid shall contain an acknowledgment of receipt of all Addenda. A single Bid shall be submitted for all portions of the Work. Bids by corporations must be executed in the corporate name by the president or a vice president (or other corporate officer accompanied by evidence of authority to sign) and the corporate seal must be affixed and attested by the secretary or an assistant secretary. The corporate address and state of incorporation must be shown below the signature. Bids by partnerships must be executed in the partnership name and signed by a general partner, whose title must appear under the signature. The official address of the partnership must also be shown below the signature. If requested, the person signing a Bid for a corporation or partnership must produce evidence satisfactory to the District of the person's authority to bind the corporation or partnership. All names must be typed or printed below the signature. The address and telephone number for communications regarding the Bid must be shown.

After commencement of the Bid Period, no Bidder, or its agents, representatives, or persons acting at the request of such Bidder shall contact, communicate with or discuss any matter relating to the Bid with any District officer, agent, Board member, or employee other than Engineer or their designee. This prohibition ends upon execution of the final contract for the Work or when the Bid has been cancelled. A Bidder who violates this provision will be subject to discipline, including at a minimum a written reprimand and up to and including rejection of its Bid and/or cancellation of the Contract.

3. **Bid Security:** Each Bid must be accompanied by bid security in the form of a certified check or Bidder's Guaranty Bond ("Bid Bond") issued by a surety meeting the requirements of this Instruction to Bidders Section 3 and payable to the District for ten percent (10%) of the total amount of the Bid ("Bid Security"). The Bid Bond must be scanned and uploaded onto DemandStar.com along with all other required documents, thus showing evidence that a Bid Bond was obtained. Bidders will send the ORIGINAL Bid Bond to the City immediately after the opening date. The original Bid Bond is to be received within five (5) business days of the opening or the bid will be deemed non-responsive. The Bid Security of the Successful Bidder will be retained until the Bidder has executed the Contract and furnished the required payment and performance bonds in the form of a Public Construction Bond, whereupon the Bid Security will be returned. If the Successful Bidder fails to execute and deliver the Contract and furnish the required Bonds within fourteen (14) calendar

days after the Notice of Award, the District may annul the Notice of Award and the Bid Security of that Bidder will be forfeited to the District. The Bid Security of any Bidder whom the District believes to have a reasonable chance of receiving the award may be retained by the District for ninety (90) calendar days after the date of the opening of the Bid. The Bid Security of other Bidders will be returned seven (7) calendar days after the opening of the Bids. The Bid Bond shall be issued by a company having a registered agent in the State of Florida.

4. **Bonds and Qualification of Security Companies:** Upon award of the Contract, Contractor shall execute a Public Construction Bond, in the amount of the total Contract Sum with a qualified surety company, covering performance of the Project and payment of subcontractors, substantially similar in form to that provided in Article 5 of the Contract Documents and in compliance with the requirements of Section 255.05, Florida Statutes.

In order to be acceptable to the District, Bid Bonds, Public Construction Bonds, or Maintenance Bonds shall, at a minimum be written by a surety company that:

- a. is admitted/authorized to do business in the State of Florida and complies with the provisions of Section 255.05, Florida Statutes;
- b. has been in business and has a record of successful continuous operations for at least five (5) years;
- c. files a certified copy of a power of attorney with the signed Bid, Public Construction, or Maintenance bonds;
- d. lists the surety's agency name, address, and telephone number on all bonds; and
- e. has at least the following minimum ratings based on the following contract amounts:

<u>CONTRACT AMOUNT</u>	<u>BEST'S RATINGS</u>
\$ 25,000.00 to \$100,000.00	B+ Class V or better
\$100,000.01 to \$500,000.00	A Class VI or better
\$500,000.01 and over	A Class VII or better

The life of the Construction Bonds or Maintenance Bonds shall extend twelve (12) months beyond the date of Final Completion and shall contain a waiver of alteration to the terms of the Contract, extensions of time, and/or forbearance on the part of the District.

Surety companies executing bonds must appear on the Treasury Department's most current list (Circular 570 as amended).

5. **Subject of Bids:** All Work for the Project shall be constructed in accordance with the Plans and Specifications prepared by the District. Bids shall be submitted for furnishing, delivering, and installing all materials, equipment, incidentals and services, including labor for the Work as specified

in the Contract Documents and all items reasonably inferable therefrom. Engineer will compute the quantities that will be the basis for payment applications, both progress and final.

All Work shall be done as set forth in the Contract Documents and substantially completed, tested, cleaned, and ready for operation within the periods stated in Article 4 of the Contract, Section 2.

6. **Modification and Withdrawal of Bids:** Bids may be withdrawn or modified by an appropriate document duly executed (in the manner that a Bid must be executed) and delivered to the place where Bids are to be submitted during the Bid Period. A request for withdrawal or a modification must be in writing and signed by a person duly authorized to withdraw or modify the Bid. If signed by a deputy or subordinate, the principal's written authorization to such deputy or subordinate granting the power to act on the principal's behalf must accompany the request for withdrawal or modifications. Withdrawal of a Bid will not prejudice the rights of a Bidder to submit a new Bid within the Bid Period. After expiration of the Bid Period, no Bid may be withdrawn or modified, except as provided below.

If, within twenty-four (24) hours after Bids are opened, any Bidder files a duly signed, written notice with the District and within five (5) calendar days thereafter demonstrates to the reasonable satisfaction of the District that there was a material and substantial mistake in the preparation of its Bid, that Bidder may withdraw its Bid and the Bid Security will be returned. Thereafter, the Bidder will be disqualified from further bidding on the Project.

7. **Award, Waiver, and Rejection of Bids:** The Contract will be awarded pursuant to the requirements of applicable federal, state, and local laws and regulations. The Contract award will be made to the lowest cost, qualified, responsive, and responsible Bidder whose proposal materially complies with all the requirements. The District reserves the option to award or rebid the Project at any time if deemed to be in the best interest of the District.

It is the intention of the District to award the Contract to a Bidder competent to perform and complete the Work in a timely and satisfactory manner. Additionally, the District may conduct such investigations as the District deems necessary to assist in the evaluation of any Bid and to establish the responsibility, qualifications, and financial ability of Bidders, proposed subcontractors, suppliers, and other persons and organizations to perform and furnish the Work in accordance with the Contract Documents to the District's satisfaction and within the prescribed time.

To the extent permitted by applicable federal, state, and local laws and regulations, the District reserves the right to: determine materiality of Bid components; determine qualifications of the Bidder; determine responsibility of Bidder; determine responsiveness of Bidder; reject any and all Bids; waive any informality or irregularities in any Bid received; or accept the Bid deemed by the District to be in its best interest. Bids may be rejected at the option of the District if the District determines in its sole discretion the Bid is materially incomplete, unbalanced, conditional, or obscure; the Bid contains additions not called for, erasures, alterations, irregularities of any kind; the Bid does not comply materially with the Notice to Contractors and/or Instruction to Bidders; or the Bid is from a Bidder that does not meet pre-bid conference attendance requirements.

Documented poor performance of contractors on previous contracts with the District or other governmental entity will be considered during evaluation and may be sufficient cause not to award.

8. **Construction Schedule:** Prior to signing the Contract, the Successful Bidder shall submit on a form acceptable to the District and Engineer, the overall proposed construction schedule for the Project. The schedule shall conform to the requirements of Special Conditions Section 9.36. This construction schedule shall specify the Project completion date as set forth in the Contract.

9. **Execution of the Contract:** When the District gives a Notice of Award to the Successful Bidder, it shall be accompanied by the required number of unsigned counterparts of the Contract and all other written Contract Documents. Within fourteen (14) calendar days thereafter, Contractor shall sign and deliver the counterparts of the Contract and other written Contract Documents to the District with the required bonds and insurance certificates. Within fourteen (14) calendar days thereafter, the District shall deliver one fully signed counterpart to Contractor. Each counterpart is to be accompanied by a complete set of the appropriately identified Plans and Specifications. Following execution of the Contract by the District, the construction schedule shall be modified to begin upon the execution of the Contract by both Parties of the Contract.

10. **Examination of Contract Documents and Site:** It is the responsibility of each Bidder, prior to submitting a Bid to (a) examine the Bid and Contract Documents thoroughly, (b) visit the site of the Work and become familiar with local conditions that may in any manner affect cost, progress, performance or furnishing of the Work, (c) consider federal, state, and local laws, ordinances, rules, and regulations that may affect cost, progress, performance or furnishing of the Work in any manner, (d) examine the Plans and Specifications, requirements of the Work, and the accuracy of the quantities of the Work to be completed, and (e) notify Engineer of all conflicts, errors, or discrepancies in the Contract Documents.

Bidder may rely upon the accuracy of the technical data contained in the reports of exploration and tests of subsurface conditions at the site of the Work which have been utilized by Engineer in preparation of the Contract Documents. Bidder may not rely upon the completeness of the documents, non-technical data, interpretations or opinions of the reports of exploration and tests of subsurface conditions, for the purposes of bidding and/or construction. Further, information and data reflected in the Contract Documents with respect to underground facilities at or contiguous to the site are based upon information and data furnished to the District and Engineer by the owners of such underground facilities or others. The District does not assume responsibility for the accuracy or completeness thereof unless it is expressly provided otherwise in the Supplementary Conditions. Elevations of the ground are shown on the Plans and Specifications and are believed to be reasonably correct. However, such elevations are not guaranteed and are presented only as an approximation. Bidders shall satisfy themselves as to the correctness of all elevations.

The lands upon which the Work is to be performed, right-of-ways and easements for access thereto, and other lands designated for use by Contractor in performing Work are identified in the Contract Documents. All additional lands and access thereto required for temporary construction facilities or storage materials and equipment shall be provided by Contractor.

Before submitting a Bid, each Bidder shall, at Bidder's own expense, make or obtain any additional examinations, investigations, explorations, tests, studies and any additional information and/or data which pertain to the physical conditions (subsurface, surface and underground facilities) at or contiguous to the site or otherwise which may affect cost, progress, performance, or furnishing of the Work in accordance with the time, price, and other terms and conditions of the Contract Documents. In advance, the District will provide each Bidder access to the site of the Work at reasonable times to conduct such explorations and tests as each Bidder deems necessary for the submission of the Bid, provided Bidder provides two (2) business days written notice prior to the date access is requested.

The submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with the requirements as set for in the Instructions to Bidders and all other Contract Documents; the Bid is premised upon performing and furnishing the Work required by the Bid and Contract Documents; the means, methods, techniques, sequences, or procedures of construction as may be indicated in or required by the Bid and Contract Documents will be followed; and that the Bid and Contract Documents are sufficient in scope and detail to indicate and convey an understanding of all terms and conditions of performance and furnishing of the Work.

The Contract Documents contain the detailed provisions required for the construction of the Project. No information, verbal or written, obtained from any officer, agent or employee of the District on any such matter shall in any way affect the risk or obligation assumed by Contractor, or relieve Contractor from fulfilling any of the conditions of the Contract Documents.

11. **Interpretations and Addenda:** All questions about the meaning or intent of the Contract Documents are to be directed to Engineer. All questions must be submitted to Engineer in writing as early as possible during the Bid Period. No oral answers or interpretations will be provided. Interpretations or clarifications considered necessary by Engineer in response to such questions will be issued by addenda mailed to all persons recorded by Engineer as having received the Bid Documents. Questions received less than ten (10) calendar days prior to the deadline to submit Bids will not be answered. Only questions answered by formal written addenda will be binding. Oral responses and other interpretations or clarifications will be without legal effect, and shall not be relied upon by a Bidder.

Addenda may also be issued to modify the Bid Documents as deemed necessary by the District and/or Engineer. Contractor agrees to use the products and methods designated or described in the Plans and Specifications and as amended by any addenda. Addenda shall control in the event of conflict with Contractor's Bid.

12. **Substitute Material and Equipment:** The Contract will be based on material and equipment described in the Plans and Specifications without consideration of possible "substitute" or "equal" items. Whenever it is indicated in the Plans and Specifications that a Contractor may furnish or use a "substitute" or "equal" item of material or equipment, written application for such acceptance will not be considered by Engineer until after the effective date of the Contract. The written application for acceptance of a substitute item of material or equipment will be handled in accordance with the field order procedure.

13. **Subcontractors:** Each Bid must identify the names and addresses of the subcontractors. If requested by the District or Engineer, the Successful Bidder, and any other Bidder so requested, shall, within seven (7) days after the date of the request, submit to the District an experience statement with pertinent information as to similar projects and other evidence of qualification for each such subcontractor, person, and organization. The amount of subcontract work shall not exceed sixty percent (60%) of the Work. If the District or Engineer, after due investigation, has reasonable objection to any proposed subcontractor, supplier, other person, or organization, either party may, before issuing the Notice of Award, request the Successful Bidder to submit an acceptable substitute without an increase in Contract sum or Contract Time. If the apparent Successful Bidder declines to make any such substitution, the District may award the Contract to the next lowest qualified, responsive, and responsible Bidder that proposes to use acceptable subcontractors, suppliers, and other persons and organizations. Declining to make requested substitutions will not constitute grounds for sacrificing the Bid Security of any Bidder. Any subcontractor, supplier, other person or organization listed and not objected to in writing by the District or Engineer prior to giving of the Notice of Award, will be deemed acceptable to the District and Engineer, subject to revocation of such acceptance after the Effective Date of the Contract. The Successful Bidder shall be solely responsible for all payment to its subcontractors. No Contractor shall be required to employ any subcontractor, manufacturer, other person or organization against whom it has reasonable objection.

14. **Taxes:** Contractor shall pay all applicable sales, consumer, use, and other similar taxes required by law.

15. **Compliance with Laws:** Bidders must comply with all applicable federal, state, or local laws and regulations, including, but not limited to, the Department of Labor Safety and Health Regulations for construction promulgated under the Occupations Safety and Health Act of 1970 (PL 91-956) and under Section 107 of the Contract Work Hours and Safety Standards Act (PL 91-54).

Any chemicals used in the performance of this Project by the Bidder must have prior approval of the Environmental Protection Agency (EPA) and/or United States Department of Agriculture (USDA).

Bidders shall comply with the requirements of Sections 553.60-553.64, Florida Statutes (the “Trench Safety Act”) and 29 CFR Section 1926.650 Subpart P (the “Occupational Safety and Health Administration’s Excavation Safety Standards”). If the Project provides for trench excavation in excess of five (5) feet deep, the Bidder shall include in its Bid a reference to the Trench Safety Act and the standards that will be in effect during the period of construction of the Project; written assurance by the Bidder, that if selected, the Bidder will comply with applicable trench safety standards; and a separate item identifying the cost of compliance with the Trench Safety Act, in accordance with Section 553.64, Florida Statutes.

16. **Liquidated Damages and Additional Delay Damages:** Bidder and the District recognize the Work is of a critical nature, that time is of the essence, and the difficulty associated with ascertaining the extent of delay damages the District will suffer as a result of delay in the Work. As a result, if awarded the Contract, Bidder agrees to pay the District as liquidated damages, and not as a penalty, the amount of Liquidated Damages and Additional Delay Damages as outlined in Article 4- Contract Section 2.

17. **Insurance:** Contractor shall provide and maintain throughout the terms of this Contract, liability insurance with all the subject features in accordance with the instruction given in the Special Conditions Section 9.08.

18. **Required Disclosures:** With its Bid submission, Bidder shall disclose all material facts pertaining to any felony conviction or any pending felony charges in the last three (3) years in this state, any other state, or the United States against (i) Bidder, (ii) any business entity related to or affiliated with Bidder, or (iii) any present or former executive employee, officer, director, stockholder, partner or owner of Bidder or of any such related or affiliated entity. This disclosure shall not apply to any person or entity which is only a stockholder, owning twenty percent (20%) or less of the outstanding shares of a Bidder and whose stock is publicly owned and traded.

At its sole discretion the District may reject the Bid of any Bidder whose present or former executive employees, officers, directors, stockholders, partners, or owners are currently accused of or have ever been convicted of bidding violations. The discretion of the District may be exercised based on the disclosure required herein. By submitting a Bid, Bidder recognizes and accepts that the District may reject the Bid based upon the exercise of its sole discretion, and Bidder waives any claim it might have for damages or other relief resulting from the rejection of its Bid based on these grounds.

19. **Public Entity Crime/ Convicted Vendor List:** A person or affiliate who has been placed on the convicted vendor list following a conviction for a public entity crime may not submit a bid on a contract to provide any goods or services to a public entity, may not submit a bid on a contract 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 a contract 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, Category Two, for a period of thirty-six (36) months from the date of being placed on the convicted vendor list.

20. **License and Permits:** The District has obtained the permits specified within the Contract Documents. Contractor shall obtain and pay for all permits and licenses required for the Work as defined in Section 01019 of the Technical Specifications, including the cost of all Work performed in compliance with the terms and conditions of such permits, whether by itself or others.

No construction Work shall commence until all applicable licenses and permits have been obtained and copies delivered to Engineer.

21. **Protest:** The District is responsible for resolution of protests of contract awards, claims, disputes, alleged patent infringements, alleged license fee(s) and other related procurement matters in accordance with sound business judgment and good administrative practice. By submitting a Bid to the District, Bidders agree to the procedures outlined in the District's Procurement Policy which can be found on the District's website, [www.loxahatcheeriver.org/purchasing.php](http://www.loxahatcheeriver.org/purchasing.php), to resolve all protests.

22. The Contract Documents include various divisions, sections, and conditions which are essential parts of the Work to be provided by the Contractor. A requirement occurring in one is

binding as though occurring in all. The Contract Documents are intended to be complementary and to describe and provide for complete Work. In case of discrepancy, the following precedence will govern the interpretation of the Contract Documents prior to award of the Contract:

1. Addenda
2. Bid Documents, including the Contract
3. Special Conditions
4. Technical Specifications / Plans and Specifications
5. General Conditions
6. Bidder's Response

After award, in the event of a conflict, Change Orders, supplemental agreements, and revisions to Plans and Specifications will take precedence over any of the above. Detailed plans shall have precedence over general plans. In the event that any conflicts cannot be resolved by reference to this governing order of Contract Documents provision, then the District shall resolve the conflict in any manner which is acceptable to the District and which comports with the overall intent of the Contract Documents.

23. To render a Bid responsive, the Bidder's Proposal must be accompanied by the Bid Form provided in Article 2 of the Contract Documents. Acceptable references and projects to be included shall be those related to investigations of force mains. References provided shall be from the "owner" of the Project, not the project engineer or Contractor. The District will not award a Bid to any Bidder who cannot prove to the satisfaction of the District that the corporation/partnership/individual identified on the signature of Bidder form has satisfactory written references for similar work. References that are from a parent corporation or affiliated subsidiary will not be considered by the District.

24. **Notice to Proceed:** The Notice to Proceed for this project will be issued within 180 days of the Award of Contract at a time mutually agreed to by the District and lowest responsive bidder.

25. **Health, Safety and Environmental Performance:** The District shall evaluate Bidder's health, safety and environmental performance based on the following performance metrics and documentation reviews. The selected Bidder is solely responsible for all applicable health, safety, and environmental requirements, and the health, safety, and environmental evaluation conducted by the District is not an assumption of any responsibility for health, safety, and environmental requirements by the District. Bidders which fail to submit with their Bid information demonstrating compliance with the following criteria shall be considered non-responsive/non-responsible:

U.S. Department of Labor Occupational Safety and Health Administration (OSHA) Incident Rates and Recordable Injuries:



Total Days Away, Restricted, Transferred (DART) **Benchmark 4.4**  
(U.S. Bureau of Labor Statistics, Table 1). Incidence rates of nonfatal occupational injuries and illnesses by industry and case types, **2018, 25<sup>th</sup> percentile or better for size 11-49, NAICS 237110, Water and sewer line and related structures construction**). **Bidder's DART must be less than or equal to benchmark.**

Total Recordable Incident Rate (TRIR) **Benchmark 6.8**  
(U.S. Bureau of Labor Statistics, Table 1. Incidence rates of nonfatal occupational injuries and illnesses by industry and case types, **2018, 25<sup>th</sup> percentile or better for size 11-49, NAICS 237110, Water and sewer line and related structures construction**). **Bidder's TRIR must be less than or equal to benchmark.**

Fatalities: **0** Work related fatalities resulting in OSHA citations within the last three years, OR if 1 or more work related fatalities resulting in an OSHA citation exist within the last three years, the contractor must have mitigated risk of recurrence by implementing adequate industry standard safety procedures and training as determined by OSHA by providing such OSHA determination to the District.

Bidder shall submit a health, safety and environmental plan for Construction and General Industry. The health, safety and environmental plan must address the following minimum requirements:

- Lockout/Tagout
- Excavation Trenching and Shoring
- Permit Required Confined Space
- Injury Reporting/Investigation
- Operator Qualifications
- Hot Work
- Personal Protective Equipment
- Electrical Safety
- Near Miss, Behavioral Based Safety
- Qualified, Certified and Competent Employees

OSHA Inspection Detail review must show no Serious or Willful violations in the previous 36 months and no unresolved Failure to Abate Prior Violation in the previous 36 months and no active Failure to Abate Prior Violation.

Bidder shall submit with their Bid OSHA Form 300A completed for the previous year, an Experience Modification Rating letter from its insurance carrier for the current period and a copy of its written health, safety and environmental program with training records for the previous 36 months.

26. **Previous Performance on District Projects:** The District has implemented a Contractor Evaluation Report in an effort to document contractor performance on District projects. Bidders who have received Unsatisfactory ratings on previous District projects must submit with their Bid a mitigation plan detailing previous unsatisfactory ratings and measures implemented to address the unsatisfactory performance. Bidders with unsatisfactory ratings not submitting a mitigation plan with their bid shall be deemed Non-Responsive/Non-Responsible.

27. **Experience:** The District shall evaluate the Bidder's experience relative to the work to be performed based on the following requirements:

Have successfully performed as Prime Contractor on a minimum of 5 similar projects in the past 5 years. Similar projects shall include sanitary force main inspections with a minimum construction contract value of \$100,000. Qualifying projects shall be complete and shall not have been assessed Liquidated Damages, terminated, suspended or defaulted.

Bidder shall submit Project Resumes for all qualifying projects. Resumes shall include project name, description, construction cost, completion date, District's project manager contact information (name, phone number and email), Engineer of Record's contact information (name, phone number and email). See Proposal, Article 2A, Questionnaire.

LOXAHATCHEE RIVER  
ENVIRONMENTAL CONTROL DISTRICT

By: \_\_\_\_\_  
Stephen B. Rockoff  
Chairman

I hereby acknowledge receipt of the Notice to Contractors and Instruction to Bidders and have familiarized myself with the contents therein and all other Contract Documents

By: \_\_\_\_\_                      \_\_\_\_\_  
Bidder                                      Date

**PROPOSAL**

**ARTICLE 2**

**LOXAHATCHEE RIVER DISTRICT  
ALTERNATE A1A 24-INCH FORCE MAIN CLEANING &  
INSPECTION**

To the LOXAHATCHEE RIVER DISTRICT of Jupiter, Florida, as the party of the first part:

Proposal made by: \_\_\_\_\_  
as Bidder,

whose business address is: \_\_\_\_\_

State whether Bidder is an individual,  
a partnership or a corporation: \_\_\_\_\_

Accompanying this Proposal is a Bid Security for \$ \_\_\_\_\_ (Numbers)

\_\_\_\_\_ (Amount Written)

From: \_\_\_\_\_  
(Name of Surety)

1. The undersigned Bidder hereby declares that the Bidder has carefully examined the Contract Documents relating to the above entitled matter and the Work, and has personally inspected the location of the Work. The undersigned Bidder has correlated the results of all observations, examinations, investigations, tests, reports, and studies with the terms and conditions of the Contract Documents.

2. The undersigned Bidder hereby declares that the Bidder is the only person or persons interested in its Bid; that it is made without any connection with any person submitting another bid for the same Contract; that the Bid is in all respects fair and without collusion, fraud, or mental reservations; that no official of the District or any person in the employ of the aforesaid is directly or indirectly interested in said Bid or in the supplies of Work to which it relates, or in any portion of the profits thereof.

3. The undersigned Bidder does hereby offer and agree to furnish all materials, to fully and faithfully construct, perform and execute all Work in the above entitled matter in accordance with the Plans and Specifications relating thereto, and to furnish all labor, tools, implements, machinery, forms transportation, and materials necessary and proper for the said purpose at the prices named below for the various items of Work.

4. The undersigned Bidder does hereby declare that the prices so stated cover all expenses of every kind incidental to the completion of said Work and the Contract, including all claims that may arise through damages or other cause whatsoever. The undersigned Bidder agrees to complete the Work for the price(s) indicated in the Bid Form.

5. The undersigned Bidder does hereby declare that the Bidder shall make no claim on an account of any variation of the approximate estimate in the quantities of Work to be done, nor on account of any misunderstanding or misconceptions of the nature of the Work to be done or the grounds or place where it is to be done.

6. The undersigned Bidder does hereby agree that it will execute the Contract which will contain the material terms, conditions, provisions, and covenants necessary to complete the Work according to the Plans and Specifications, within fourteen (14) calendar days after receipt of written Notice of Award of this proposal by the District; and if the Bidder fails to execute said Contract within said period of time, that the District shall have the power to rescind said award and also retain for the District the Bid Security accompanying Bidder's proposal which shall become forfeited as liquidated damages.

7. The undersigned Bidder also declares and agrees that the Bidder will commence the Work within ten (10) calendar days after receipt of written Notice to Proceed and will complete the Work fully and in every respect on or before the time specified in the Contract Documents, and so authorize the party of the District in case of failure to complete the Work within such specified time to employ such persons, equipment, and materials as may be necessary for the proper completion of said Work and to deduct the cost therefore from the amount due under the Contract.

8. The undersigned Bidder accepts all of the terms and conditions of the Bid Documents, including without limitation those dealing with the disposition of the Bid Security. The undersigned Bidder also makes all representations required by the Instructions to Bidders.

9. The undersigned Bidder agrees to provide Unit Prices of major construction elements of the Work in order to better determine the value of progress payment, in a format as provided in Article 6 Forms for Use During Construction.

10. The undersigned Bidder hereby agrees that the Bidder will, at Bidder's expense, insure all persons employed by it in prosecuting the Work hereunder against accident as provided by the Workers' Compensation Law of the State of Florida.

11. The price for the Work shall be stated in both words and figures in the appropriate place in the proposal form. Discrepancies in the multiplication of units of Work and unit prices will be resolved in the favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in the favor of the correct sum. In the event that there is a discrepancy between the price in written words and the price written in figures, the former shall govern.

12. The undersigned Bidder acknowledges receipt of the addenda, if any, as listed herein and agrees that Bidder will be bound by all addenda whether or not listed herein.

Receipt of Addendum	No. _____	Date _____
	No. _____	Date _____
	No. _____	Date _____
	No. _____	Date _____

13. The following documents are attached to and made a condition of this Bid (initial each item in the space provided):

- a. Initial\_\_\_\_\_. Instructions to Bidders, Proposal, Questionnaire, Sworn Statement Under Section 287.133(3)(a), Florida Statutes, on Public Entity Crimes, Schedule of Bid Prices
- b. Initial\_\_\_\_\_. Bid Security
- c. Initial\_\_\_\_\_. Power of Attorney (for Surety Bond only)
- d. Initial\_\_\_\_\_. Corporate Authority to execute Bid (any corporate employee other than president or vice president)
- e. Initial\_\_\_\_\_. Copies of current valid license(s) issued in accordance with Florida Statutes and/or appropriate local ordinances is hereby acknowledged.
- f. Initial\_\_\_\_\_. OSHA's Form 300A completed for the previous year
- g. Initial\_\_\_\_\_. Experience Modification Rating letter (issued by insurance carrier) for the current period.

- h. Initial\_\_\_\_\_. Written health, safety and environmental program with training records for the previous 36 months.
- i. Initial\_\_\_\_\_. Contractor’s Unsatisfactory Rating Mitigation Plan (if required, see ITB 26)
- j. Initial\_\_\_\_\_. Project Resume’s for qualifying experience (see ITB 27).

Contractor: \_\_\_\_\_

By: \_\_\_\_\_

Title: \_\_\_\_\_

Address: \_\_\_\_\_

(Corporation Seal)

Attest: \_\_\_\_\_

Title: \_\_\_\_\_

Contractor’s License No: \_\_\_\_\_

**BID FORM — BASE BID**  
**LOXAHATCHEE RIVER ENVIRONMENTAL CONTROL DISTRICT**  
**ALTERNATE A1A 24-INCH FORCE MAIN CLEANING & INSPECTION**  
**UNIT PRICES**

No.	Description	Unit	Qty	Unit Cost	Total
<b>GENERAL CONDITIONS</b>					
1	Mobilization, Insurance and Bonds*	LS	1	\$	\$
2	Maintenance of Traffic	LS	1	\$	\$
3	Audio Video Documentation	LS	1	\$	\$
4	NPDES Permit/Erosion Protection Measures	LS	1	\$	\$
<b>FORCE MAIN</b>					
5	Inspection Access Pit (20' x10') and Restoration	EA	2	\$	\$
6	Access To Existing 24" Force Main	EA	2	\$	\$
7	Cleaning Existing 24" Force Main	LS	1	\$	\$
8	Closed Circuit Television Inspection	LS	1	\$	\$
9	Non-Destructive Ductile Iron Force Main Inspection	LS	1	\$	\$
<b>TOTAL BID ITEMS 1-9</b>					<b>\$</b>

\* Payment for mobilization shall not exceed eight percent (8%) of the contract price.

TOTAL BASE BID, ITEMS 1-9 (in words)

\_\_\_\_\_ Dollars

\_\_\_\_\_ Cents

THE CONTRACT AWARD SHALL BE EVALUATED BASED ON THE TOTAL BASE BID PRICE FOR ITEMS 1 THROUGH 9 AS SUBMITTED BY THE LOWEST, QUALIFIED, RESPONSIBLE, RESPONSIVE BIDDER.

---

(Name of Bidder)

Bidders Name: \_\_\_\_\_

By: \_\_\_\_\_

Signature of Authorized Officer, Partner, Member, Manager

Print Name of Person signing: \_\_\_\_\_

Title: \_\_\_\_\_

Business Address: \_\_\_\_\_

---

Incorporated or formed under the laws of the State of \_\_\_\_\_.



**PROPOSAL**  
**ARTICLE 2a**

**QUESTIONNAIRE**  
**For**

**ALTERNATE A1A 24-INCH FORCE MAIN CLEANING & INSPECTION**

**INSTRUCTIONS**

1. The following information must be filled out by **all Bidders**.
2. Please print legibly, type, or word process. Sign in ink. When attaching sheets, please place the question number to which you are responding in the upper right hand corner of each sheet and number the sheets.
3. Note that the person signing this Application must swear that the information provided below is true, accurate, and complete.

\*\*\*\*\*

**1. Basic Information**

1.1 Name of Contractor:

\_\_\_\_\_

[Same as on Cover Page of The Proposal]

1.2 Contact Person(s):

\_\_\_\_\_

1.3 Telephone No: \_\_\_\_\_ Fax No: \_\_\_\_\_ E-mail:

\_\_\_\_\_

1.4 Address:

\_\_\_\_\_

\_\_\_\_\_

1.5 Federal Tax ID No: \_\_\_\_\_

1.6 CONTRACTOR'S license: Primary classification: \_\_\_\_\_

State License Number \_\_\_\_\_

Supplemental classifications held, if any: \_\_\_\_\_

Name of Licensee, if different from (1) above: \_\_\_\_\_

\_\_\_\_\_

1.7 Name of person and title who inspected site of proposed WORK for your firm:

Name: \_\_\_\_\_ Date of Inspection: \_\_\_\_\_

Title: \_\_\_\_\_

**2. Organizational Structure & History**

2.1 The Contractor is duly organized under the laws of the State of \_\_\_\_\_.

2.2 The Contractor has the following organizational structure.

individual                       corporation       partnership  
 limited liability company    joint venture    other: \_\_\_\_\_

2.3 Provide the year the Contractor (and not any Predecessor Entities or Related Entities) was first organized. \_\_\_\_\_

2.4 List all Predecessor Entities below (or on attached sheets if necessary).

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2.5 Please list all Related Entities below (or on attached sheets if necessary).

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2.6 If organized in any state other than Florida or in a foreign country, are you in compliance with all laws and regulations necessary to legally do business in the State of Florida?

YES \_\_\_\_\_ NO \_\_\_\_\_

**3. Officers and Owners**

3.1 Officers: List the name, title, and address of current Officers, Directors, Partners, Members, and any other persons with similar positions, in descending order of degree of control.

Name	Title	Address
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

[Attach additional sheets as necessary.]

3.2 Owners. Please list the name, address, and percentage of ownership of all persons or entities owning 10 percent or more of the Contractor, in descending order of percentage of ownership.

Owner	Address	%
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

[Attach additional sheets as necessary.]

3.3 Employees. Please list total quantity of employees, # of crews, and discipline of each crew.

Crew Discipline	Number of employees in crew	% of total firm
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

[Attach additional sheets as necessary.]

#### **4. Experience**

4.1 Summary of Contractor Experience With respect to this specific project, list the approximate number of years of experience that the Contractor has as a prime contractor or as a subcontractor with primary responsibility.

<u>Project Type</u>	<u>Years</u>
Utility Construction (primary)	_____
Utility Construction (subcontractor)	_____

4.2 Most Recently Completed Contracts Please provide the following information regarding the last ten contracts completed by the Contractor. Please list in reverse chronological order (most recently completed project first, next most recently completed project, etc.). [Please feel free to provide this information on attached sheets in another format as long as it contains all the information requested.]

Contract Amount	Project Type & Location	Month / Year Completed	Name, Address, Contact Person & Tel. # of Owner

4.3 What is the last project similar in nature that you have completed as Prime Contractor for a government entity in Florida? (This must be filled out below or Bid may be considered non-responsive.)

Project: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Project Cost: \_\_\_\_\_  
 Year Complete: \_\_\_\_\_  
 Government: \_\_\_\_\_

4.4 ATTACH TO THIS BID the experience resume of the person who will be designated chief construction superintendent or on site construction manager.

4.5 List 5 projects completed as Prime Contractor in last 5 years in Florida involving work of similar type and complexity that you have completed as Prime Contractor for a government entity in Florida. See Instructions to Bidders, Paragraph 27, Experience. If 5 projects have not been completed, Contractor must so state (this must be filled out below or Bid may be considered non-responsive):.

a. Project Name: \_\_\_\_\_

Contract Price: \$ \_\_\_\_\_

Detailed Description of Work: \_\_\_\_\_

\_\_\_\_\_

Name, Address and Telephone Number of Government/Contact Person: \_\_\_\_\_

\_\_\_\_\_

b. Project Name: \_\_\_\_\_

Contract Price: \$ \_\_\_\_\_

Detailed Description of Work: \_\_\_\_\_

\_\_\_\_\_

Name, Address and Telephone Number of Government/Contact Person: \_\_\_\_\_

\_\_\_\_\_

c. Project Name: \_\_\_\_\_

Contract Price: \$ \_\_\_\_\_

Detailed Description of Work: \_\_\_\_\_

\_\_\_\_\_

Name, Address and Telephone Number of Government/Contact Person: \_\_\_\_\_

\_\_\_\_\_

d. Project Name: \_\_\_\_\_

Contract Price: \$ \_\_\_\_\_

Detailed Description of Work: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Name, Address and Telephone Number of Government/Contact Person: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

e. Project Name: \_\_\_\_\_

Contract Price: \$ \_\_\_\_\_

Detailed Description of Work: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Name, Address and Telephone Number of Government/Contact Person: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

4.6 Contracts In Progress Please provide the following information regarding all contracts currently in progress, in descending order of contract amount. [Please feel free to provide this information on attached sheets in another format as long as it contains all the information requested.]

Contract Amount	Project Type & Location	% Completed	Name, Address, Contact Person & Tel. # of Owner

4.7 Provide an alphabetical listing of all state or local government agencies, including telephone number and contact person, that have awarded the Contractor (or any Predecessor Entities and Related Entities) a contract during the last five years. Attach additional sheets as necessary.

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_
6. \_\_\_\_\_

4.8 Subcontractors. This proposal is being submitted by the CONTRACTOR who proposes to perform the Work as required by the Contract Documents. If the CONTRACTOR will be utilizing a Subcontractor for a category of Work set forth below then the CONTRACTOR **must** identify the Subcontractor by name and provide the Subcontractor's address and telephone number. Only **one** Subcontractor may be identified for each category set forth below. If the CONTRACTOR does not identify a Subcontractor for a category of Work specified, this shall constitute a representation and warranty by the CONTRACTOR that the CONTRACTOR is not utilizing a Subcontractor for such Work and will perform such Work with CONTRACTOR's own employees. After submitting this bid the CONTRACTOR may not add to, subtract from, modify or make substitutions regarding the Supplier/Subcontractor identification and listing without the express written request and consent of the District. Any substitutions must be for legitimate and proper reasons. All Subcontractors listed are subject to the approval of the District.

CONTRACTOR represents and warrants to the District that all of said Subcontractors and their authorized vendors have been made aware of all the appropriate portions of the Contract Documents and agree that their portion of the Work and materials furnished in connection therewith will meet all of the requirements of the Contract Documents and that deliveries will be scheduled so as not to impede the progress of the Work.

Subcontractors:

Closed-Circuit Television

\_\_\_\_\_  
Name:

\_\_\_\_\_  
Address & Telephone No.

Non-Destructive Materials Testing

\_\_\_\_\_  
Name:

\_\_\_\_\_  
Address & Telephone No.

Force Main Preparatory Cleaning

\_\_\_\_\_  
Name:

\_\_\_\_\_  
Address & Telephone No.

Roadway Restoration

\_\_\_\_\_

Name:

\_\_\_\_\_

Address & Telephone No.

Videographer

\_\_\_\_\_

Name:

\_\_\_\_\_

Address & Telephone No.

Other

\_\_\_\_\_

Name:

\_\_\_\_\_

Address & Telephone No.

4.10 Liquidated Damages Within the last five years, has the Contractor (or any Predecessor Entities or Related Entities) had liquidated damages assessed against it?

YES \_\_\_\_\_ NO \_\_\_\_\_

If YES, please provide full details on attached sheets including the per diem amount of liquidated damages, the original contract time, and the number of days for which liquidated damages were assessed. Please feel free to include a written summary of your position on the matter.

4.11 Terminations / Suspensions / Defaults

(a) Within the last five years, has a contract of the Contractor (or any Predecessor Entities or Related Entities) been terminated or suspended for cause?

YES \_\_\_\_\_ NO \_\_\_\_\_



(b) Within the last five years, has another party (e.g. surety) completed Work which the Contractor (or any Predecessor Entities or Related Entities) was originally responsible to perform?

YES \_\_\_\_\_ NO \_\_\_\_\_

(c) Within the last five years, has the Contractor (or any Predecessor Entities or Related Entities) been considered in default of a contract that was not cured within the time frame allowed by the contract?

YES \_\_\_\_\_ NO \_\_\_\_\_

If the answer to any of questions 4.6(a)-(c) is YES, please provide full details on attached sheets. Please feel free to include a written summary of your position on the matter.

#### 4.12 Denial of Qualification or Award

(a) Within the last 5 years, has any federal, state, or local government or procurement agency denied the Contractor (or any Predecessor Entities or Related Entities) qualification?

YES \_\_\_\_\_ NO \_\_\_\_\_

(b) Within the last 5 years, has any federal, state, or local government or procurement agency, after the Contractor (or any Predecessor Entities or Related Entities) submitted the apparent low bid, refused to award a contract for reasons related to the Contractor's qualifications, experience, competence, or financial situation?

YES \_\_\_\_\_ NO \_\_\_\_\_

If the answer to either of questions 4.7(a) or (b) is YES, please provide full details on attached sheets. Please feel free to include a written summary of your position on the matter.

#### 4.13 Debarments, Etc.

(a) Within the last 5 years, has the Contractor (or any Predecessor Entities or Related Entities) been debarred for any reason by any federal, state, or local government or procurement agencies?

YES \_\_\_\_\_ NO \_\_\_\_\_

(b) Within the last 5 years, has the Contractor (or any Predecessor Entities or Related Entities) refrained from bidding for any reason, such as suspension or agreement not to bid, or as part of the settlement of a Dispute of any type with any federal, state, or local government or procurement agencies?

YES \_\_\_\_\_ NO \_\_\_\_\_

If the answer to either of questions 4.8(a) or (b) is YES, please provide full details on attached sheets. Please feel free to include a written summary of your position on the matter.

4.14 Claims History Within the last 5 years, has the Contractor (or any Predecessor Entities or Related Entities) been a party to a Claim with an originally claimed amount in excess of \$50,000?

YES \_\_\_\_\_ NO \_\_\_\_\_

If YES, please provide full details for each Claim on attached sheets including (a) whether the Claim was brought by or against the Contractor (or any Predecessor Entities or Related Entities), (b) the nature of the Dispute underlying the Claim, (c) originally claimed amounts, (d) the resolution of such Claims (including the amount) or if unresolved, the current status of such Claims, and (e) the name, address and phone number of the primary adverse party who is to be contacted for additional information, and (f) a written summary of your position on the matter (if desired).

4.15 Bid or Other Crimes Within the last 10 years, has the Contractor (or any Predecessor Entities or Related Entities), or any officers, owners, or Key Personnel of the same ever been indicted on, convicted of, or plead or consented to a violation of a bid crime including bid collusion or any other crime involving fraud or knowing misrepresentation?

YES \_\_\_\_\_ NO \_\_\_\_\_

If YES, please provide full details on attached sheets. Please feel free to include a written summary of your position on the matter.

4.16 Quality Control Does the Contractor have a written organizational-level quality control plan (as opposed to project-level plans)?

YES \_\_\_\_\_ NO \_\_\_\_\_

If YES, please answer the following two questions.

- (a) What year was it first adopted? \_\_\_\_\_
- (b) In what year was its substance last revised? \_\_\_\_\_

4.17 Contractor Evaluation Report Has the Contractor performed work with the District where a Contractor Evaluation Report was completed as part of the work?

YES \_\_\_\_\_ NO \_\_\_\_\_

If YES, did the Contractor receive any UNSATISFACTORY ratings?

YES \_\_\_\_\_ NO \_\_\_\_\_

If YES, include with the Bid Contractor's UNSATISFACTORY RATING MITIGATION PLAN.

## 5. Key Personnel

5.1 Please provide the following information for all Key Personnel whose duties consist primarily of one or more the following functions: (a) project management, (b) quality control and (c) safety oversight. [Please feel free to provide this information on attached sheets in another format as long as it contains all the information requested.]

	Name	Job Duties (a-c above)	Relevant Licenses or Certifications	Experience (# of Yrs.)	Education (Degree or # Yrs.)
1	_____	_____	_____	_____	_____
2	_____	_____	_____	_____	_____
3	_____	_____	_____	_____	_____
4	_____	_____	_____	_____	_____
5	_____	_____	_____	_____	_____
6	_____	_____	_____	_____	_____

[Attach additional sheets as necessary.]

**6. Bonding**

6.1 Is the Contractor capable of obtaining from a Qualifying Bonding Company a performance bond and a payment bond each in the amount of the bid prices that the Contractor will be submitting to the OWNER. A Qualifying Bonding Company is an insurance, bonding, and/or surety company rated in accordance with contract requirements.

YES \_\_\_\_\_ NO \_\_\_\_\_

If NO, please explain why you cannot meet the bonding standards set forth in question 6.1 above on attached sheets.

**7. Environmental**

7.1 Environmental Record. Within the last 5 years, has the Contractor (or any Predecessor Entities or Related Entities) been found to be in violation of any federal, state or local environmental law or regulation in an administrative, civil or criminal proceeding in which the fact finder found that the Contractor committed the violation and/or failed to comply after having been notified of the violation?

YES \_\_\_\_\_ NO \_\_\_\_\_

If YES, please provide full details, including a summary of your position, on attached sheets.

**8. Financial**

8.1 ATTACH TO THIS BID an abbreviated financial statement on the attached form, references, and other information, sufficiently comprehensive to permit an evaluation of CONTRACTOR'S current financial condition.

**9. Certifications Under Oath**

By signing below, the person signing below hereby certifies and swears, **ON OATH**, as follows.

1. I have personal knowledge of all the information contained in this Questionnaire OR I am responsible for the accuracy of all such information.
2. The information contained in this Application is true and complete.
3. I hereby authorize the Loxahatchee River District to contact any person or entity necessary to verify or supplement any of the information requested by or provided in this Application without liability, and I hereby further authorize any person or entity contacted to provide any and all information requested without liability.
4. The Contractor has read, understands, and agrees to all terms of the Qualification Questionnaire.
5. I am duly authorized by law and by the Contractor to sign this Qualification on behalf of the Contractor.

\_\_\_\_\_  
Date

CONTRACTOR

\_\_\_\_\_  
Witness

\_\_\_\_\_  
[Signature]

By: \_\_\_\_\_  
[Name and Title Printed]

State of \_\_\_\_\_

County of \_\_\_\_\_

Date: \_\_\_\_\_

The foregoing instrument was acknowledged before me this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_ by \_\_\_\_\_, who is personally known to me or who has produced a valid \_\_\_\_\_ Driver's License as identification and who did take an oath.

\_\_\_\_\_  
[Signature of Notary Public]

Name Printed: \_\_\_\_\_

My Commission Expires: \_\_\_\_\_

**SWORN STATEMENT UNDER SECTION 287.133(3)(a),  
FLORIDA STATUTES, ON PUBLIC ENTITY CRIMES**

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

1. This sworn statement is submitted with Bid, Proposal or Contract No. \_\_\_\_\_ for ALTERNATE A1A 24-INCH FORCE MAIN CLEANING & INSPECTION .
  
2. This sworn statement is submitted by \_\_\_\_\_  
(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: \_\_\_\_\_.)
  
3. My name is \_\_\_\_\_ and my relationship to the entity  
named (please print name of individual signing)  
above is \_\_\_\_\_.
  
4. I understand that a "public entity crime: as defined in Paragraph 287.133(1)(g), **Florida Statutes**, means a violation of any state or federal law by a person with respect to and directly related to the transaction of business with any public entity or with an agency or political subdivision of any other state or with the United States, including but not limited to, any bid or contract for goods or services to be provided to any public entity or an agency or political subdivision of any other state or of the United states and involving antitrust, fraud, theft, bribery, collusion, racketeering, conspiracy, or material misrepresentation.
  
5. I understand that "convicted" or "conviction" as defined in Paragraph 287.133(1)(b), **Florida Statutes**, means a finding of guilt or a conviction of a public entity crime, with or without an adjudication of guilt, in any federal or state trial court of record relating to charges brought by indictment or information after July 1, 1989, as a result of a jury verdict, nonjury trial, or entry of a plea of guilty or nolo contendere.
  
6. I understand that an "affiliate" as defined in Paragraph 287.133(1)(a), **Florida Statutes** means:
  1. A predecessor or successor of a person convicted of a public entity crime: or
  2. An entity under the control of any natural person who is active in the management of the entity and who has been convicted of a public entity crime. The term "Affiliate" includes those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in the management of an affiliate. The ownership by one person of shares constituting a controlling interest in another person, or a pooling of equipment or income among persons when

not for fair market value under an arm's length agreement, shall be prima facie case that one person controls another person. A person who knowingly enters into a joint venture with a person who has been convicted of a public entity crime in Florida during the preceding thirty-six (36) months shall be considered an affiliate.

7. I understand that a "person" as defined in Paragraph 287.133(1)(e), **Florida Statutes** means any natural person or entity organized under the laws of any state or of the United states with the legal power to enter into a binding contract and which bids or applies to bid on contracts for the provision of goods or services let by a public entity, or which otherwise transacts or applies to transact business with a public entity. The term "person" includes those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in management of an entity.
8. Based on information and belief, the statement which I have marked below is true in relation to the entity submitting this sworn statement. [Indicate which statement applies.]

\_\_\_ Neither the entity submitting this sworn statement, nor any officers, directors, executives, partners, shareholders, employees, members, or agents who are active in management of the entity, nor any affiliate of the entity have been charged with and convicted of a public entity crime subsequent to July 1, 1989.

\_\_\_ The entity submitting this sworn statement, or one of more of the officers, directors, executives, partners, shareholders, employees, members, or agents who are active in management of the entity, or an affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989.

\_\_\_ The entity submitting this sworn statement, or one or more of its officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity, or an affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989. However, there has been a subsequent proceeding before a Hearing Officer of the State of Florida, Division of Administrative Hearings and the Final Order entered by the Hearing Officer determined that it was not in the public interest to place the entity submitting this sworn statement on the convicted vendor list. [attach a copy of the final order].

\_\_\_ There has been a proceeding concerning the conviction before a hearing officer of the State of Florida, Division of Administrative Hearings. The final order entered by the hearing officer did not place the person or affiliate on the convicted vendor list. [Please attach a copy of the final order].

\_\_\_ The person or affiliate was placed on the convicted vendor list. There has been a subsequent proceeding before a hearing officer of the State of Florida, Division of Administrative Hearings. The final order entered by the hearing officer determined that it was in the public interest to remove the person or affiliate from the convicted vendor list. [Please attach a copy of the final order].

\_\_\_ The person or affiliate has not been placed on the convicted vendor list. [Please describe any action taken by or pending with the Department of General Services].

\_\_\_\_\_

(Signature)

\_\_\_\_\_

(Date)

STATE OF \_\_\_\_\_

COUNTY OF \_\_\_\_\_

The foregoing instrument was acknowledged before me this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_ by \_\_\_\_\_, who is personally known to me or who has produced a valid \_\_\_\_\_ Driver's License as identification and who did take an oath.

\_\_\_\_\_

Notary Public

\_\_\_\_\_

Printed/Typed Name

My Commission Expires:

Condensed current financial statement for (Name of Contractor)

**ALTERNATE A1A 24-INCH FORCE MAIN CLEANING & INSPECTION**

Condition at close of business \_\_\_\_\_, 20\_\_\_\_\_

**ASSETS**

1. Cash: (a) On Hand \$ \_\_\_\_\_, (b) In bank \$ \_\_\_\_\_, (c) Elsewhere \_\_\_\_\_  
\$ \_\_\_\_\_

2. Notes receivable (a) Due within 90 days  
\$ \_\_\_\_\_  
(b) Due after 90 days  
\$ \_\_\_\_\_  
(c) Past Due  
\$ \_\_\_\_\_

3. Accounts receivable from completed contracts, exclusive of claims not approved for payment  
\$ \_\_\_\_\_

4. Sums earned on uncompleted contracts as shown by Engineer's or Architect's estimate  
\$ \_\_\_\_\_  
(a) Amount receivable after deducting retainage  
\$ \_\_\_\_\_  
(b) Retainage to date, due upon completion of contracts  
\$ \_\_\_\_\_

6. Accounts receivable from sources other than construction contracts  
\$ \_\_\_\_\_

6. Deposits for bids or other guarantees  
\$ \_\_\_\_\_  
(a) Recoverable within 90 days  
\$ \_\_\_\_\_  
(b) Recoverable after 90 days  
\$ \_\_\_\_\_

7. Interest accrued on loans, securities, etc.  
\$ \_\_\_\_\_



8. Real Estate (a) Used for business purposes  
\$ \_\_\_\_\_  
(b) Not used for business purposes  
\$ \_\_\_\_\_

9. Stocks and Bonds (a) Listed – present market value  
\$ \_\_\_\_\_  
(b) Unlisted – present value  
\$ \_\_\_\_\_

10. Materials in stock not included in Item 4:  
(a) For uncompleted contracts (present value)  
\$ \_\_\_\_\_  
(b) Other materials (present value)  
\$ \_\_\_\_\_

11. Equipment, book value  
\$ \_\_\_\_\_

12. Furniture and fixtures, book value  
\$ \_\_\_\_\_

13. Other assets  
\$ \_\_\_\_\_  
\$ \_\_\_\_\_

TOTAL ASSETS

**LIABILITIES**

1. Notes payable (a) To banks regular  
\$ \_\_\_\_\_  
(b) To banks for certified checks  
\$ \_\_\_\_\_  
(c) To others for equipment obligations  
\$ \_\_\_\_\_  
(d) To others exclusive of equipment obligation  
\$ \_\_\_\_\_

2. Accounts Payable \* (a) Not past due  
\$ \_\_\_\_\_  
(b) Past due  
\$ \_\_\_\_\_

3. Real Estate encumbrances

\$ \_\_\_\_\_

4. Other liabilities

\$ \_\_\_\_\_

5. Reserves

\$ \_\_\_\_\_

6. Capital stock paid up:

(a) Common

\$ \_\_\_\_\_

(b) Common

\$ \_\_\_\_\_

(c) Preferred

\$ \_\_\_\_\_

(d) Preferred

\$ \_\_\_\_\_

7. Surplus (net worth)

Earned \$ \_\_\_\_\_ Unearned \$ \_\_\_\_\_

\$ \_\_\_\_\_

**TOTAL LIABILITIES**

\$ \_\_\_\_\_

### **CONTINGENT LIABILITIES**

1. Liability on notes receivable, discounted or sold

\$ \_\_\_\_\_

2. Liability on accounts receivable, pledged, assigned or sold

\$ \_\_\_\_\_

3. Liability as bondsman

\$ \_\_\_\_\_

4. Liability as guarantor on contracts or on accounts of others.

\$ \_\_\_\_\_

5. Other contingent liabilities

\$ \_\_\_\_\_

**TOTAL CONTINGENT LIABILITIES**

\$ \_\_\_\_\_

\*Include all amounts owing subcontractors for all work in place and accepted on completed and uncompleted contracts, including retainage

Certified and Signed By:

Certified Public Accountant

**AUTHORITY TO EXECUTE BID AND CONTRACT**

If the Bidder is a Corporation, attach to this page a certified copy of corporate resolutions of the Board of Directors of the Corporation authorizing an officer of the Corporation to execute the Contract contained within this document on behalf of the Corporation.

(End of Article.)

**BID SECURITY**

**ARTICLE 3**

1. The undersigned Bidder does hereby declare and stipulate that this proposal is made in good faith, without collusion or connection with any other person or persons bidding for the same Work, and that it is made pursuant to and subject to all the terms and conditions of the Notice to Contractors, Instructions to Bidders, the Contract Documents, the Technical Specifications, and the Plans and Specifications pertaining to the Work, all of which have been examined by the undersigned.

2. Accompanying this proposal is a certified check or standard bid bond in the sum of \$\_\_\_\_\_.00, in accordance with the Notice to Contractors and Instruction to Bidders. Such amount shall be equal to ten percent (10%) of the Bid amount.

3. The undersigned Bidder agrees to execute the Contract, and the Public Construction Bond for the total amount of the Bid within fourteen (14) calendar days from the date when written Notice of Award of the Contract is delivered at the address given on this proposal. The name and address of the corporate surety with which the Bidder proposes to furnish the specified Public Construction Bond is as follows:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Bond Company’s most recent “Best’s Key Rating”: \_\_\_\_\_

4. The undersigned Bidder agrees to begin the Work with an adequate work force and equipment within ten (10) calendar days from the date of receipt of official Notice to Proceed, and to complete all of the Work within the number of calendar days specified in the Special Conditions from the date of official Notice to Proceed.

5. The Bid Security will be returned to all, except the three (3) lowest qualified responsive, responsible Bidders, within seven (7) business days after the opening of the Bids and the remaining securities will be returned to the three (3) lowest Bidders within forty-eight (48) hours, after the District and Contractor have executed the Contract, or, if no Contract has been so executed, within one hundred twenty (120) calendar days after the date of the opening of Bids upon demand of the Bidder at any time thereafter so long as it had not been notified of the acceptance of the Bid.

7. All the phases of Work enumerated in the Contract Documents Technical Specifications with their individual jobs and overhead, whether specifically mentioned, included by implication or appurtenant thereto, are to be performed by Contractor under the applicable Bid item irrespective of whether it is named in said list.

7. This Bid is also based on addenda:            No. \_\_\_\_\_            Date \_\_\_\_\_  
   No. \_\_\_\_\_            Date \_\_\_\_\_  
   No. \_\_\_\_\_            Date \_\_\_\_\_  
   No. \_\_\_\_\_            Date \_\_\_\_\_

Contractor: \_\_\_\_\_

By: \_\_\_\_\_

Address: \_\_\_\_\_

(SEAL) Contractor's License No. \_\_\_\_\_

Attest: \_\_\_\_\_

Title: \_\_\_\_\_

# CONTRACT

## ARTICLE 4

**THIS CONTRACT**, is made and entered into this \_\_\_\_\_ day of \_\_\_\_\_, Two Thousand and \_\_\_\_\_ (20\_\_\_\_), by and between \_\_\_\_\_ (the “Contractor”), and the **LOXAHATCHEE RIVER ENVIRONMENTAL CONTROL DISTRICT**, (the “District.”)

WITNESSETH: That whereas the District has awarded to Contractor the Work of performing certain construction:

**SECTION 1.** Scope of Work: Contractor shall furnish, install and deliver all of the labor, including engineering design, materials (except District-furnished materials), tools, equipment, services, and everything necessary to perform the Work; and shall construct in accordance with the Contract Documents and the terms of this Contract, the Project known and identified as ALTERNATE A1A 24-INCH FORCE MAIN CLEANING & INSPECTION and shall do everything required by or reasonably inferable from the Contract Documents. The Work is generally described as follows:

**The Contractor’s Work will be to clean, inspect (via closed circuit television (CCTV)), evaluate the force main condition using non-destruction testing (NDT) methods(s), and confirming the construction details of the existing 24-inch force main’s number and type of fittings and bends along the force main alignment, as specified herein.**

Applicable reference drawings are entitled ALTERNATE A1A 24-INCH FORCE MAIN CLEANING & INSPECTION as prepared by the District.

**SECTION 2. Time of Completion:** Construction of the Work must begin within ten (10) calendar days from the date of receipt of official Notice to Proceed. Substantial Completion shall be achieved within **ninety (90) days** consecutive calendar days from the date of Notice to Proceed. For projects with a value of less than ten million dollars (\$10,000,000.00), Final Completion shall be achieved within **sixty-five (65)** consecutive calendar days from the date of actual Substantial Completion. For projects with a value of more than ten million dollars (\$10,000,000.00), Final Completion shall be achieved within **ninety-five (95)** consecutive calendar days from the date of actual Substantial Completion. The rate of progress and the time of completion are essential conditions of this Contract.

**Deduction for Not Completing on Time:** The District and Contractor recognize that because the Work is of a critical nature, time is of the essence. Therefore, the District will suffer direct financial loss and damage if the Work is not completed within the times specified above. The District and Contractor also recognize that it is difficult to ascertain the extent of those damages in advance and it will be difficult and expensive to determine those damages in a legal proceeding. Accordingly, Contractor shall pay to the District as liquidated damages, and not as a penalty, the amounts set out in (a) and (b) (“Liquidated Damages”) below for each and every calendar day the above deadlines are delayed, as said date may be adjusted as provided in the Special Conditions. Delay shall not include delays caused by factors beyond Contractor’s reasonable control, including but not limited to delays because of strikes, lockouts, work slowdowns or stoppages, accidents, acts of God, failure of any governmental or other regulatory authority to act in a timely manner, failure of the District to furnish timely information or to obtain the cooperation of the District’s design professionals and/or Engineer, or delays caused by faulty performance by the District or by Engineer.

- a. **Substantial Completion Delay.** Contractor shall pay to the District as Liquidated Damages, and not as a penalty, **\$500.00** per day for each and every calendar day Substantial Completion is delayed.
- b. **Final Completion Delay.** If Final Completion is not reached within **sixty-five (65) days** of actual Substantial Completion, Contractor shall pay to the District as Liquidated Damages, and not as a penalty, **\$150.00** per day for each and every calendar day Final Completion is delayed.

In addition Contractor shall be responsible for the costs for engineering and other professional fees, delay damage settlements or awards owed by the District to others, fines or penalties imposed by regulatory agencies, and professional fees, including attorneys' fees, incurred in connection with such settlements, awards, penalties or fines (collectively "Additional Delay Damages"). Engineering and inspection fees shall include direct labor costs, indirect costs, and overhead and profit as specified in Section 01010 of the Technical Specifications of the Contract Documents. The District and Contractor agree that the amounts set out in (2)(a) and (2)(b), above are to be paid by Contractor as Liquidated Damages and represent a reasonable estimate of the District's anticipated expenses for delays, inspection, and administrative costs associated with such delays. However, such amounts do not represent additional District costs for Additional Delay Damages. Therefore, in addition to these Liquidated Damages amounts, there shall be other amounts for Additional Delay Damages incurred by the District caused by avoidable delays by Contractor.

Where Liquidated Damages and Additional Delay Damages in connection with the Work of this Contract are duly and properly imposed against Contractor in accordance with the terms of this Contract, Federal law, State law, and/or governing ordinances or regulations, the total amount that Contractor owes to the District may be withheld and reduced from any monies due or to become due Contractor under the Contract, and when deducted, shall be deemed and taken as payment for such Liquidated Damages and Additional Delay Damages. If monies due from the District are not sufficient to cover such Liquidated Damages, Contractor agrees to immediately pay to the District any balance due.

**SECTION 3. General:** Contractor hereby certifies that it has read each and every clause of the Contract Documents and that it has made such examination of the location of the proposed Work as is necessary to understand fully the nature of the obligation herein made; and will complete the same in the time limits specified herein, in accordance with the Contract Documents. Contractor shall work with and report to Engineer to complete the Work set forth in the Contract Documents. Contractor has given Engineer written notice of all conflicts, errors, and discrepancies in the Contract Documents and the written resolution thereof by Engineer is acceptable to Contractor.

All Work under this Contract shall be done to the satisfaction of Engineer, who shall, in all cases, determine the amount, quality, fitness, and acceptability of the Work and materials, which may arise, as to the fulfillment of the Contract on the part of Contractor, Engineer's decision thereon shall be final and conclusive, and such determination shall be a condition precedent to the right of Contractor to receive any payment hereunder.

At any time during the performance of the Contract, Contractor shall allow and provide the District access to all of the documents, papers, letters or other materials made or received by Contractor in conjunction with the Contract and Work. Should Contractor fail to provide access to these documents in response to the District's request, the District may unilaterally cancel the Contract. At the conclusion of the Contract, Contractor shall provide the District all public records related to the Project or the Work.

Any clause or section of this Contract or the Contract Documents which may, for any reason, be declared invalid, may be eliminated therefrom; and the intent of this Contract or the Contract Documents and the remaining portion thereof will remain in full force and effect as completely as though such invalid clause or section has not been incorporated herein.



No assignment by a party hereto of any rights, responsibilities, or interests in the Contract Documents will be binding on another party hereto without the written consent of both parties. Unless specifically stated to the contrary in a written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents. Notwithstanding the foregoing, the District may assign this Contract to the State of Florida or any political subdivision, municipality, special district or authority thereof without Contractor's consent and without recourse.

The District and Contractor each binds itself, its partners, successors, assigns and legal representatives to the other party hereto, its partners, successors, assigns and legal representatives in respect to all covenants, agreements, and obligations contained in the Contract Documents.

**SECTION 4. Contract Sum:** The District shall pay Contractor as just compensation for the performance of this Contract, subject to any additions or deductions as provided in the Contract Documents, based on unit prices, the amounts set forth in the Pricing Schedule attached hereto ("Contract Sum"). The District and Contractor agree that all payments will be processed in accordance with the Local Government Prompt Payment Act, Sections 218.70-218.80, Florida Statutes.

**SECTION 5. Progress Payments:** On or before the tenth (10th) day of every month, except as provided for in the Special Conditions, Contractor shall prepare and submit on a form approved by Engineer a detailed estimate and invoice to Engineer setting forth the schedule of values of the total amount of the Work which has been completed from the start of the job up to and including the last day of the preceding month and the value thereof, less any percentage retained in accordance with the Special Conditions, and the aggregate of any previous payment ("Progress Payment Application"). Contractor shall provide such supporting evidence as may be required by the District and/or Engineer.

As a strict condition precedent to payment, each Progress Payment Application must be accompanied by: a Contractor's Progress Payment Affidavit submitted by Contractor to Engineer indicating that all lienors under Contractor's direct contract have been paid in full; and a waiver and release of lien upon progress payment ("Partial Release of Lien") from all persons with a potential lien interest in the Project, including but not limited to subcontractors, sub-subcontractors, suppliers, and materialmen.

Upon receipt of the Progress Payment Application, Engineer shall either provide the District with its written approval of the Progress Payment Application, or notify the District in writing that it rejects the Progress Payment Application, the reason(s) for such rejection, and its recommendation as to the amount Contractor is owed, if any, within ten (10) days of receipt of the Progress Payment Application.

The District shall review Engineer's recommendation as set forth above. If the District agrees that the Progress Payment Application is complete and accurately reflects the amount Contractor is owed, the District shall pay Contractor the amount set forth on the Progress Payment Application within twenty-five (25) days of Engineer's receipt of the Progress Payment Application.

In the event the District finds the Progress Payment Application is incomplete or does not accurately reflect the amount Contractor is owed, the District shall reject the Progress Payment Application in writing within twenty (20) days of Engineer's receipt of the Progress Payment Application. The rejection shall state with specificity the reason for the rejection and any action necessary to make the Progress Payment Application acceptable to the District. If Contractor submits a corrected Progress Payment Application within ten (10) days of the rejection, acceptable to the District, the District shall pay the corrected Progress Payment Application within ten (10) business days after the corrected Progress Payment Application is received.

In the event the District disputes the corrected Progress Payment Application, the District shall notify Contractor in writing of such dispute and pay to Contractor the amount not in dispute, if any, within twenty-five (25) days of the District's receipt of the corrected Progress Payment Application. In exchange for such payment, Contractor shall submit to Engineer a Progress Payment Affidavit indicating that all lienors under Contractors direct contract have been paid in full for the Work related to the non-disputed amount.

Contractor and the District agree that prior to instituting any litigation for damages under this Section 5, the parties shall conduct a non-binding mediation to attempt to resolve their dispute. In the event the parties cannot agree upon a mediator, each party shall select a mediator and such mediators shall select a third mediator who shall serve as the mediator for the dispute. In the event such mediation does not occur within thirty (30) days of a written request of either party, the parties shall be free to pursue litigation without first conducting mediation.

Contractor shall promptly pay each subcontractor and supplier within ten (10) days of receipt of payment from the District. The amount shall be determined in accordance with the terms of the applicable subcontracts and purchase orders. The District shall not have responsibility for payments to a subcontractor.

Contractor warrants that title to all Work covered by the Progress Payment Application will pass to the District no later than the time payment. Contractor further warrants that upon submittal of a progress payment application, all Work previously paid for by the District shall, to the best of Contractor's knowledge, information and belief, be free and clear of liens, claims, security interests or other encumbrances adverse to the District's interests.

A progress payment by the District shall not constitute acceptance of Work not in accordance with the requirements of the Contract Documents.

**SECTION 6. Acceptance and Final Payment:** When the Work has been fully completed, including all punch list items as provided for in the Special Conditions, in accordance with the terms of the Contract Documents, a Final Payment Application shall be prepared by Contractor and provided to Engineer within thirty (30) calendar days after the date of Final Completion stating the final Work performed to complete the Project plus or minus any Change Orders, and less the aggregate of any previous payment.

As a strict condition precedent to final payment, Contractor shall submit to Engineer with the Final Payment Application:

1. a Final Payment Affidavit stating that all subcontractors, suppliers, and other materialmen have been paid;
2. Waiver and Release of Lien upon Final Payment ("Final Release of Lien") from Contractor and all persons or entities that have, or potentially have, a lien on the Project, including but not limited to all subcontractors and vendors;
3. all close-out documents including, but not limited to the Maintenance Bond, warranties, guarantees, owner's manuals, and start-up certificates by the designer or manufacturer demonstrating that the equipment meets design intent;
4. data establishing payment or satisfaction of obligations, such as receipts, claims, security interests or encumbrances arising out of the Contract.

Upon receipt of the Final Payment Application, Engineer will inspect the Work, the Final Payment Application, and supporting documentation. If Engineer finds the Work acceptable, Engineer will issue a certificate of acceptance stating that the quality Work has been fully completed to Engineer's satisfaction in substantial

compliance with the Contract Documents. The Certificate of Final Completion shall constitute Engineer's determination as to the quality of the Work only; it shall not include an opinion as to the timeliness of completion of the Work. If the Engineer finds the Contract fully and timely performed, and the Final Payment Application accurately reflects the final amount Contractor is owed, the Engineer shall issue its written approval to the District of the Final Payment Application within ten (10) calendar days of receipt of the Final Payment Application.

If Engineer disputes the Final Payment Application, finds the Work unsatisfactory, or determines that amounts should be deducted as Liquidated Damages and Additional Delay Damages, Engineer shall notify the District in writing of its findings, the support for such findings, and its recommendation as to the amount Contractor is owed, if any, within ten (10) calendar days of receipt of the Final Payment Application.

The District shall review Engineer's recommendation as set forth above. If the District finds that the Work is acceptable, the Contract has been fully and timely performed, and the Final Payment Application is complete and accurately reflects the amount Contractor is owed, the District shall pay Contractor the amount of the Final Payment Application within twenty-five (25) calendar days of Engineer's receipt of the Final Payment Application.

In the event the District finds the Work is not acceptable, the Contract has not been fully and timely performed, or the Final Payment Application is incomplete or does not accurately reflect the amount Contractor is owed, the District shall reject the Final Payment Application in writing within twenty (20) calendar days of Engineer's receipt of the Final Payment Application. The rejection shall state with specificity the reason for the rejection and any action necessary to make the Final Payment Application acceptable to the District. If Contractor submits a corrected Final Payment Application acceptable to the District, the District shall pay the corrected Final Payment Application within ten (10) calendar days after the corrected Final Payment Application is received.

In the event the District disputes the corrected Final Payment Application, the District shall notify Contractor in writing of such dispute and pay to Contractor the amount not in dispute, if any, within twenty-five (25) calendar days of the District's receipt of the corrected Final Payment Application. This payment shall constitute a progress payment and shall not be deemed final payment. In exchange for such payment, Contractor shall submit to Engineer a Progress Payment Affidavit indicating that all lienors under Contractor's direct contract have been paid in full for the Work related to the non-disputed amount.

The District and Contractor agree that prior to instituting any litigation for damages under this Section, the parties shall conduct a non-binding mediation to attempt to resolve their dispute. In the event the parties cannot agree upon a mediator, each party shall select a mediator and such mediators shall select a third mediator who shall serve as the mediator for the dispute. Such mediation shall occur within forty-five (45) calendar days of the District's rejection of the corrected Final Payment Application. In the event such mediation does not occur within thirty (30) calendar days of a written request of either party, the parties shall be free to pursue litigation without first conducting mediation.

Acceptance of final payment by Contractor, a subcontractor, or material supplier shall constitute a waiver of claims by the payee.

In the event that a lien is filed or claimed against the Work by any subcontractor, supplier, or laborer, Contractor agrees to immediately (i) pay such subcontractor, supplier, or laborer for work which Contractor has been paid by the District and deliver to the District a Final Release of Lien signed by such subcontractor, supplier, or laborer; or (ii) cause the immediate removal of such lien by providing a bond in accordance with Florida law. If Contractor fails to do the above, the District may, at its option, and at the sole expense and liability of Contractor, bond such lien or cause the lien to be discharged and deduct the cost of said bond from the amount owed Contractor under any pending invoice or the next invoice. This Section shall survive the termination or expiration of this Contract.

**SECTION 7. WARRANTY:** Contractor warrants to the District and Engineer that (1) materials and equipment furnished under the Contract will be new and of good quality unless otherwise required or permitted by the Contract Documents; (2) the Work will be free from defects not inherent in the quality required or permitted; and (3) the Work will conform to the requirements of the Contract Documents.

**SECTION 8. CORRECTION OF THE WORK:** In addition to the warranties provided for in Article 4 – Contract Section 7, Contractor shall promptly correct Work rejected by Engineer and/or District as failing to conform to the requirements of the Contract Documents. Contractor shall bear the cost of correcting such rejected Work, including the costs of uncovering, replacement, and additional testing.

In addition to Contractor’s other obligations including warranties under the Contract, Contractor shall, for a period of one (1) year after Substantial Completion, correct Work not conforming to the requirements of the Contract Documents.

If Contractor fails to correct nonconforming Work within a reasonable time, the District may correct it in accordance with the Contract Documents.

This period of one (1) year shall be extended with respect to portions of Work first performed after Substantial Completion by the period of time between Substantial Completion and the actual performance of the Work. This Section 8 shall survive acceptance of the Work under the Contract Documents and termination of the Contract Documents.

**(Remainder of this page left blank intentionally)**

IN WITNESS WHEREOF, the parties hereto have executed this Contract this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_. All portions of the Contract Documents have been signed or identified by the District and Contractor or by Engineer on their behalf.

ATTEST:

OWNER: LOXAHATCHEE RIVER  
ENVIRONMENTAL CONTROL DISTRICT

\_\_\_\_\_  
Witness

\_\_\_\_\_  
Witness

\_\_\_\_\_  
Stephen B. Rockoff  
Chairman  
Address for notice: 2500 Jupiter Park Dr.  
Jupiter, Florida 33458  
\_\_\_\_\_

CONTRACTOR:

\_\_\_\_\_  
Witness

\_\_\_\_\_  
Witness

\_\_\_\_\_  
As its: \_\_\_\_\_

Address for notice: \_\_\_\_\_  
\_\_\_\_\_

(Affix Corporate Seal)

**STATE OF FLORIDA  
COUNTY OF PALM BEACH**

I HEREBY CERTIFY that on this day, before me, personally appeared \_\_\_\_\_, as \_\_\_\_\_, to me well known and known to be the person described in or who produced as identification a \_\_\_\_\_(Form of ID) and who executed and acknowledged to and before on behalf of the District, the foregoing Contract, and that he acknowledged in the presence of two subscribing witnesses freely and voluntarily for the purposes therein expressed.

WITNESS my hand and official seal in the County and State last aforesaid this \_\_\_\_ day of \_\_\_\_\_, 20 \_\_.

\_\_\_\_\_  
Notary Public, State of Florida  
Print Name:  
Commission No.:  
My Commission Expires:

(Notary Ink Stamp)

**STATE OF FLORIDA  
COUNTY OF \_\_\_\_\_**

I HEREBY CERTIFY that on this day, before me, personally appeared \_\_\_\_\_ as \_\_\_\_\_ (Title) of the \_\_\_\_\_ (Name of Company), to me well known and known to be the person described in or who produced as identification a \_\_\_\_\_(Form of ID) and who executed and acknowledged to and before on behalf of \_\_\_\_\_ (Company Name), Contractor, the foregoing Contract, and that he acknowledged in the presence of two subscribing witnesses freely and voluntarily for the purposes therein expressed.

WITNESS my hand and official seal in \_\_\_\_\_ County and State last aforesaid this \_\_\_\_ day of \_\_\_\_\_, 20 \_\_.

\_\_\_\_\_  
Notary Public, State of Florida  
Print Name:  
Commission No.:  
My Commission Expires:

(Notary Ink Stamp)

**PRICING SCHEDULE — BASE CONTRACT  
 LOXAHATCHEE RIVER ENVIRONMENTAL CONTROL DISTRICT  
 ALTERNATE A1A 24-INCH FORCE MAIN CLEANING & INSPECTION  
 UNIT PRICES**

No.	Description	Unit	Qty	Unit Cost	Total
<b>GENERAL CONDITIONS</b>					
1	Mobilization, Insurance and Bonds*	LS	1	\$	\$
2	Maintenance of Traffic	LS	1	\$	\$
3	Audio Video Documentation	LS	1	\$	\$
4	NPDES Permit/Erosion Protection Measures	LS	1	\$	\$
<b>FORCE MAIN</b>					
5	Inspection Access Pit (20' x10') and Restoration	EA	2	\$	\$
6	Access To Existing 24" Force Main	EA	2	\$	\$
7	Cleaning Existing 24" Force Main	LS	1	\$	\$
8	Closed Circuit Television Inspection	LS	1	\$	\$
9	Non-Destructive Ductile Iron Force Main Inspection	LS	1	\$	\$
<b>TOTAL BID ITEMS 1-9</b>					<b>\$</b>

\* Payment for mobilization shall not exceed eight percent (8%) of the contract price.

TOTAL BASE BID ITEMS 1-9 (in words)

\_\_\_\_\_ Dollars  
 \_\_\_\_\_

THE CONTRACT AWARD SHALL BE EVALUATED BASED ON THE TOTAL BID PRICE FOR ITEMS 1 THROUGH \_\_\_\_\_ AND ANY SELECTED ALTERNATE AS SUBMITTED BY THE LOWEST, QUALIFIED, RESPONSIBLE, RESPONSIVE BIDDER.

\_\_\_\_\_  
 (Name of Bidder)

Bidders Name: \_\_\_\_\_

By: \_\_\_\_\_  
Signature of Authorized Officer, Partner, Member, Manager

Print Name of Person signing: \_\_\_\_\_

Title: \_\_\_\_\_

Business Address: \_\_\_\_\_

\_\_\_\_\_

Incorporated or formed under the laws of the State of \_\_\_\_\_.



**PUBLIC CONSTRUCTION BOND**

**ARTICLE 5**

Bond No. \_\_\_\_\_

KNOW ALL PERSONS BY THESE PRESENTS: That we, \_\_\_\_\_  
(Name of Contractor) as “Principal” at the address of \_\_\_\_\_  
and \_\_\_\_\_ as “Surety” at the address of \_\_\_\_\_  
\_\_\_\_\_ are bound to the LOXAHATCHEE  
RIVER ENVIRONMENTAL CONTROL DISTRICT (the “District”), at the address of 2500 Jupiter  
Park Drive, Florida 33458, in the sum of \_\_\_\_\_  
(Written Amount) (\$ \_\_\_\_\_ -\_) (the “Bond”) for the payment of which we bind  
ourselves, our heirs, personal representatives, successors, and assigns, jointly and severally.

WHEREAS, Principal has entered into a contract (the “Contract”) with LOXAHATCHEE  
RIVER ENVIRONMENTAL CONTROL DISTRICT dated \_\_\_\_\_, 2020, in the amount of  
\$ \_\_\_\_\_) for the  
ALTERNATE A1A 24-INCH FORCE MAIN CLEANING & INSPECTION, which Contract, is by  
reference made a part hereof.

THE CONDITION of this Bond is that if Principal:

1. Performs the Contract with the District 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 Statute, 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 the District all losses, damages, expenses, costs, and attorney’s fees, including appellate proceedings, that the District 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.
5. Any changes in or under the Contract Documents and compliance or noncompliance with any formalities connected with the Contract or the changes does not affect Surety’s obligation under this Bond.
6. To a claimant who is not in privity with the Principal and who has not received payment for labor, materials, or supplies, that written notice must be delivered to the Principal. This Bond is furnished pursuant to the statutory requirements for bonds on public works projects, Section 255.05, Florida Statutes. A claimant, except a laborer, who is not in privity with the Principal and who has not received payment for labor, materials, or supplies, is hereby notified that Section 255.05(2), Florida Statutes specifically requires that written notice be given to Principal within forty-five (45) days after beginning to furnish labor, materials, or supplies for the prosecution of the Work that

claimant intends to look to the Bond for protection. Further notice is hereby given to a claimant who is not in privity with the Principal and who has not received payment for labor, materials, or supplies, that written notice must be delivered to the Principal and to the Surety, of the performance of the labor or delivery of the materials or supplies and of the non-payment, within ninety (90) days after performance of the labor or after complete delivery of the materials or supplies (but not before 45 days after the first furnishing of labor, services, or materials), or with respect to rental equipment, within ninety (90) days after the date that rental equipment was last on the job site available for use. No action for the labor, material, or supplies may be instituted against Principal of the Surety unless both notices have been given. Further notice is hereby given that no action for labor, materials, or supplies may be instituted against the Principal or the Surety on the Bond after one (1) year from the performance of the labor or completion of delivery of the materials or supplies.

7. Without modifying the foregoing, this Bond shall require no more and no less of the Principal and Surety than is specified in Section 255.05, Florida Statutes. The notice and time limitation provisions of Section 255.05, Florida Statutes are incorporated herein by reference.

Surety and Contractor, intending to be legally bound hereby, subject to the terms printed above, do cause this Performance Bond to be duly executed on its behalf by its authorized officer, agent or representative.

The provisions and limitations of Section 255.05, Florida Statutes including but not limited to the notice and time limitations in Sections 255.05(2) and 255.05(10), Florida Statutes are incorporated in this bond by reference.

(Remainder of Page Intentionally Left Blank)

SIGNED AND SEALED ON \_\_\_\_\_, 202\_\_

\_\_\_\_\_  
Name of Principal

\_\_\_\_\_  
Name of Surety

By: \_\_\_\_\_  
Signature of Principal

By: \_\_\_\_\_  
As Attorney-in-Fact (Attach Power of Attorney)

STATE OF FLORIDA  
COUNTY OF \_\_\_\_\_

Sworn to and acknowledged before me this \_\_\_ day of \_\_\_\_\_, 202\_\_, by \_\_\_\_\_ to me who produced as identification a \_\_\_\_\_.

\_\_\_\_\_  
Notary Public, State of Florida

Print Name: \_\_\_\_\_

(Notary Ink Seal)

Commission Expires: \_\_\_\_\_

My Commission Expires: \_\_\_\_\_

COUNTERSIGNATURE

BY: \_\_\_\_\_

**ARTICLE 6**  
**FORMS FOR USE DURING CONSTRUCTION**

**6-1 Notice of Award of Contract**

**6-2 Notice to Proceed**

**6-3 Progress Payment Affidavit**

**6-4 Final Payment Affidavit**

**6-5 Certificate of Substantial Completion**

**6-6 Certificate of Final Completion**

**6-7 Partial Release of Lien**

**6-8 Final Release of Lien**

**6-9 Change Order**

**6-10 Application and Certificate of Payment** – Contractor shall utilize American Institute of Architect Form G702 and G703



# Loxahatchee River District

Water Reclamation | Environmental Education | River Restoration  
2500 Jupiter Park Drive, Jupiter, Florida 33458-8964  
Telephone (561) 747-5700 • Fax (561) 747-9929 • www.loxahatcheeriver.org  
D. Albrey Arrington, Ph.D., Executive Director

[Date]

[Contractor Name]  
[Contractor Address]

**SUBJECT: Loxahatchee River Environmental Control District**  
**ALTERNATE A1A 24-INCH FORCE MAIN CLEANING & INSPECTION**  
**Notice of Award of Contract**

Dear \_\_\_\_\_:

I am pleased to advise you that the District Governing Board has elected to Award the Contract for the subject project to your firm. You are the apparent successful Bidder and have been awarded a contract for:

ALTERNATE A1A 24-INCH FORCE MAIN CLEANING & INSPECTION

The Contract Price of your Contract is \$\_\_\_\_\_

In accordance with the contract specifications you will have 14 calendar days from the date of this Notice of Award, that is by (Day), (Date), to provide the following:

- a.) 4 executed sets of the attached Contract Documents, and
- b.) A Public Construction Bond with power of attorney in the amount of 100% of the contract (\$\_\_\_\_\_ ) and
- c.) An insurance certificate for this project in accordance with requirements set forth in Section 9.08, (please make sure coverages and additional insureds are as stated); and
- d.) A schedule of activities (received), and
- e.) Any other paperwork as required by the Contract.

Failure to comply with these conditions within the time specified will entitle District to consider your Bid abandoned, to annul this Notice of Award and to declare your Bid Security forfeited.

Within 20 calendar days after you comply with the above conditions, the District will return 1 fully

executed contract after execution.

Your attendance will be requested at an Open House meeting to be held with property owners in the affected area prior to construction. This will provide an opportunity to coordinate activities and provide a schedule of activities and how services will be maintained during construction.

Should you have any questions in regard to this correspondence, please feel free to contact me or [ENGINEER]

Regards,

Kris Dean, P.E.  
Deputy Executive Director/Director of Engineering Services

Enclosures: 4 sets of Contract Documents

6-2

# Loxahatchee River District



Water Reclamation | Environmental Education | River Restoration  
2500 Jupiter Park Drive, Jupiter, Florida 33458-8964  
Telephone (561) 747-5700 • Fax (561) 747-9929 • www.loxahatcheeriver.org

D. Albrey Arrington, Ph.D., Executive Director

[Date]

[Contractor Name]  
[Contractor Address]

**SUBJECT: ALTERNATE A1A 24-INCH FORCE MAIN CLEANING & INSPECTION  
Notice to Proceed**

Dear \_\_\_\_\_:

You have already received one (1) copy of the fully executed contract for the subject project. With the execution of this document completed by both parties and a Planning Meeting held [DATE], you are hereby provided with **NOTICE TO PROCEED as of [Day], [Date]**.

In accordance with the contract documents, you will have \_\_\_\_ consecutive calendar days from \_\_\_\_\_ to Substantial Completion, and \_\_\_\_ calendar days from actual Substantial Completion to Final Contract Completion, therefore:

**Substantial Completion Date is:** \_\_\_\_\_  
**Contract Completion Date is:** \_\_\_\_\_

We look forward to working with you toward the successful completion of another project.

Should you have any questions in regard to this matter please feel free to contact me or [ENGINEER].

Kris Dean, P.E.  
Deputy Executive Director/Director of Engineering Services

[ENGINEER]

6-3

**PROGRESS PAYMENT AFFIDAVIT**

STATE OF FLORIDA  
COUNTY OF \_\_\_\_\_

BEFORE ME, the undersigned authority, personally appeared \_\_\_\_\_  
who, after being by me first duly sworn, deposes and says of his personal knowledge that:

1. He/She is the \_\_\_\_\_ of \_\_\_\_\_, which  
does business in the State of Florida, hereinafter referred to as "Contractor".

2. Pursuant to a contract with Loxahatchee River District, Contractor has furnished and will furnish  
services for the purpose of improving real property, more particularly described as:

ALTERNATE A1A 24-INCH FORCE MAIN CLEANING & INSPECTION

3. This affidavit is executed in accordance with Section 713.06(3)(c), Florida Statutes, for the purpose  
of obtaining a progress payment in the amount of \_\_\_\_\_  
\_\_\_\_\_ Dollars (\$ \_\_\_\_\_).

4. All lienors under Contractor's direct Contract have been paid in full, except for the following listed  
lienors:

NAME OF LIENOR (Use blank sheet if necessary)	AMOUNT DUE OR TO BECOME DUE FOR LABOR, SERVICES OR MATERIAL
--	--


SIGNED, SEALED, AND DELIVERED this \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

By \_\_\_\_\_  
Contractor

SUBSCRIBED AND SWORN TO before me this \_\_\_\_ day \_\_\_\_\_ of 20\_\_\_\_, by  
\_\_\_\_\_, personally known to me or who produced as identification a  
\_\_\_\_\_.

\_\_\_\_\_  
NOTARY PUBLIC, State of \_\_\_\_\_  
Print Name: \_\_\_\_\_  
Commission No.: \_\_\_\_\_  
My Commission Expires: \_\_\_\_\_

(Notary Ink Stamp)

\* THIS FORM SHALL BE SUBMITTED WITH EACH PAYMENT REQUEST.



**FINAL PAYMENT AFFIDAVIT**

STATE OF FLORIDA  
COUNTY OF \_\_\_\_\_

BEFORE ME, the undersigned authority, personally appeared \_\_\_\_\_  
who, after being by me first duly sworn, deposes and says of his personal knowledge that:

- 1. He/She is the \_\_\_\_\_ of \_\_\_\_\_, which does business in the State of Florida, hereinafter referred to as "Contractor".
- 2. Pursuant to a contract with Loxahatchee River District, Contractor has furnished and will furnish services for the purpose of improving real property, more particularly described as:

ALTERNATE A1A 24-INCH FORCE MAIN CLEANING & INSPECTION

3. This affidavit is executed in accordance with Section 713.06(3)(c), Florida Statutes, for the purpose of obtaining final payment in the amount of \_\_\_\_\_ Dollars (\$ \_\_\_\_\_).

4. All lienors under Contractor's direct Contract have been paid in full, except for the following listed lienors:

NAME OF LIENOR (Use blank sheet if necessary)	AMOUNT DUE OR TO BECOME DUE FOR LABOR, SERVICES OR MATERIAL
--	--


SIGNED, SEALED, AND DELIVERED this \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

By \_\_\_\_\_  
Contractor

SUBSCRIBED AND SWORN TO before me this \_\_\_\_ day \_\_\_\_\_ of 20\_\_\_\_, by \_\_\_\_\_, personally known to me or who produced as identification a \_\_\_\_\_.

(Notary Ink Stamp)

\_\_\_\_\_  
NOTARY PUBLIC, State of \_\_\_\_\_  
Print Name: \_\_\_\_\_  
Commission No.: \_\_\_\_\_  
My Commission Expires: \_\_\_\_\_

**Certificate of Substantial Completion**

[Date]  
[NAME]  
[ADDRESS]

Loxahatchee River Environmental Control District  
ALTERNATE A1A 24-INCH FORCE MAIN CLEANING & INSPECTION  
Substantial Completion

Dear [Name]:

On \_\_\_\_\_ the District, [PARTY NAMES] conducted a Substantial Completion Inspection for the above referenced project. The Substantial Completion inspection resulted in the attached [#] page Punchlist, containing [#] items for completion or correction. Please note per Spec Section 01780, all punch list items are to be corrected prior to Final Payment and before Final Completion is granted.

Based on the above referenced inspection, [name] has **deemed the project Substantially Complete as of [date]**.

Once all of the attached punch list items have been completed or corrected, please contact our office in writing so that we can schedule a time for final inspection.

If you have any questions regarding these items, please call me at \_\_\_\_\_.

Sincerely,

[Name]  
[Title]

Enclosure: Substantial Completion Punchlist

cc: Kris Dean, LRECD  
Lenny Giacovelli, LRECD

**Certificate of Final Completion**

[DATE]  
[NAME]  
[ADDRESS]

Loxahatchee River Environmental Control District  
ALTERNATE A1A 24-INCH FORCE MAIN CLEANING & INSPECTION  
**Final Completion**

Dear [Name]:

On \_\_\_\_\_ the Loxahatchee River Environmental Control District, Palm Beach County,  
\_\_\_\_\_, and \_\_\_\_\_ conducted a Final Completion  
Inspection for the above referenced project. Per our inspection, the below listed items were  
determined to be incomplete:

We have now verified that all of the Punch List Items have been completed. Please accept this  
letter for your records, that as of \_\_\_\_\_ has deemed the above  
referenced project to be fully complete and in compliance with the Contract Documents.

We are currently preparing the Final Balancing Change Order to complete the processing of your  
Final Payment Application.

If you have any questions regarding these items, please call me at \_\_\_\_\_.

Sincerely,

[Name]  
[Title]

Enclosure

cc: Kris Dean, LRECD  
Lenny Giacobelli, LRECD

**WAIVER AND RELEASE OF LIEN UPON PROGRESS PAYMENT:**

The undersigned lienor, in consideration of the sum of \$ \_\_\_\_\_, hereby waives and releases its lien and right to claim a lien for labor, services, or materials furnished through (insert date) to (insert the name of your customer) on the job of (insert the name of the owner) to the following property:

ALTERNATE A1A 24-INCH FORCE MAIN CLEANING & INSPECTION

This waiver and release does not cover any retention or labor, services, or materials furnished after the date specified.

DATED on , (year) . (Lienor)

WITNESS:

\_\_\_\_\_ By: \_\_\_\_\_  
Contractor (SEAL)

\_\_\_\_\_ Attest: \_\_\_\_\_

SWORN AND SUBSCRIBED TO BEFORE ME, THIS \_\_\_\_\_ day \_\_\_\_\_ of 20\_\_\_\_, by \_\_\_\_\_, personally known to me or who produced as identification a \_\_\_\_\_.

\_\_\_\_\_  
NOTARY PUBLIC, State of Florida

**WAIVER AND RELEASE OF LIEN UPON FINAL PAYMENT**

The undersigned lienor, in consideration of the final payment in the amount of \$ \_\_\_\_\_, receipt of which is hereby acknowledged, hereby waives and releases its lien and right to claim a lien for labor, services, or materials furnished to \_\_\_\_\_ on the job of the Loxahatchee River Environmental Control District hereinafter referred to as the "District," to the following property ALTERNATE A1A 24-INCH FORCE MAIN CLEANING & INSPECTION

WITNESS:

\_\_\_\_\_

By: \_\_\_\_\_  
Contractor (SEAL)

\_\_\_\_\_

Attest: \_\_\_\_\_

SWORN AND SUBSCRIBED TO BEFORE ME, THIS \_\_\_\_ day \_\_\_\_\_ of 20\_\_\_\_, by \_\_\_\_\_, personally known to me or who produced as identification a \_\_\_\_\_.

(Notary Ink Stamp)

\_\_\_\_\_  
NOTARY PUBLIC, State of Florida  
Print Name: \_\_\_\_\_  
Commission No.: \_\_\_\_\_  
My Commission Expires: \_\_\_\_\_

**LOXAHATCHEE RIVER ENVIRONMENTAL CONTROL DISTRICT**

2500 JUPITER PARK DRIVE, JUPITER, FLORIDA 33458  
(561) 747-5700 FAX (561) 747-9929

CHANGE ORDER #1

DATE: \_\_\_\_\_

PROJECT NAME: ALTERNATE A1A 24-INCH FORCE MAIN CLEANING & INSPECTION

OWNER: Loxahatchee River Environmental Control District

CONTRACTOR:

THE FOLLOWING CHANGES:

JUSTIFICATION:

CHANGE TO CONTRACT PRICE:

Original CONTRACT PRICE: \$

Current CONTRACT PRICE \$

CONTRACT PRICE due to this Change Order  
will be *INCREASED/DECREASED* by: \$

The New CONTRACT PRICE including  
this Change Order will be: \$

CHANGE TO CONTRACT TIME:

The DATE OF COMPLETION of all work will be: UNCHANGED

APPROVED BY CONTRACTOR: \_\_\_\_\_ DATE

APPROVED BY ENGINEER: \_\_\_\_\_ DATE

APPROVED BY OWNER: \_\_\_\_\_  
LOXAHATCHEE RIVER ENVIRONMENTAL CONTROL DISTRICT DATE

**ARTICLE 7**

**CERTIFICATE OF DISTRICT'S ATTORNEY**

**ALTERNATE A1A 24-INCH FORCE MAIN CLEANING & INSPECTION**

THIS IS TO CERTIFY that on this \_\_\_\_ day of \_\_\_\_\_, 20\_\_, I have examined the attached Contract Documents, Surety Bonds, and the execution thereof by the parties thereto, and I am of the opinion that each of the aforesaid agreements has been duly executed by the proper parties thereto acting through their duly authorized representatives; that said representative have full power and authority to execute said agreements on behalf of the respective parties named therein; and that the foregoing agreements as being legally sufficient in form constitute a binding agreement between the parties.

By: \_\_\_\_\_

Patrick J. McNamara, Esq.  
de la Parte & Gilbert, P.A.  
Attorney for the  
LOXAHATCHEE RIVER  
ENVIRONMENTAL CONTROL DISTRICT

**ARTICLE 8**  
**RESERVED**



## SPECIAL CONDITIONS

### ARTICLE 9

#### TITLE

- 9.01 Governing Order of Contract Documents
- 9.02 Time of Completion and Amount of Liquidated Damages
- 9.03 Reimbursement of Additional Delay Damages
- 9.04 Percentage of Progress Payments to be Retained
- 9.05 Amount of Minimum Progress Payment
- 9.06 Surety Bonds
- 9.07 Subcontractors
- 9.08 Contractor's Insurance
- 9.09 Water Supply
- 9.10 Pipeline and Manhole Locations
- 9.11 Elevation Datum
- 9.12 Easements
- 9.13 Occupying Private Land
- 9.14 Work in State, County and Town Rights-of-Way
- 9.15 Interference with and Protection of Streets
- 9.16 Traffic Control
- 9.17 Work Adjacent to Telephone, Power, Cable TV and Gas Company Structures
- 9.18 Storage of Materials
- 9.19 Salvaged Materials and Excavated Materials
- 9.20 Planning Meeting
- 9.21 Alterations
- 9.22 Extra and Deleted Work
- 9.23 Extension of Time on Account of Extra Work
- 9.24 Changes Not to Affect Bonds
- 9.25 Non-Assignable
- 9.26 District Remedies
- 9.27 Contractor's Remedies

9.28	Discontinuance of Construction
9.29	Contractor's Responsibility
9.30	District's Right to Terminate
9.31	Venue, Disputes and Attorney's Fee
9.32	Coordination with District's Existing Facilities
9.33	Permits
9.34	Coordination of Construction
9.35	Field Layout of Work
9.36	Submittals
9.37	Inspection and Testing
9.38	Utilities and Services
9.39	Security
9.40	Special Controls
9.41	Field Offices, Storage and Construction Areas
9.42	Equipment and Materials
9.43	Project Closeout
9.44	Open Specifications
9.45	Spare Parts List
9.46	Applicable Standards and Codes
9.47	Copies of Plans and Specifications
9.48	Restoration – Special
9.49	Contractor Performance Reviews and Ratings

### **9.01 Governing Order of Contract Documents**

In the event of discrepancy, the interpretation of Contract Documents shall follow the order of precedence as identified in Article 1 Instruction to Bidders Section 22.

### **9.02 Time of Completion and Amount of Liquidated Damages**

Contractor agrees to commence Work on or before a date to be specified in a written Notice to Proceed. In the event Contractor does not reach Substantial Completion or Final Completion of the Work within the time specified in the Notice to Proceed, Contractor shall pay to the District as liquidated damages, and not as a penalty the amounts set forth in Article 4- Contract Section 2.

### **9.03 Reimbursement of Additional Delay Damages**

In the event Substantial Completion and Final Completion of the Work set forth in the Contract Documents and any subsequent modifications, is delayed beyond the time set forth in Article 4- Contract Section 2, Contractor shall also be responsible for Additional Delay Damages as set forth in the Article 4 - Contract Section 2.

### **9.04 Percentage of Progress Payments to be Retained**

The percentage of estimated value to be retained under that heading of the Contract, entitled Progress Payments shall conform to the following schedule:

- a. Retention of up to 10% of payments claimed.
- b. For Projects over \$200,000, when the Project is fifty percent (50%) complete, the retainage amount shall be reduced to 5% from each subsequent progress payment made to the Contractor.
- c. After fifty percent (50%) completion of the Work, Contractor may present a payment application for up to one-half of the retainage held by the District for the first fifty percent (50%) of the Work.
- d. A cash bond or irrevocable letter of credit will be accepted if offered in lieu of cash retainage.

The above retainage reductions shall not require the District to release any amount that is the subject of a good faith dispute or a claim pursuant to Section 255.05, Florida Statutes.

The above retainage reductions shall not apply if the Project is funded, in whole or in part, with federal funds that are subject to federal grantor laws and regulations that are contrary to any provision of the Florida Local Government Prompt Payment Act, or if the retainage reduction is otherwise not required by the Florida Local Government Prompt Payment Act.

### **9.05 Left Blank Intentionally**

### **9.06 Surety Bonds**

Contractor, at the time of execution of the Contract, must deposit with the District a Public Construction Bond providing for the satisfactory performance and completion of the Work and providing security for payment of all persons performing labor and/or providing materials or supplies

in connection with this Contract. The bond shall be furnished in an amount equal to the amount of the contract award. The form and conditions of the bond and the surety shall be in accordance with the statutory requirements of Section 255.05(2), Florida Statutes, and are subject to the District's approval.

A maintenance bond in the amount of 50% of the contract price guaranteeing the repair of all damages due to improper materials or workmanship for a period of one (1) year after Final Completion will also be required. The maintenance bond shall be submitted with the final payment request.

The bonds shall be written by a surety company that has the following ratings based upon amount of the Contract:

<u>CONTRACT AMOUNT</u>	<u>BEST'S RATINGS</u>
\$ 25,000.00 to \$100,000.00	B+ Class V or better
\$100,000.01 to \$500,000.00	A Class VI or better
\$500,000.01 and over	A Class VII or better

The surety must be licensed to do business in the State of Florida, and the bonds must be executed by an Attorney-in-Fact for the surety company with a certified copy of its Power of Attorney attached to the bonds.

The Maintenance Bond shall remain in effect for one (1) year beyond the date of Final Completion and acceptance of the entire Work to repair any Defective Work done under the Contract Documents. The Public Construction Bond shall remain in effect to pay valid claims for payment of labor, supplies, and/or materials submitted after completion of the Work and for items covered under the performance aspect of said bond.

### **9.07 Subcontractors**

Prior to award of the Contract, Engineer shall notify Contractor of any objection to the subcontractors proposed for the Work, and Contractor shall not employ any subcontractor with whom Engineer or District has an objection.

Contractor shall be responsible to the District for the acts and omissions of any subcontractor and any person directly or indirectly employed by a subcontractor, to the extent Contractor is responsible for the acts and omissions of persons directly employed by Contractor. Nothing contained in the Contract Documents shall create any contractual relation between any subcontractor and the District.

### **9.08 Contractor's Insurance**

Contractor shall maintain and pay for, as applicable, through an insurance company or insurance companies acceptable to the District at Contractor's sole expense: Fire, Extended Coverage, Vandalism and Malicious Mischief coverage on buildings and structures in the course of construction. Such coverage shall include foundations, additions, attachments, and all permanent fixtures belonging to and constituting a part of said buildings or structures. The policy or policies shall also cover machinery, if the cost of machinery is included in the Contract. The amount of insurance must at all times be at least equal to the actual cash value of the insured property.

Contractor shall provide the District, prior to the execution of the Contract, with a satisfactory Certificate of Insurance certifying that the required insurance is in force.

During the life of the Project, Contractor shall provide, pay for and maintain insurance of the types and in the amounts described herein. All such insurance shall be provided by responsible companies with A.M. Best ratings of at least A-, authorized to transact business in the State of Florida, and which are satisfactory to the District. Promptly after the District's issuance of the Notice of Award of this Contract, and prior to commencing the Work, Contractor shall provide evidence of insurance coverages of the types and in the amount required by submitting executed Certificates of Insurance, in the form preferred by the District. Each Certificate of Insurance shall set forth the original manual signature of the authorized representative of the insurance company/companies identified therein and shall have attached thereto proof that said representative is authorized to execute the same. In addition, certified true and exact copies of all required policies shall be provided to the District upon request.

Contractor shall obtain and maintain in full force and effect during the life of this Contract, Worker's Compensation Insurance covering all employees in performance of Work under this Contract. Contractor shall make this same requirement of any of its subcontractors. Contractor shall indemnify and save the District and Engineer harmless from any damages resulting from either Contractor or any subcontractor's failure to secure and/or maintain such insurance.

All policies of insurance required shall require that the insurer give the District thirty (30) days written notice of any cancellation, intent not to renew, or reduction in coverage; and ten (10) days written notice of any non-payment of premium. Such notice shall be delivered by U.S. Registered Mail to: Loxahatchee River District, 2500 Jupiter Park Drive, Jupiter, Florida 33458, Attn: Kris Dean, P.E. In the event of any reduction in the aggregate limit of any policy, Contractor shall immediately restore such limit to the amount required herein.

Receipt by the District of any Certificate of Insurance or copy of any policy evidencing the insurance coverages and limits required by the Contract Documents does not constitute approval or agreement by the District that the insurance requirements have been satisfied or that the insurance policies shown on the Certificates of Insurance are in compliance with the requirements of the Contract Documents.

The insurance coverages and limits required of Contractor under the Contract Documents are designed to meet the minimum requirements of the District. They are not designed as a recommended insurance program for Contractor. Contractor shall be responsible for the sufficiency of its own insurance program. Should Contractor have any questions concerning its exposures to loss under the Contract Documents or the insurance coverages needed therefore, it should seek professional assistance.

If the insurance coverage initially provided by Contractor is to expire prior to the completion of the Work, renewal Certificates of Insurance shall be furnished to the District thirty (30) days prior to the expiration of current coverages.

All liability insurance policies obtained by Contractor to meet the requirements of the Contract Documents, other than the Worker's Compensation and Employer's Liability Policy, shall provide that the District, its officers, employees, and agents, and Engineer and its shareholders, officers, and directors, and any other person or entity designated by the District, shall be named "additional

insureds” under the Policy and shall also incorporate a Severability of Interest and Cross Liability provision. All insurance coverages provided under this Special Conditions Section 9.08 shall apply to all of Contractor’s activities under the Contract Documents without regard for the location of such activity. The policy shall include a waiver of subrogation provision in favor of the additional insured. This policy shall include, but not be limited to, all of the following coverage in the following minimum amounts:

- a. Vehicle – Owner, Hired, Non-owner – Any Automobile Coverage
 

Injury or death of any one person:	\$1,000,000
Injury or death of more than one person in any one occurrence:	\$1,000,000
Property Damage- any one occurrence:	\$ 300,000
  
- b. Comprehensive General Liability, other than vehicle, including:
 

Comprehensive Premises Operations Explosions and Collapse Hazard Underground Hazard Products/Completed Operations Hazard Broad Form Property Damage Independent Contractors Personal Injury	
Per Occurrence	\$1,000,000
Aggregate	\$1,000,000
Injury or death of any one person:	\$1,000,000
Injury of death of more than one person in any one occurrence:	\$1,000,000
  
- c. Property Damage:
 

Each occurrence:	\$ 300,000
Aggregate operations:	\$ 500,000
Aggregate protective:	\$ 500,000
Aggregate contractual:	\$ 500,000

Neither Contractor nor any subcontractor shall commence Work under this Contract until they have obtained all insurance required under this Special Conditions Section 9.08, and have supplied the District with evidence of such coverage in the form of the Certificate of Insurance, and such Certificate has been approved by the District in writing. All such insurance policies shall provide for at least thirty (30) calendar days written notice to the District prior to cancellation. Contractor’s and subcontractor’s insurance shall be primary to any other insurance carried by the District, its

consultants, or Engineer. The District's, its consultants', or Engineer's coverage shall be excess insurance only, and Contractor's insurance policies shall so state.

Contractor shall be responsible for and shall obtain and file insurance certificates on behalf of all its subcontractors within ten (10) calendar day of the subcontractor's start of Work. All Certificates of Insurance shall be filed with the District in the office designated in the Contract Documents.

Should Contractor fail to maintain the insurance coverages required by the Contract Documents, the District may, at its option, either terminate this Contract for default or procure and pay for such coverage, charge Contractor, and deduct the costs from payments due Contractor. A decision by the District to procure and pay for such insurance coverages shall not operate as a waiver of any of its rights under the Contract Documents.

Failure of Contractor to submit the required Certificates of Insurance within the times required by this Special Conditions Section 9.08 may result in a delay in issuing the Notice to Proceed. The parties specifically agree that such a delay is neither excusable nor compensable and will not entitle Contractor to a change in the Contract Sum or time.

### **9.09 Water Supply**

Contractor shall, at its own expense, provide all water needed for construction purposes and for testing.

### **9.10 Pipeline and Manhole Locations**

Pipelines and manholes will be located substantially as indicated on the Plans and Specifications, but Engineer may make such modifications in locations as may be found desirable to avoid interferences with existing structures or for other reasons.

### **9.11 Elevation Datum**

The datum adopted by Engineer is based on National Geodetic Vertical Datum of 1929. All elevations on the Plans and Specifications refer to this datum.

### **9.12 Easements**

The District has obtained, or will obtain, permanent easements and temporary construction easements through private property, where required. The temporary construction easements entitle Contractor to the occupancy and use of the designated area near or adjacent to the Work for purposes related to the Work.

Easements are shown on the Plans and Specifications.

Contractor will not encroach on any property unless it has been established that easements have been obtained or that the property owner has given the District permission in writing. On all other land, Contractor has no rights unless he obtains written consent from the proper parties.

### **9.13 Occupying Private Land**

Contractor shall not (except after written consent from the proper parties) enter or occupy with persons, tools, equipment or materials, any land outside the rights-of-way or property of the District. A copy of the written consent shall be given to Engineer.

#### **9.14 Work in State, County, and Town Rights-of-Way**

Attention is directed to the fact that Work will be going on in County rights-of-way. The District has obtained written consent for Contractor to encroach on these rights-of-way for the Work. Any damage to the areas within these rights-of-way shall be repaired or restored in accordance with their respective standards, specifications, latest revisions and permit requirements.

#### **9.15 Interference with and Protection of Streets**

Contractor shall not close or obstruct any portion of the street, road, or private way without obtaining permits therefor from the proper authorities. During the course of the Work, if any street or private way shall be rendered unsafe by Contractor's operations, Contractor shall make such repairs or provide such temporary ways or guards as shall be acceptable to Engineer.

Streets, roads, private ways, and walks not closed, shall be maintained passable by Contractor at Contractor's expense, and Contractor shall assume full responsibility for the adequacy and safety of provisions made.

Contractor shall, at least forty-eight (48) hours in advance, notify the proper authorities including, but not limited to, the police, ambulance squad, fire departments, and school district, and any other public authority with jurisdiction in writing, with a copy to Engineer, if a closure of a street is necessary. Contractor shall cooperate with the proper authorities in the establishment of alternate routes. Contractor shall provide adequate detour signs, plainly marked and well lit, in order to minimize confusion. All expenses of street closure shall be the responsibility of Contractor.

Contractor shall, when required by Engineer, schedule its Work so as to interfere as little as possible with the operations of adjacent users and to minimize loss of access by public or private agencies to their place of business.

#### **9.16 Traffic Control**

For control of traffic, Contractor shall provide an adequate number of flagmen in accordance with the latest revisions of the Florida Department of Transportation specifications. Contractor shall bear the costs of employing such flagmen.

#### **9.17 Work Adjacent to Telephone, Power, Cable TV and Gas Company Structures**

In all cases where Work is to be performed near telephone, power, water, cable TV, or gas company facilities, Contractor shall provide written notification to the respective companies of the areas in which Work is to be performed, within a minimum of forty-eight (48) hours prior to any Work in these areas. Contractor shall comply with all applicable regulations of the State of Florida regarding the location of underground facilities prior to excavating any area (Sunshine State-One Call of Florida).



### **9.18 Storage of Materials**

Suitable storage facilities shall be furnished by Contractor. All materials, supplies and equipment intended for use in the Work shall be stored by Contractor to prevent damage from exposure, contamination by foreign substances, or vandalism. Engineer shall not accept, or sample for testing, materials, supplies or equipment that have been improperly stored. Materials found unfit for use shall not be incorporated in the Work and shall immediately be removed from the construction or storage site.

### **9.19 Salvaged Materials and Excavated Materials**

In the absence of special provisions to the Contract, salvage materials, equipment or supplies excavated during the course of the Work are the property of the District and shall be cleaned and stored as directed by Engineer.

All excavated materials needed for backfilling operation shall be stored on site. Contractor shall take the appropriate steps to secure any necessary additional area for stockpiling. Contractor shall include in its bid price the removal of such material from site to an area designated by Engineer. The haul distance shall not exceed six (6) miles each way. All excess materials not wanted by the District shall be hauled and disposed of at an approved site, at Contractor's expense.

### **9.20 Pre-Construction Meeting**

Within ten (10) calendar days after the execution of the Contract and prior to start of construction, a planning meeting will be scheduled by Engineer which must be attended by Contractor. This conference will include representatives of Contractor, Engineer, the District, local utilities, regulatory agencies, other contractors performing Work in the area for the District, and any other party that the District may deem as necessary for the orderly performance of the Contract. However, this does not relieve Contractor of the responsibility of contacting local utilities and any other necessary agencies as the circumstances may require. At this meeting the parties shall coordinate the sequence of construction.

### **9.21 Alterations**

Engineer may make alterations in the line, grade, plan, form, dimensions, or materials of the Work or any part thereof, either before or after the commencement of construction of the Work. If such alterations increase or diminish the quantity of Work to be done, compensation for increased Work shall be made at the Contract Unit Prices or under the item for extra Work. For decreased Work, Contractor shall allow the District a credit based on the Contract Unit Prices or by such other means as determined by Engineer. If such alterations diminish the quantity of Work to be done, they shall not warrant any claim for damages or for anticipated profits on the Work that is eliminated.

### **9.22 Extra and Deleted Work**

Contractor shall perform any unforeseen additional Work necessary to the proper completion of the Contract and not otherwise provided for herein, when and as ordered in writing by Engineer and approved by the District ("Extra Work"). For Extra Work, Contractor shall be compensated either:

- a. At the price agreed upon before the Extra Work is commenced and named in the order for the Work, or
- b. If Engineer so elects, for the reasonable cost of said Work, as determined by Contractor and approved by Engineer, plus a percentage of such cost, as set forth below, or
- c. At the unit price indicated in the Contract.

Contractor must submit written notification to Engineer within fifteen (15) days of any event Contractor claims to result in a change in the Scope of the Work or in Extra Work, and Contractor shall quantify such change within thirty (30) days of the event. The District shall provide a response to the Contractor within thirty (30) days from receipt of Contractor's quantification of the change. The cost of Extra Work performed shall include the cost to Contractor of materials used, equipment installed, common and skilled labor and foremen, and the fair rental price of all machinery used on the Extra Work for the period of such use.

At the request of Engineer, Contractor shall furnish itemized statements of the cost of the Work ordered and give Engineer access to all accounts, bills, and vouchers relating thereto.

Contractor may include in the cost for Extra Work the amounts of additional premiums paid to obtain and maintain the required insurance on account of such Extra Work, including but not limited to: Social Security or other direct assessments upon Contractor's payroll by Federal or other properly authorized public agencies; and other approved assessments made by Contractor directly to Contractor's employees, which are recognized to be part of the cost of doing Work.

Compensation for the rental of machinery used for Extra Work shall be based upon an appropriate fraction of the approved monthly rate schedule. The cost of transportation, not exceeding a distance of one hundred (100) miles, of such machinery to and from the Work shall be added to the compensation for rental property provided; however, compensation for rental property shall only apply to machinery or equipment used for Extra Work and not already required to be furnished under the terms of the Contract.

Contractor shall not include in the cost of Extra Work, any cost or rental of small tools, buildings, or any portion of the time of Contractor, its superintendent, or its office and engineering staff.

Contractor may add up to fifteen percent (15%) to the cost of Extra Work done by Contractor's own forces to cover its overhead allowance for use of capital the premium on the Bond as assessed upon the amount of this extra Work, and profit.

Where Extra Work done is performed by a subcontractor, the subcontractor shall compute the cost for the Extra Work, as stated above plus fifteen percent (15%). Contractor shall be allowed an additional five percent (5%) of the subcontractor's charge for the Extra Work to cover the cost of Contractor's overhead, use of capital, the premium on the Bonds as assessed upon the amount of this Extra Work, and profit.

If Extra Work is done, Contractor and/or subcontractor shall keep daily records of such Extra Work. The daily record shall include the names of persons employed, hours worked, materials and

equipment incorporated, and machinery used, if any, in the execution of such Extra Work. This daily record shall be signed by Contractor's authorized representative and approved by Engineer, verifying that such Work has been done. A separate daily record shall be submitted for each Extra Work order.

Notwithstanding anything contained herein the markup to Contractor and/or subcontractor, for overhead, profit, use of capital, and the premium on the Bonds as the same relates to Extra Work within the scope of Section 01020 of the Technical Specifications, shall not exceed twenty percent (20%).

### **9.23 Extension of Time on Account of Extra Work**

When Extra Work is ordered at any time during the progress of the Work which requires, in the opinion of Engineer, an unavoidable increase of time for the completion of the Contract, additional time shall be certified in writing by Engineer.

### **9.24 Changes Not To Affect Bonds**

It is distinctly agreed and understood that any changes made in the Plans and Specifications for this Work (whether such changes increase or decrease the amount thereof) of any change in the manner of time of payments made by the District to Contractor shall in no way annul, release, or affect the liability and surety on the bonds given by Contractor.

### **9.25 Non-Assignable**

Neither the Contract Documents, nor any monies due hereunder, or any part thereof, shall be assigned, transferred, or sublet by Contractor; nor shall the District be liable to any assignee or transferee, or sub-lessee, without the written consent of the District. Any assignment, transfer, or sublease, shall not release or discharge Contractor from any obligation hereunder.

### **9.26 District Remedies**

If Contractor defaults or neglects to carry out any of its obligations under this Contract, or should liens be filed, bills of sale, conditional bills of sale, chattel mortgages, assignments of this Contract without the consent of Contractor, or orders for the payment of money for materials or labor or either, or should Contractor become insolvent or file Bankruptcy, the District shall have the right, in addition to any other rights and remedies provided by law, to (a) perform and furnish through itself or through others any such labor or materials for the Work and to deduct the cost thereof from any money due or to become due to Contractor for all or any portion of the Work; (b) enter upon the premises and take possession for the purpose of completing the Work of all equipment, scaffolds, tools, appliances, and any other items thereon; and (c) to employ any person or persons to complete the Work and provide all labor services, materials, equipment, and other items required therefor. In case of such termination of the employment of Contractor, Contractor shall not be entitled to receive any further payment under this Contract. However, if the unpaid balance of the amount to be paid under this Contract shall exceed the cost and expense incurred by the District in completing the Work, such excess shall be paid by the District to Contractor; but if such cost and expenses shall exceed the unpaid balance, Contractor shall promptly pay the difference to the District on demand. Said cost and expense shall include not only the cost of completing the Work to the satisfaction of the District and of performing and furnishing all labor, services, materials, equipment, and other items required

therefor, but all losses, damages, costs and expenses including attorney's fees sustained, incurred, or suffered by reason of or resulting from Contractor default, or by reason for litigation over this Contract.

### **9.27 Contractor's Remedies**

If the District fails to make a payment as provided for in the Contract Documents for a period of thirty (30) days after the date the payment is due, through no fault of Contractor, Contractor may, upon seven (7) additional days' written notice to the District terminate the Contract and recover from the District payment for Work executed including reasonable overhead and profit and costs incurred by reasons of such termination.

### **9.28 Discontinuance of Construction**

Contractor agrees and guarantees to perform the above mentioned Work in accordance with the terms herein, irrespective of any strikes, lockouts, or stoppages and Contractor shall not employ persons, means, materials, or equipment which may cause strikes, Work stoppages, or any disturbances by workmen employed by Contractors.

In the event the District is prevented from proceeding with any or all of this Work as stated in this Contract, due to a declaration of war, or national emergency, by the United States government, whereas the construction of the type contracted for herein is specifically prohibited by statute or governmental edict, or due to the stoppages of construction caused by any governmental agency, State, City, Town, or County regulations, orders, restrictions, or due to circumstances beyond the District's control, or for any reasons whatsoever, then the District herein reserves the right to either suspend the Work to be done for an indefinite period of time or to cancel this Contract outright by giving notice by registered mail for such intention to Contractor herein. In the event of any conditions above mentioned occurring after the Work herein has already been commenced, then the District herein shall be liable only for the Work completed up to the cancellation or suspension without the addition of prospective profits or other charges whatsoever.

### **9.29 Contractor's Responsibility**

It is specifically agreed, that all materials shall be supplied and Work shall be done in accordance with the rules, requirements, regulations and directives of various Building Departments, other State, County, or Town departments having jurisdiction over the same; mortgagees, if any; and the Federal Housing Administration or the Veteran's Administration, or their Bureaus, Agencies, Subdivisions, or Agencies or any other governmental bureau, agency, or department interested in this job directly or indirectly.

Contractor shall, at its own cost, obtain all necessary permits, licenses, inspections and certificates pertaining to the Work and shall comply with all Federal, State, Municipal and local laws, ordinances, rules, regulations, orders, notices and requirements, whether or not provided by the Plans, Specifications, General Conditions or other Contract Documents without additional expense to the District. Contractor shall also be responsible for and correct at its own cost and expense, any violations thereof resulting from and in connection with its performance of its Work. Engineer shall not be responsible for the means, methods, techniques, sequences or procedures of construction selected by Contractor or the safety precautions and programs incident to the Work of Contractor. Engineer's efforts will be directed toward providing assurance for the District that the completed

Project will conform to the Contract Documents, but Engineer shall not be responsible for the failure of Contractor to perform the construction Work in accordance with the Contract Documents.

Engineer shall have the authority to reject Work which does not conform to the Contract Documents, and shall have authority, but not the obligation, to stop the Work in the event of any unsafe conditions or unsafe practices on the part of Contractor, any subcontractor or any of their employees. Engineer's ability to stop the Work shall not affect Contractor's liability for the existence of unsafe conditions or practice.

### **9.30 The District's Right to Terminate**

The District may terminate this Contract and take possession of all or some of Contractor's materials, tools, equipment and appliances and complete the Work by any means the District deems fit if any of the following occur: if at any time there shall be filed by or against Contractor in any court a petition in bankruptcy, insolvency, for reorganization, or for the appointment of a receiver or trustee of all or a portion of Contractor's property, where Contractor fails to secure a discharge within thirty (30) days of any such petition; if Contractor makes an assignment for the benefit of creditors or petitions for or enters into an agreement or arrangement with its creditors; if Contractor fails to prosecute the Work properly, fails to complete the Work entirely on or before any date established for partial or final completion; fails to make prompt payment to subcontractors, for materials or labor; or without limitation, fails to perform any provisions of this Contract. The District may terminate this Contract by giving Contractor seven (7) calendar days prior written notice of any such default to Contractor. Such termination shall be without prejudice to any other remedy that the District may have. In case of termination, Contractor shall not be entitled to receive any further payment until the Work is finished. If the unpaid balance of the Contract Sum shall exceed (1) the expense of completing the Work including compensation for additional managerial and administrative services, plus (2) the District's losses and damages because of Contractor's default, such excess shall be paid to Contractor. If such expense, plus the District's losses and damages shall exceed such unpaid balance, Contractor shall pay the difference to the District promptly on demand.

The District may terminate this Contract without cause by giving seven (7) calendar days prior written notice to Contractor, and in such event, the District will pay Contractor for that portion of the Contract Sum, less the aggregate of previous payments, allocable to the Work completed as of the date of termination. The District also will reimburse Contractor for all costs necessarily incurred for organizing and carrying out the stoppage of the Work and paid directly by Contractor, not including overhead, general expenses or profit. The District will not be responsible to reimburse Contractor for any continuing contractual commitments to subcontractors or materialmen or penalties or damages for canceling such contractual commitments inasmuch as Contractor shall make all subcontracts and other commitments subject to this provision.

In the event of termination by the District, the District may require Contractor promptly to assign to it all or some subcontracts, construction, plant, materials, tools, equipment, appliances, rental agreements, and any other commitments which the District may in its sole discretion, choose to take by assignment, and in such event Contractor shall promptly execute and deliver to the District written assignments of the same.

The District may, at any time, terminate the Contract for the District's convenience and without cause. Contractor shall be entitled to receive payment for Work executed and costs incurred by reason of such termination

### **9.31 Venue, Disputes and Attorney's Fees**

This Contract shall be governed by the laws of the State of Florida as now and hereafter in force. The venue for actions arising out of this Contract is fixed in Palm Beach County, Florida.

Contractor and the District agree that prior to instituting any litigation for damages under this Special Conditions Section 9.31, the parties shall conduct a non-binding mediation to attempt to resolve their dispute. In the event the parties cannot agree upon a mediator, each party shall select a mediator and such mediators shall select a third mediator who shall serve as the mediator for the dispute. In the event such mediation does not occur within thirty (30) days of a written request of either party, the parties shall be free to pursue litigation without first conducting mediation.

In any dispute arising out of the Contract Documents and/or relating to the Work, the Prevailing Party shall be entitled to recover all costs and expenses incurred, including, without limitation, attorneys' and paralegals' fees and costs whether before suit is filed, after suit is filed, on any appeal, and in any bankruptcy proceedings.

### **9.32 Coordination with District's Existing Facilities**

Contractor shall cooperate and coordinate its activities with those of the District when connecting to the existing District facilities, while working on the District plant site, and as specified in the Contract Documents.

The District has adopted a Standard Operating Procedure (SOP) for System Shutdowns and Bypass included in the Appendix and made part of this Contract. The Contractor is responsible for compliance with the SOP including planning all work requiring system shutdowns and/or bypasses to be completed within the Low Risk Holding Time and the Contractors Wastewater Management/Spill Response Plan. Details required for this compliance are included in the Appendix including the allowable duration of the shutdown or bypass (low risk holding time), the location of the isolation facilities, required facility information to determine residual wastewater volume disposal requirements and disposal locations, anticipated continuous flow the Contractor may expect and other pertinent information.

The Contractor is also responsible for all costs associated with the Emergency Operation Measures should these be implemented due to negligence on the Contractor's part or failure of the Contractor to perform the work within the allowed time frame.

### **9.33 Permits**

Unless otherwise identified in Section 01000 of the Technical Specifications, Contractor shall be responsible for obtaining any and all permits (i.e. building permits) necessary for the Work under this Contract and pay the costs thereof, said permits may be included as part of the Contract Documents. If differences between the specifications and conditions of the permits exist, the permits shall govern.

### **9.34 Coordination of Construction**

#### **A. General**

Contractor shall be responsible for the maintenance of utility operations during construction as specified in the Section 01500 of the Technical Specifications.

#### **B. Temporary Facilities**

District personnel must have ready access at all times to all existing structures. Temporary facilities shall include any equipment, materials, controls, services and accessories temporarily needed for access to, and for protection of all existing structures and equipment, and to maintain an operating system, in accordance with the provisions of these Specifications.

The size or capacity of the temporary facility shall generally be equal to the size or capacity of the facility replaced, unless otherwise indicated on the Contract Plans and Specifications or otherwise directed and approved by the District. All temporary facilities shall be removed when they are no longer required unless otherwise agreed upon in writing. To substitute an unscheduled temporary facility for an existing or new facility, Contractor shall prepare and submit a plan and description of the proposed temporary facility to the District. Upon receipt of the written approval of the District, Contractor shall then submit the notification of intent to commence Work.

#### **C. Coordination with District Personnel**

Before commencing Work involving removing or placing in operation existing or new facilities, Contractor shall notify the District in writing at least thirty (30) calendar days in advance in writing. The District shall be responsible for removing facilities from operation. Only the District can authorize the shutdown of any portions of the sanitary system. Contractor shall, under no circumstances, interfere with any existing lift station or collection system.

### **9.35 Field Layout Work**

All Work under this Contract shall be constructed in accordance with the lines and grades shown on the Contract Plans and Specifications or as directed by Engineer. Elevation of existing ground, structures and appurtenances are believed to be reasonably correct but are not guaranteed to be absolute and therefore are presented only as an approximation. Any error or apparent discrepancy in the data shown or omissions of data required for accurately accomplishing the stake-out survey shall be referred immediately to Engineer for interpretation or correction.

All survey Work for construction control purposes shall be made by Contractor at its expense as set forth in General Conditions Section 10.11.

Contractor shall establish all base lines for the location of the principal component parts of the Work together with benchmarks and batter boards adjacent to the Work. Based upon the information provided by the Contract Plans and Specifications, Contractor shall have the responsibility to carefully preserve the benchmarks, reference points and stakes. In case of destruction thereof by

Contractor or resulting from its negligence, Contractor shall be held liable for any expense and damage resulting therefrom and shall be responsible for any mistakes that may be caused by the unnecessary loss or disturbance of such marks, reference points, and stakes.

Existing or new control points, property markers, and monuments that will be established or are destroyed during the normal causes of construction shall be reestablished by Contractor; and all reference ties recorded therefore shall be furnished to Engineer. All computations necessary to establish the exact position of the Work shall be made and preserved by Contractor.

### **9.36 Submittals**

#### **A. Progress Schedule**

Prior to executing the Contract, but after the award of the Contract to the Successful Bidder, the Successful Bidder shall prepare and submit the proposed progress schedule to Engineer for review and comments. The schedule shall be prepared using Oracle - Primavera P6. The contractor shall supply the electronic Primavera P6 schedule and a PDF copy of the Primavera P6 gantt chart.

The schedule shall be prepared using the Critical Path Method (“CPM”) and shall depict in detail the proposed sequence of the Work and identifying construction activities for each structure, collection, transmission, or treatment facility. The schedule shall be time scaled, identifying the first day of each week, with the estimated date of starting and completion of each stage of the Work in order to complete the Project within the Contract time.

Contractor shall revise the progress schedule to reflect Engineer’s comments prior to approval.

An updated schedule shall be submitted monthly with each Progress Payment Application depicting progress to the last day of the month. Subsequent changes to the schedule shall be accompanied by a letter of explanation with appropriate references and revision dates on the schedule.

#### **B. Operation and Maintenance Instruction for all Valves and Mechanical Devices**

##### **1. Individual Instructions**

When required by Engineer, Contractor, through manufacturer’s representatives, shall provide instruction to the District’s designated employees regarding the operation and care of all equipment furnished by Contractor and installed hereunder.

##### **2. Written Instructions**

When required by Engineer, Contractor shall furnish and deliver to Engineer, prior to final payment, six (6) complete sets of instructions, technical bulletins, and any other printed matter such as diagrams, prints or drawings, containing full information required for the proper operation, maintenance, and repair of all Contractor furnished equipment. Included in this submission shall be a spare parts diagram and complete spare parts list. The information provided shall include a source of replacement parts and names of service representatives,



including addresses and telephone numbers. Extensive pictorial cuts of equipment are required for operator reference in servicing. These requirements are a prerequisite to the operation and acceptance of equipment. Each set of instructions shall be bound together in appropriate three-ring binders. A detailed table of contents shall be provided for each set. Written operation and maintenance instructions shall be required for all equipment items supplied for this Project. The amount of detail required shall be commensurate with the complexity of the equipment item.

Information not applicable to the specific piece of equipment installed on this Project shall be removed from the submission.

When written instructions include shop drawings and other information previously reviewed by Engineer, only those editions thereof which were accepted by Engineer, and which accurately depict the equipment installed, shall be incorporated in the instructions.

C. Maintenance and Lubrication Schedules

When required by Engineer, Contractor shall furnish complete Equipment Maintenance and Lubrication Schedules for each piece of mechanical equipment such as valves, gates, etc. The complete forms (six copies), as provided in Section 01300 entitled "Submittals" of the Technical Specifications shall be submitted along with the shop drawings and included with the furnished O&M Manuals.

D. Schedule of Values

Contractor shall submit as a shop drawing a Schedule of Values for Engineer's review at the Pre-Construction Meeting. The Schedule of values shall contain the installed value of the component parts of the Work for the purpose of making progress payments during the construction period. The Schedule shall provide sufficient detail for the proper identification of Work accomplished. Each item shall include its proportional share of all costs, including Contractor's overhead contingencies and profit. The sum of all scheduled items shall equal the total value of the Contract. For payments on acceptable stored material items, Contractor shall also submit a separate list covering the cost of materials, delivered, and unloaded at the project site along with delivery invoices with taxes paid. Stored materials will be paid for items to be used within thirty (30) days of delivery. In addition, the listing shall also include the installed value of the item with coded reference to the Work items in the Schedule of Values.

Contractor shall expand or modify the above schedule and materials listing as required by Engineer's initial and subsequent reviews.

E. Schedule of Payments

Contractor shall submit a Schedule of Payments at the Pre-Construction meeting to be approved by the District. The Schedule of Payments shall contain Contractor's expected Progress Payment values throughout the construction period, for the purpose of assuring that the District will have sufficient monies available to make payments in the expected amounts

for each payment period. Contractor shall provide an updated Schedule of Payments with each Progress Payment Application.

F. Contractor's Shop and Working Drawings

Contractor shall submit shop and Work drawings in accordance with General Conditions Section 10.07.

**9.37 Inspection and Testing**

The Contractor shall employ and pay for the services of an independent test laboratory for specified testing.

The Work or actions of the testing laboratory shall in no way relieve Contractor of its obligations under the Contract. The laboratory testing Work shall include such inspections and testing required by the Contract Document, existing laws, codes, ordinances, etc. The testing laboratory will have no authority to change the requirements of the Contract Documents, nor perform or approve any of Contractor's Work.

Contractor shall allow Engineer ample time and opportunity for testing materials and equipment to be used in the Work. Contractor shall advise Engineer promptly upon placing orders for materials and equipment so that arrangements may be made, if desired, for inspection before shipment from place of manufacture. Contractor shall at all times furnish Engineer and Engineer's representatives, facilities including labor, and allow proper time for inspecting and testing materials, equipment, and workmanship. Contractor must anticipate that possible delays may be caused in the execution of the Work due to the necessity of materials and equipment being inspected and accepted for use. Contractor shall furnish, at Contractor's own expense, all samples of materials required by Engineer for testing. Contractor shall make its own arrangements for providing water, electric power, or fuel for the various inspections and tests of structures and equipment.

Contractor shall furnish the services of representatives of the manufacturers of certain equipment, as prescribed in other sections of the Specifications. Contractor shall also place orders for such equipment on the basis that, after the equipment has been tested prior to Final Completion of the Work; the manufacturer will furnish the District with certified statements that the equipment has been installed properly and is ready to be placed in functional operation. Tests and analyses required of equipment shall be paid for by Contractor, unless otherwise specified in writing.

The Contractor will pay the cost of all tests, inspections, or investigations undertaken by the order of Engineer for the purpose of determining conformance with the Contract Documents if such tests, inspections, or investigations are not specifically required by the Contract Documents, and if conformance is ascertained thereby. Whenever nonconformance is determined by Engineer as a result of such tests, inspections, or investigations, Contractor shall bear the full cost thereof or shall reimburse the District for said cost. The cost of any additional tests and investigations, which are ordered by Engineer to ascertain subsequent conformance with the Contract Documents, shall be borne by Contractor.

**9.38 Utilities and Services**

A. General

Contractor shall provide for utilities and services for its own operations, as well as field offices. These shall include electrical power, water, ventilation, sanitary facilities and telephone service. Contractor shall furnish, install and maintain all temporary utilities during the Contract period including removal upon completion of the Work. Such facilities shall comply with regulations and requirements of the National Electrical Code, OSHA, Florida Power and Light, and applicable Federal, State, and local codes, etc.

B. Temporary Power

Contractor shall arrange with Florida Power and Light for construction period service and pay all costs for the work and power. In addition to providing for a safe construction period distribution system, Contractor shall provide a safe and adequate artificial lighting system for work areas which do not have sufficient natural light. Temporary lighting shall be maintained during non-working periods if the area is subject to access by the public or plant personnel. Contractor shall furnish all electrical or other power required for construction, testing and trial operation prior to final acceptance by the District or at the time of Beneficial Occupancy.

C. Permanent Power

Utility charges for power consumed by permanent electrical facilities used for normal operations and maintenance of the treatment plant will be paid by the District.

D. Temporary Water

Contractor shall pay for all water used for construction, flushing, testing and temporary sanitary facilities. Contractor shall provide and maintain all piping, fittings, adapters, and valves required.

E. Temporary Ventilation

Contractor shall provide and maintain adequate ventilation for a safe working environment. In addition, forced air ventilation shall be provided for the curing of installed materials, humidity control and the prevention of hazardous accumulations of dust, gases or vapors.

F. Temporary Sanitary Facilities

Contractor shall provide and maintain adequate and clean sanitary facilities for the construction work force and visitors. The facilities shall comply with local codes and regulations and be situated at approved locations.

**9.39 Security**

Contractor shall employ watchmen and security guards in its sole discretion, as it deems necessary to protect the job site against vandalism, burglary, theft, trespassing, etc. Contractor shall care for and

protect against loss or damage all material to be incorporated in the construction, including but not limited to, the existing plant structures, equipment and materials for the duration of the Contract, shall repair or replace damaged or lost materials and damaged structures at no additional cost to the District.

Contractor shall be responsible for providing, maintaining and securing gates used for construction purposes for the duration of the Project.

#### **9.40 Special Controls**

##### **A. Chemicals**

All chemicals used during Project construction or furnished for testing or Project operation, whether herbicide, pesticide, disinfectant, polymer, reactant of other classification, must be approved by either EPA or HUD. The handling, use, storage and disposal of such materials, containers or residues shall be in strict conformance to the manufacturer and/or supplier's instructions. Unless otherwise authorized, such materials shall be kept in secured storage. Copies of antidote literature shall be kept at the storage site and at Contractor's job site office. A supply of antidotes shall be kept at Contractor's office.

##### **B. Dust**

During construction Contractor shall, by the application of water and/or calcium chloride or other means, approved by Engineer, eliminate dust annoyance to adjacent property owners, business establishments, and all vehicular traffic. Contractor shall take all protective measures, to the satisfaction of Engineer, necessary to ensure that dust and debris do not enter any adjacent property or roadway. Contractor shall be responsible for the cleanup of existing property and roadways which have become soiled due to lack of proper dust control as determined by Engineer.

##### **C. Noise**

Noise resulting from Contractor's Work shall not exceed the noise levels and other requirements stated in local ordinances. Contractor shall be responsible for curtailing noise resulting from its operation. Contractor, upon written notification from Engineer or the noise control officers, shall make any repairs, replacements, adjustments, additions to and/or furnish mufflers when necessary to fulfill noise level requirements.

##### **D. Erosion Abatement and Water Pollution**

It is imperative that any Contractor dewatering operation does not contaminate or disturb the environment of the properties adjacent to the plant. Contractor shall, therefore, schedule and control its operations to confine all runoff water from disturbed surfaces, and water from dewatering operations that becomes contaminated with lime, silt, muck, and other deleterious matter, fuels, oils, bitumens, calcium chloride, chemicals and other polluting materials.

Contractor shall construct temporary stilling basin(s) of adequate size and provide all necessary temporary materials, operations, and controls including, but not limited to, filters,

coagulants, screens, and other means necessary to attain the required discharge water quality.

Contractor shall be responsible for providing, operating, and maintaining materials and equipment used for conveying clear water to the point of discharge. All pollution prevention procedures, materials, equipment and related items shall be operated and maintained until such time as the dewatering operation is discontinued. Upon the removal of the materials, equipment and related items, Contractor shall restore the area to the existing condition prior to commencing the Work.

E. Pests and Rodents

Contractor shall be responsible for maintaining the job site free from litter, rubbish and garbage. Contractor shall provide containers for the disposal of garbage and other materials that attract and are breeding places for pests and rodents. Contractor shall, at its expense, provide the services of an exterminator on a periodic basis to inspect the job site and to provide services as required to control pests and rodents.

F. Periodic Clean-Up; Basic Site Restoration

During construction, Contractor shall regularly remove from the site all accumulated debris and surplus materials of any kind which result from the construction. Unused equipment and tools shall be stored at Contractor's yard or base of operations for the Project.

Contractor shall perform the clean-up Work on a regular basis and/or as frequently as ordered by Engineer. Basic site restoration in a particular area shall be accomplished immediately following the installation or completion of the required facilities in that area. Furthermore, such site restoration shall also be accomplished, when ordered by Engineer, if partially completed facilities must remain incomplete for some time period due to unforeseen circumstances.

Upon failure of Contractor to perform periodic clean-up and basic restoration of the site to Engineer's satisfaction, Engineer may, upon five (5) calendar days prior written notice to Contractor, employ such labor and equipment as he deems necessary for the purpose, and all costs resulting therefrom shall be charged to Contractor and deducted from any amounts of money that may be due it.

**9.41 Storage and Construction Areas**

A. Storage and Construction Areas

Contractor shall confine its construction operations within the Contract limits shown on the Plans and Specifications and/or property lines and/or fence lines. All on-site Contractor Staging Areas shall be confined to designated areas as shown on the Plans and Specifications. Any additional staging and storage areas required by Contractor shall be provided by Contractor.

Contractor shall be solely responsible for the protection and safekeeping of equipment and materials at or near the sites. No claim shall be made against the District for any act of an

employee or trespasser. Should an occasion arise necessitating access to an area occupied by stored equipment and/or materials, Contractor shall immediately move such equipment or materials. No equipment or materials shall be placed upon the District's property until written approval has been received from the District.

Upon completion of the Contract, Contractor shall remove from the staging areas all equipment, fencing, surplus materials, rubbish, etc., from the construction, storage, and staging areas, and restore the areas to their original condition.

#### **9.42 Equipment and Materials**

##### **A. General**

All equipment, materials, instruments or devices incorporated in this Project shall be new and unused, unless indicated otherwise in the Contract Documents or in writing signed by the District and Contractor. All equipment, materials, instruments or devices shall be the products of reliable manufacturers who, unless otherwise specified, have been regularly engaged in the manufacture of such material and equipment for the use as identified for this Project for, at least five (5) years.

Equipment and materials to be incorporated in the Work shall be delivered sufficiently in advance of their installation and use to prevent delay in the execution of the Work, and they shall be delivered as nearly as feasible in the order required for executing the Work.

Contractor shall protect all equipment and materials from deterioration and damage. The equipment and materials shall be handled and stored by the manufacturer, fabricator supplier and Contractor before, during, and after shipment in a manner to prevent warping, twisting, bending, breaking, chipping, rusting, and any injury, damage or theft of any kind whatsoever. Any equipment exhibiting any of the above, shall be removed and replaced at Contractor's expense; such expense shall include both labor and materials.

##### **B. Storage**

Contractor shall store its equipment and materials in accordance with Special Conditions Section 9.18, Storage of Materials, at the job site in accordance with the manufacturer's recommendations and as directed by Engineer. Contractor shall not store unnecessary materials or equipment on the job site and shall prevent any structure from being overloaded or kept in a condition that would endanger the safety of others. Contractor shall enforce the instructions of the District and Engineer regarding the posting of regulatory signs for loading structures, fire safety, and smoking areas.

##### **C. Handling and Maintenance**

The manufacturer's storage instructions shall be carefully followed and any deviations shall be approved by the manufacturer in writing with a copy to Engineer. Equipment with moving parts, such as gears, electric motors, etc., and/or instruments, control panels, and switch gears, shall be stored in a temperature and humidity controlled building until the equipment is to be installed, and such equipment shall be rotated per the manufacturer's recommendations while

in storage and during the period between installation and acceptance of the Work.

The equipment shall be stored fully lubricated unless otherwise instructed by the manufacturer. Lubricants shall be changed upon completion of installation and as frequently as required thereafter during the period between installation and acceptance of the Work. New lubricants shall be put into the equipment at the time of acceptance of the Work.

Equipment with electric motors having space heaters shall have the space heaters energized unless stored in a temperature and humidity controlled building. Space heaters shall be energized at the time of installation and maintained until acceptance of the equipment.

## **9.43 Project Closeout**

### **A. General**

As construction of the Project enters the final stages of completion, Contractor shall, in accordance with the requirements set forth in the Contract Documents, attend to or have already completed the following items:

1. Schedule equipment manufacturer's visits to site.
2. Calibrate instruments and controls.
3. Required testing of Project components.
4. Schedule facilities start-up and initial operation.
5. Schedule and furnish skilled personnel during initial facilities operation.
6. Correct and/or replace Defective Work, including completion of items previously overlooked or Work which remains incomplete, all as evidenced by Engineer's "Punch List".
7. Attend to any other items listed herein or brought to Contractor's attention by Engineer.

### **B. Substantial Completion**

Items to be completed and provided prior to issuance of Substantial Completion shall include but not be limited to the following:

1. All equipment mfg. visits to the site
2. Startup tests completed and documentation provided to the Engineer
3. All instruments and controls calibrated and tested
4. All components of the Project successfully tested
5. Instruction provided to personnel on operation of equipment as required by the Technical Specification.
6. Project and its constituent pieces must be fully operational in accordance with Contract requirements and permits.
7. Restore areas disturbed by construction activities.

C. Cleaning and Restoration

Before the Final Completion of the Project, Contractor shall accomplish the cleaning and final adjustments of the various facility components as specified in the Specifications, including:

1. Clean and lubricate all finish hardware after adjustment for proper operation.
2. Touch up marks or defects in painted surfaces and touch up any similar defects in factory finished surfaces.
3. Remove all stains, marks, fingerprints, soil, spots, and blemishes from all finish surfaces.
4. Restore all areas disturbed by construction operations to conditions equal to or better than that which existed prior to the Work.

D. Project Record Drawings and Documents

Contractor shall keep a set of drawings at the jobsite. As-built plans shall be submitted for Work completed at the end of each pay period. The payment application will not be processed until the as-built plans are approved by Engineer. Contractor shall be held responsible for the accuracy of such data, and shall bear any costs incurred in finding utilities as a result of incorrect data furnished by Contractor.

Before the Final Completion of the Project, Contractor shall submit to Engineer (or to the District if indicated) certain records, certifications, etc., which are specified elsewhere in the Contract Documents. Missing, incomplete, or unacceptable items, as determined by Engineer or the District, shall constitute grounds for withholding Final Payment to Contractor. A partial list of such items appears below, but it shall be Contractor's responsibility to submit any other items which are required in the Contract Documents:

1. Test results of Project components.
2. Performance affidavits for equipment.
3. Operation and maintenance instructions or manuals for equipment.
4. Month-to-month records containing all deviations from the Plans and Specifications, Addenda, and Modifications of Shop drawings. Such records shall be prepared from record drawings showing correct and accurate changes and deviations from the Work made during construction so as to reflect the Work as it was actually constructed. These drawings shall conform to recognized standards of drafting, be neat, legible and be on Mylar or other approved reproducible material. Contractor shall secure and pay for the services of a registered land surveyor for a final survey at every 100 feet of the location of the pipeline upon completion of construction. Signed and sealed "As Built" record drawings showing pipe location, slopes, depths of cover, offsets, and location of all fittings, valves, manholes, and all related appurtenances shall be submitted to Engineer. Missing, incomplete or inaccurate drawings as specified herein and as determined by Engineer, shall constitute grounds for withholding final payment to Contractor.
5. In addition to items specified under Article 4 Section 6 of the Contract, all technical documentation as specified elsewhere in the Contract Documents and particularly in the Technical Specifications.



E. Grease, Oil and Fuel

All grease, oil, and fuel required for testing of equipment shall be furnished by Contractor. Contractor shall also furnish a one (1) year's supply of lubricants including grease and oil in the type recommended by the manufacturer for each item of equipment supplied.

F. Touch-Up and Repair

Contractor shall touch-up and repair damage to all field painted and factory finished equipment. Touch-up of equipment, panels, etc. shall match as nearly as possible to the original finish. If in the opinion of Engineer the touch-up Work is not satisfactory, Contractor shall repaint the item.

G. Chemicals

All chemicals required for testing of equipment or the process shall be furnished by Contractor. Contractor shall also furnish chemicals for the District's use where specified.

H. Closeout and Punch Lists

Contractor shall notify Engineer and the District in writing when the Work has reached Substantial Completion. Engineer will make an inspection of the Project for the purposes of determining the Work has reached Substantial Completion and for discovering and developing a list of Work not found acceptable and requiring cleaning, repair or replacement ("Punch List"). If Engineer determines the Project to be substantially complete, Engineer shall issue the Certificate of Substantial Completion. If the Project has an estimated cost of less than \$10 million, the Punch List shall be developed within thirty (30) days following actual Substantial Completion of the Project. If the Project has an estimated cost of more than \$10 million, the Punch List shall be developed within sixty (60) days following actual Substantial Completion of the Project. The Punch list shall be delivered to Contractor within five (5) days of the development of the Punch List. The Final Completion date shall not be less than thirty (30) days following delivery of the Punch List.

Upon receipt of the Punch List, Contractor shall perform all work necessary to complete the Punch List. Work that has been inspected and accepted by Engineer shall be maintained by Contractor, until Final Completion of the entire Project. Upon completion of the items on the Punch List, Contractor shall notify Engineer in writing that the Project is ready for inspection. This procedure will continue until the entire Project is accepted by Engineer. "Final Payment" will not be processed until the entire Project has been accepted by Engineer in writing by issuance of the Certificate of Final Completion and all of the requirements in Special Conditions Section 9.43 D. - Project Record Drawings and Documents have been satisfied. Contractor's acceptance of final payment from the District shall constitute a full waiver and release by Contractor of all claims against the District arising out of or relating to the Project or Work.

Final cleaning and repairing shall be scheduled upon completion of the Project.

I. Partial Utilization

Prior to the completion of the Project, it may be necessary to place into service various facilities, structures, equipment and processes in accordance with the Sequence of Operation and Construction. Whenever a structure, equipment, or process has been completed and tested, Contractor shall notify Engineer that it is ready for inspection. Any Work not found acceptable will be noted on the "Punch List." Whenever Contractor has completed the Work and it has been accepted by Engineer, the District shall take possession, operate and maintain the facility, and equipment warranties begin ("Partial Utilization"). Partial Utilization shall not constitute Substantial Completion.

## J. Tools and Spare Parts

### 1. Tools

Any special tools (including grease guns or other lubricating devices) which may be necessary for the adjustment, operation, and maintenance of any equipment shall be furnished with the respective equipment. Contractor shall furnish a complete list of tools and instructions for their use, recommended by the manufacturer or supplier with the Shop Drawing Submittal.

### 2. Spare Parts

Spare parts for equipment shall be furnished where indicated in the equipment specifications and/or as recommended by the equipment manufacturer. Spare parts shall be identical and interchangeable with original parts. Parts shall be supplied, prepared for storage, in clearly identified containers, except large or bulky items which may be wrapped in polyethylene.

The parts shall be stored separately in a locked area, maintained by Contractor, and shall be delivered to the District at a location designated by the District. Contractor shall furnish an inventory listing all spare parts in the form included herein for each piece of equipment.

## K. Start-Up and Field Instructions

The bid prices for the equipment furnished by Contractor shall include the cost of competent manufacture representatives of all equipment to supervise the installation, adjustment and testing of the equipment and to instruct the District's operating personnel in their operation and maintenance of all equipment. The supervision may be divided into two or more time periods as required by the installation program or as directed by Engineer.

The manufacturer's representatives shall certify in writing that the installation and testing of the equipment has satisfactorily been completed and that the equipment is ready for operation and the District's operating personnel have been instructed in the operation, maintenance, and lubrication of the equipment.

Contractor shall provide the services of the manufacturer's representative(s) for additional time as required should difficulties arise in the operation of the equipment due to the

manufacturer's design or fabrication of the equipment or faulty installation by Contractor. This additional service shall be provided at no cost to the District for the duration of the Contract and one (1) year maintenance period.

**L. Final Clean-Up and Site Restoration**

Before finally leaving the site, Contractor shall wash and clean all exposed surfaces which have become soiled or marked. Contractor shall remove from the site of the Work all accumulated debris and surplus materials of any kind which result from its operation, including construction equipment, tools, sheds, sanitary enclosures, etc. Contractor shall leave all equipment, fixtures, and Work, which he had installed, in a clean condition. The completed Project shall be turned over to the District in a neat and orderly condition.

All damage, as a result of Work under this Contract, to existing structures, pavement, driveways, curb and gutters, sidewalks, utility poles, utility pipelines, conduits, drains, catch basins, fences, and other obstructions not specifically mentioned herein shall be repaired.

**9.44 Open Specifications**

Where materials or equipment are specified by a trade or brand name, it shall not be the intention of the District to discriminate against an equal product of another manufacturer but rather to set a definite standard of quality or performance and to establish an equal basis for the evaluation of bids. Unless otherwise specified, all materials shall be the best of their respective kinds and shall be in all cases, fully equal to approved samples. Where a trade or brand name is specified with the words "or equal" or "equivalent," this is understood to mean that other trade or brand names may be substituted that are, in the opinion and judgment of Engineer, equal in quality and performance. Even though the words "or equal" or "equivalent" are used in the Specifications, unless a substitute is approved in writing by Engineer, Engineer shall have the right to require the use of the material or equipment specified by trade or brand name.

**9.45 Spare Parts List**

The equipment supplier shall prepare a recommended spare parts list. Six (6) copies of the recommended spare parts list shall be submitted with the shop drawings.

**9.46 Applicable Standards and Codes**

Whenever reference is made to any published standards, codes, or standard specifications, such reference shall mean the latest issue of that standard, code, specifications, or tentative specification of the technical society, organization, or body referred to which is in effect at the date of invitation for bids.

**9.47 Copies of Plans and Specifications**

Contractor shall be provided with three (3) complete sets of Plans and Specifications for its use at no charge. Signed and sealed drawings which are necessary to obtain Building Permits will also be provided to Contractor by Engineer at no charge.

#### **9.48 Restoration – Special**

Existing areas of special landscaping materials, irrigation systems, ground cover and any other improvements that are damaged shall be restored with new materials to equal or better than existing conditions. Technical Specifications may contain additional requirements.

#### **9.49 Contractor Performance Reviews and Ratings**

The District shall develop a Contractor performance evaluation report. This report shall be used to periodically review and rate the Contractor's performance under the contract with performance rating as follows:

Satisfactory	Performance meets contractual requirements. The contractual performance of the element being assessed may contain some minor problems for which corrective actions taken by the Contractor were satisfactory
Unsatisfactory	Performance does not meet most contractual requirements and recovery is not likely in a timely manner. The contractual performance contains a serious problem(s) for which the contractor's corrective actions appear or were ineffective.

The report shall also list discrepancies found during the review period. The Contractor shall be provided with a copy of the report and may respond in writing if he takes exception to the report or wishes to comment on the report. Contractor performance reviews and subsequent reports will be used in determining the Contractor's satisfactory performance record on future Contracts.

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## GENERAL CONDITIONS

### ARTICLE 10

#### TITLE

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10.31	Legally Binding

## **10.01 General**

Contractor shall furnish all labor, materials, tools and equipment necessary to do all Work required for the completion of each item of this Contract as specified herein. The Work to be done and paid for under any item shall not be limited to the exact extent mentioned or described, but shall include all incidental Work necessary or customarily done for the completion of that item.

## **10.02 Definitions**

Wherever the words or terms defined in this Section or pronouns used in their stead occur in the Specifications or other Contract Documents, they shall have the meanings herein given.

- a. "AASHTO" shall mean the American Association of State Highway and Transportation Officials.
- b. "ACI" shall mean the American Concrete Institute.
- c. "Addendum" shall mean modification of the Contract Documents issued in writing by Engineer prior to opening the bids.
- d. "ANS" shall mean American National Standard, as approved by the American National Standards Institute, Inc.
- e. "ASTM" shall mean the American Society for Testing and Materials.
- f. "AWWA" shall mean the American Water Works Association.
- g. "Bid" shall mean the documents that comprise the submission for the Work of this Project.
- h. "Bid Period" shall mean the time period from when the Bid Documents will be available to the deadline for submitting Bids.
- i. "Bidder" shall mean one who submits a Bid directly to District, as distinct from a sub-bidder, who submits a Bid to the Bidder.
- j. "Bid Documents" include the Advertisement for Bids, Instructions to Bidders, Proposal, Questionnaire, the Bid Form, and the proposed Contract Documents (including all Addenda issued prior to receipts of Bids).
- k. "Change Order" shall mean a written change, addition, or deletion to the Contract Documents signed by both Contractor and the District.
- l. "Contract" shall mean the agreement between the Successful Bidder and the District for performance of the Work.
- m. "Contract Documents" shall mean all documents that comprise the agreement of the parties related to this Project. The Contract Documents include the Notice to Contractors, Instructions to Bidders, Proposal, Questionnaire, Bid Security, Contract, Public Construction

Bond, Sworn Statement of Public Entity Crimes, Opinion of District's Attorney, Final Release of Lien, Special Conditions, General Conditions, Technical Specifications, Standard Details and Plans, including all modifications, addenda, and Change Orders contained in any documents before or after execution of the Contract

- n. "Contract Sum" shall mean the total amount due to Contractor as a result of Work on the Project, including any amounts as a result of Change Orders.
- o. "Contract Time" shall mean the time to complete the Project as set forth in the Contract Documents. Reference to "days" shall mean calendar days unless otherwise noted.
- p. "Contractor" shall mean the Successful Bidder with whom the District signs the Contract for the Work or its duly authorized agents.
- q. "County" shall mean Palm Beach County, as may be applicable.
- r. "Defective" shall mean the Work does not conform to the Contract Documents or does not meet the requirements of any applicable inspection, reference standard, test, or approval.
- s. "District" shall mean the Loxahatchee River Environmental Control District, acting through its properly authorized representatives.
- t. "Engineer" shall mean the engineer designated by the District as its engineering representative during the course of construction to make appropriate inspection and computation of payments, whether acting directly or through properly authorized agents, inspectors or representatives of Engineer, acting within the scope of duties entrusted to them.
- u. "Final Completion" shall mean the time when Engineer determines that all Contract Document requirements have been completed.
- v. "IEEE" shall mean the Institute of Electrical and Electronic Engineers, Inc.
- w. "Notice of Award" shall mean the District's notification of the Contract to the Successful Bidder.
- x. "Notice to Proceed" shall mean the written notice from the District to the Contractor to proceed with the Work.
- y. "Plans" shall mean any and all drawings, plans, sketches, diagrams, designs, lists, exhibits, or other graphic and pictorial portions of the Contract Documents showing the design, location, and dimensions of the Work for the Project.
- z. "Pricing Schedule" shall be based upon the Bid item(s) and shall establish the value of the Contract Award. .
- aa. "Project" shall mean the entire construction to be performed as provided in the Contract Documents.



- bb. "Schedule of Values" is established between Contractor and Engineer to determine the appropriate cost of component items that were used to establish the "Pricing Schedule," and the value to be paid as Work is completed. The Schedule of Values shall be determined during the Pre-Construction Meeting.
- cc. "Specifications" shall mean the written requirements for materials, equipment, systems, standards, and workmanship for the Work, and performance of related services.
- dd. "Substantial Completion" shall mean the date as certified by Engineer when the construction of the Project or a specified part thereof is completed, in accordance with the Contract Documents and applicable permits, so that the Project or specified part can be utilized for the purposes for which it was intended; or if there be no such certification, the date when final payment is due in accordance with the Contract.
- ee. "Successful Bidder" shall mean the lowest cost, qualified, responsive, responsible Bidder to whom the District, based on the District's evaluation hereinafter provided, makes an award.
- ff. "Work" shall mean any and all obligations, duties and responsibilities necessary to the successful completion of the Project assigned to or undertaken by Contractor under the Contract Documents, including all labor, materials, equipment, services, and other incidentals and the furnishing, installation, and delivery thereof and all Work reasonably inferable therefrom.

### **10.03 Plans and Specifications are Supplementary**

The Plans and Specifications are intended to supplement each other, and together constitute one complete set of Contract Documents, so that any Work exhibited in the one and not the other shall be executed just as if it has been set forth in both, in order that the Work shall be completed in every respect according to the complete design or designs as decided and determined by Engineer. In the event of a conflict in the Plans and Specifications, the Specifications shall be considered prevailing. Should Contractor find that anything is omitted from the Plans and Specifications which is necessary for a clear understanding of the Work, or that there is an error in either Plans or Specifications, Contractor shall promptly notify Engineer. From time to time during the progress of the Work, Engineer may furnish supplementary or working drawings necessary to show changes or define the Work in more detail, and these also shall be part of the Contract Documents.

### **10.04 Handling and Distribution**

Contractor shall, at its own expense, handle, haul, deliver, and distribute all materials and all surplus materials on the different portions of the Work, as necessary. Contractor shall provide suitable and adequate storage room for materials and equipment, until the Final Completion of the Work.

Storage charges and demurrage charges by transportation companies and vendors, which result from delays in handling, shall be borne by Contractor.

## **10.05 Materials, Samples, Inspection, Approval**

Unless otherwise indicated on the Plans and Specifications or specified, only new materials and equipment shall be incorporated in the Work. All materials and equipment furnished by Contractor to be incorporated in the Work shall be subject to the inspection and approval of Engineer.

No material shall be processed for, fabricated for, or delivered to the Work without prior approval of Engineer.

Within thirty (30) calendar days after the award of the Contract, Contractor shall submit to Engineer the names and addresses of the manufacturers and suppliers of all materials and equipment proposed to be incorporated into the Work. When shop and working drawings are required as specified below, such information shall be submitted prior to the submission of the drawings so that Engineer may consider and approve or disapprove the manufacturer and/or the supplier as to the its ability to furnish a product meeting the Specifications, subject to final approval of the particular material or equipment. As requested, Contractor shall also submit data relating to the material and equipment proposed to be incorporated into the Work, in sufficient detail to enable Engineer to identify the particular product in question and to form an opinion as to its conformity to the Contract requirements.

Such data shall be submitted in a manner similar to that specified for shop and working drawings.

Facilities and labor for the handling and inspection of all materials and equipment shall be furnished by Contractor. Defective materials and equipment shall be removed immediately from the site of the Work. The Contractor will make arrangements for, and pay for soil density tests wherever and whenever the District desires, but at no less than every 1 foot lift and 400 LF of trench backfill, 1 foot lift and 100 SF of roadway subgrade and base and 1 foot lift and 100SF of fill beneath concrete on grade. If the results of a soil density test indicate that compaction is less than that specified, Contractor shall recompact and retest soil density with no additional cost to the District.

If Engineer so requires, either prior to beginning or during the progress of the Work, Contractor shall submit samples of materials for such special tests as may be necessary to demonstrate that they conform to the Specifications. Such samples, including concrete test cylinders, shall be furnished, taken, stored, packed and shipped as directed, at the expense of Contractor. Contractor shall, at its expense, furnish approved molds for making concrete test cylinders. Except as otherwise specified, the District shall make arrangements for, and pay for, the tests. All samples shall be packed so as to reach their destination in good condition, and shall be labeled to indicate the material represented, the name of the building or Work and location of which the material is intended, and the name of Contractor submitting the sample. To ensure consideration of samples, Contractor shall notify Engineer by letter that the samples have been shipped and shall properly describe the samples in the letter. In no case shall the letter of notification be enclosed with the samples.

Contractor shall submit data and samples to Engineer, or place its orders, sufficiently early to permit Engineer to consider, inspect, test, and approve the materials and equipment before they are incorporated in the Work. Delay resulting from Contractor's failure to do so shall not be used as a basis of a claim against the District or Engineer. When required, Contractor shall furnish to Engineer three (3) sworn copies of manufacturer's shop or mill tests (or reports from independent testing laboratories) relative to materials, concrete and equipment data.

After Engineer approval of the samples, data, etc., the materials and equipment used in the course of the Work shall correspond therewith.

#### **10.06 Inspection of Work Away from the Site**

If Work done off the construction site is to be inspected on behalf of the District during its fabrication, manufacture, or testing, or before shipment, Contractor shall give notice to Engineer of the place and time where such fabrication, manufacture, testing or shipping is to be done. Such notice shall be in writing and delivered to Engineer in ample time so that the necessary arrangements for the inspection can be made.

#### **10.07 Contractor's Shop and Working Drawings**

Contractor shall submit for approval six (6) copies (unless otherwise specified in writing) of shop and working drawings of concrete reinforcement, structural details, piping layout, wiring, materials fabricated especially for this Contract, and materials and equipment for which such drawings are specifically requested. All shop and working drawing submittals shall be prepared and submitted in accordance with Section 01300 of the Technical Specifications.

#### **10.08 Health, Safety and Environmental Program**

The Contractor shall adhere to all applicable federal and state occupational safety and health laws as they apply to this Contract.

The Contractor will enforce the Loxahatchee River Environmental Control District's safety rules and practices as they apply to the Contractor's employee's, in addition to the Contractor's own safety rules and procedures.

The Contractor shall provide all of its subcontractors with copies of all safe working procedures and shall ensure their enforcement.

#### **10.09 Insufficiency of Safety Precautions**

Failure of Contractor to provide these required conditions shall be a material breach of this Contract and the District shall be entitled to stop the Work until such time as Contractor corrects these conditions, without payment to Contractor of extension of time to complete the Work.

#### **10.10 Sanitary Regulations**

Contractor shall provide adequate sanitary conveniences for the use of those employed on the worksite. Such conveniences shall be made available when the first employees arrive on the worksite, shall be properly secluded from public observation, and shall be constructed and maintained in suitable numbers and at such points and in such manner as may be required or approved.

Contractor shall maintain the sanitary facilities in a satisfactory and sanitary condition at all times and shall enforce their use. Contractor shall rigorously prohibit the committing of nuisances on the

worksite, on the lands of the District, or any adjacent property. Contractor is solely responsible for the use and maintenance of the sanitary facilities.

The District and Engineer shall have the right to inspect any building or other facility erected, maintained, or used by Contractor, to determine whether or not the sanitary regulations have been complied with.

### **10.11 Lines, Grades and Measurements**

Contractor shall employ, at its own expense, a land surveyor who shall be registered in the State of Florida and who shall be thoroughly experienced in field layout work. Said surveyor shall establish all lines, elevations, reference marks, etc., needed by Contractor during the progress of the Work, and from time to time Contractor shall verify such marks by instrument or by other appropriate means.

Alignment and grade of all pipe, tunnels and borings shall be controlled by use of lasers, levels or other equipment as required to assure proper alignment and grade. Contractor shall furnish all lasers and accessories as required and approved by Engineer. Contractor's engineer will set and check each laser each day that Work is in progress or more often as required to assure continuous accurate control. Contractor's engineer responsible for lines and grades shall certify to the District in writing that the Work has been constructed to lines and grades as shown on the Plans and Specifications. This certification shall accompany each request for payment.

Engineer shall be permitted at any time to review the lines, elevations, reference marks, lasers, etc., set by Engineer employed by Contractor, and Contractor shall correct any errors in lines, elevations, reference marks, lasers, etc., disclosed by engineer. Such a review shall not be construed to be an approval of Contractor's Work and shall not relieve Contractor of the responsibility for the accurate construction of the entire Work.

Contractor shall make all measurements and review all dimensions necessary for the proper construction of the Work called for by the Plans and Specifications. During the prosecution of the Work, Contractor shall make all necessary measurements to prevent misfitting in said Work, for the accurate construction of the entire Work.

### **10.12 Dimensions of Existing Structures**

Where the dimensions and locations of existing structures are of critical importance in the installation or connection of new Work, Contractor shall verify such dimensions and locations in the field before the fabrication of any materials or equipment which is dependent on the correctness of such information.

### **10.13 Work to Conform**

During its progress and on its completion, all Work shall conform to the lines, levels, and grades indicated on the Plans and Specifications or given by Engineer and shall be built in a thoroughly substantial and workmanlike manner, in accordance with the Plans and Specifications and the directions given from time to time by Engineer. In no case shall any Work in excess of the requirements of the Plans and Specifications be paid for unless ordered in writing by Engineer.

All Work done without instructions having been given therefore by Engineer, done without proper lines or levels, or done during the absence of Engineer, or its agent, will not be estimated or paid for except when such Work is authorized by Engineer in writing. Work so done may be ordered uncovered or taken down, removed, and replaced at Contractor's expense.

#### **10.14 Pipe Location**

Pipelines will be located substantially as indicated on the Plans and Specifications, but the right is reserved by the District, acting through Engineer, to make such modifications in location as may be found desirable to avoid interference with existing structures or for other reasons. Where fittings, etc., are noted on the Plans and Specifications, such notation is for Contractor's convenience and does not relieve Contractor from laying and joining different or additional items where required without additional compensation.

#### **10.15 Planning and Progress Schedules**

Contractor shall prepare and submit all schedule submittals in accordance with Section 01300 of the Technical Specifications.

#### **10.16 Precautions During Adverse Weather**

In the event of, or the possibility thereof, adverse weather, including high tides, and against the possibility thereof, Contractor shall take all necessary precautions so that the Work may be properly done and satisfactory in all respects. When required, protection shall be provided by use of tarpaulins, wood, building paper shelters, and other approved means. Contractor shall be responsible for all changes caused by adverse weather, including tidal fluctuations and Contractor shall take such precautions and procure insurance as Contractor deems prudent.

Engineer may suspend construction operations at any time when, in its sole discretion, the conditions are unsuitable or the proper precautions are not being taken, whatever the weather or tidal conditions may be, in any season.

Contractor shall provide a written tropical storm/hurricane plan consistent with District requirements to Engineer prior to commencement of construction.

#### **10.17 Electrical Energy**

Contractor shall make all necessary applications and arrangements and pay all fees and charges for power and light and other electrical energy as necessary for the proper completion of this Contract during its entire progress. Contractor shall provide and pay for all temporary wiring, switches, connections, and meters.

There shall be sufficient electrical lighting so that all Work may be done in a workmanlike manner when there is not sufficient daylight.

#### **10.18 Bolts, Anchor Bolts and Nuts**

All necessary bolts, anchor bolts, nuts, washers, plates and bolt sleeves shall be furnished by Contractor in accordance herewith.

### **10.19 Concrete Inserts**

Concrete inserts shall be designed to safely support, in the concrete that is used, the maximum load that can be imposed by the bolts used in the inserts. Inserts shall be of a type which will permit locking of the bolt head or nut. All inserts shall be 316 stainless steel.

### **10.20 Operating Instructions and Parts Lists**

Operations and Maintenance (O&M) Manuals for each item of equipment shall be submitted in accordance with Section 01300 of the Technical Specifications entitled "Submittals."

### **10.21 Lubricants**

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

### **10.22 Special Tools**

For each type of equipment furnished by Contractor, Contractor shall provide a complete set of all special tools (including calibration and test equipment) which may be necessary for the adjustment, operation, maintenance, and disassembly of such equipment.

Special tools are considered to be those which, because of their limited use, are not normally available, but which are necessary for the particular equipment.

Special tools shall be delivered at the same time as the equipment to which they pertain. Contractor shall properly store and safeguard such special tools to ensure they are in a proper functioning condition, as determined by Engineer. At the completion of the Work the special tools shall be delivered to the District.

### **10.23 Protection Against Electrolysis**

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

### **10.24 Indemnification and Confidentiality**

For specific consideration received by Contractor, included in the Contract sum beyond the cost of the Work, Contractor shall indemnify and hold harmless the District, its officers and employees, from liabilities, damages, losses and costs, including, but not limited to, reasonable attorney's fees, to the extent caused by the negligence, recklessness, or intentional wrongful misconduct of Contractor and persons employed or utilized by Contractor in the performance of the Contract. The monetary limitation on the extent of the indemnification that bears a reasonable commercial relationship to the

Contract and is part of the Project specifications or Bid Documents, is up to three (3) times the monetary value of the Contract. Notwithstanding the foregoing, the monetary limitation on the extent of the indemnification provided shall not be less than one million dollars (\$1,000,000.00) per occurrence. The District and the insurance carrier shall have the right to “mutually approve” the choice of attorney(s) to provide the defense, with such approval not to be unreasonably withheld. If no agreement on the choice of attorney(s) can be reached in a reasonable length of time, the final authority to choose an attorney will rest with the claims manager in the office where the claim originated.

In any and all claims against the District or any of their officers or employees by an employee of Contractor, any subcontractor, anyone directly or indirectly employed by any of them or anyone else for whose acts any of them may be liable, the indemnification obligation under this General Conditions Section 10.24 shall not be limited in any way on the amount or type of damages, compensation or benefits payable by or for Contractor or any subcontractor under worker’s compensation acts, disability benefits or other employee benefit acts. The intention of these two clauses above is to provide for the legal indemnification allowed for under Section 725.06, Florida Statutes, no more and no less, so as to be completely legal and not void as against public policy. If any provision of this indemnification is determined by a court of law to be void, it shall be severed from this provision and the remainder of this provision shall be given full force and effect under Section 725.06, Florida Statutes.

In the performance of the Work, Contractor may be exposed to the confidential information of the District and other. Contractor shall not disclose to anyone not employed by the District nor use, except on behalf of the District, any such confidential information acquired in the performance of the Work except as authorized by the District in writing and, regardless of the term of this Contract, Contractor shall be bound by this obligation until such time as said confidential information shall become part of the public domain. Information regarding all aspects of the District’s business and information concerning the Work (either directly or indirectly disclosed to it or developed by it in the performance of the Work) shall be presumed to be confidential except to the extent that same shall have been published or otherwise made freely available to the general public without restriction. Contractor also agrees that it will not disclose to the District any information it holds subject to any obligation or confidence to any third persons.

### **10.25 Work by Others**

The District may perform additional Work related to the Project itself, or the District may engage others to perform Work on the Project which such engagement shall be governed by similar General Conditions. Contractor shall afford the other contractors who are parties to such direct contracts (or the District, if it is performing the additional Work), reasonable opportunity for the introduction and storage of materials and equipment and the execution of the Work, and shall properly connect and coordinate Contractor’s Work with the Work of others. If any part of Contractor’s Work depends for proper execution or results upon the Work of any such other contractor (or the District), Contractor shall inspect and promptly report to Engineer, in writing, any defects or deficiencies in such Work that render it unsuitable for such proper execution and results. Contractor’s failure so to report shall constitute an acceptance of the other Work as fit and proper for the relationship of its Work except as to defects and deficiencies which may appear in the other Work after the execution of Contractor’s Work.

Contractor shall do all cutting, fitting and patching of its Work that may be required to make its several parts come together properly and fit it to receive or be received by such other Work. Contractor shall not endanger any Work of others by cutting, excavating or otherwise altering their Work and will only cut or alter their Work with the written consent of Engineer and of the other contractors whose Work will be affected.

If the performance of additional Work by other contractors or the District is not noted in the Contract Documents prior to the execution of the Contract, written notice thereof shall be given to Contractor prior to the state of any such additional Work.

#### **10.26 Record Drawings**

Contractor shall keep and maintain one record copy of all Specifications, Plans and Specifications, Addenda, Change Orders, Modifications and Shop drawings at the site in good order and annotated to show all changes made during the construction process as specified in the Contract Documents. All record drawings shall be kept maintained and updated by Contractor in accordance with Section 01720 of the Technical Specifications entitled "Project Record Drawings."

#### **10.27 Non-Waiver**

Progress or final payments shall not be acceptance of improper, faulty, or defective work or material, and shall not release Contractor of any of its obligations under the Contract Documents, and shall not constitute a waiver of any rights or provisions of the Contract Documents by the District.

#### **10.28 Mutuality of Provisions**

If any provision of the Contract Documents shall for any reason be held to be invalid, illegal, or unenforceable in any respect under the laws of the State of Florida, any such invalidity, illegality or unenforceability shall not affect any other provision of the Contract Documents and the Contract Documents shall be construed as if such invalid, illegal, or unenforceable provision had never been incorporated herein and the rights of the parties hereto shall be construed and enforced accordingly.

#### **10.29 Restoration of Property**

Existing structures and facilities, including but not limited to buildings, utilities, topography, streets, curbs, walks landscape materials and other improvements that are damaged or removed due to the Work, shall be patched, repaired, or replaced by Contractor to the satisfaction of the owner of such structure and facility, and authorities having jurisdiction. In the event that authorities having jurisdiction require that such repairing and patching be done with their own labor and materials, Contractor shall abide by such regulations and pay for such work.

#### **10.30 Notice**

Any notice or writing given hereunder shall be delivered by depositing the notice contained in a sealed envelope, postage prepaid in the United States Postal System as registered or certified mail, with return receipt requested, or by overnight express carrier. Any such notice so deposited shall be conclusively deemed delivered to and received by the addressee forty-eight (48) hours after the deposit if all of the foregoing conditions of notice have been satisfied and addressed as follows:



DISTRICT:

CONTRACTOR:

### **10.31 Legally Binding**

Contractor agrees that the Contract Documents are legally binding documents and has had the opportunity to permit its attorney to review them. The Contract Documents are the joint work product of the Parties hereto and, accordingly, no term or provision shall be more strictly construed against any party.

**(Remainder of this page left blank intentionally)**

## **SECTION 01010 SUMMARY OF WORK**

### **PART 1 - GENERAL**

#### **1.01 WORK COVERED BY CONTRACT DOCUMENTS**

- A. The location of the work is along the west side Alternate A1A bridge which spans the Loxahatchee River in Jupiter, Florida in Palm Beach County. The existing force main is located within FEC R-O-W, the Town of Jupiter R-O-W and FDOT R-O-W. The existing water system in the project area is under the jurisdiction of Town of Jupiter.
- B. The exhibits for the proposed force main inspection have been prepared by Baxter & Woodman entitled "ALTERNATE A1A 24-INCH FORCE MAIN CLEANING & INSPECTION" and can be found in Appendix A of the Contract Documents.
- C. The work covered by these specifications comprises, in general, the furnishing all labor, materials, equipment and all incidentals and appurtenances for the evaluation of approximately 2,300 LF of the existing 24-inch subaqueous ductile iron force main, including cleaning, non-destruction testing (NDT) method(s), closed circuit television (CCTV) inspection and confirming the construction details of the existing force main's alignment. The existing force main alignment can be seen in Appendix D and Appendix E of the Contract Documents. Affected roadway shall have open-cut trench repair only. The Work also includes dewatering, MOT's, asphalt pavement restoration, and all other work for a complete and operating system.
- D. All water needed to flush and clean the existing main prior to inspection may be diverted to the District's gravity sewer system. The District's gravity sewer system adjacent to the project can be seen in Appendix A and Appendix C.
- E. Except as specifically noted, the Contractor shall provide and pay for:
  - 1. Labor, materials, tools, construction equipment, and machinery.
  - 2. Other facilities and services necessary for proper execution and completion of the work.
- F. The Contractor shall comply with all codes, ordinances, rules, regulations, orders, and other legal requirements of the Loxahatchee River District, Palm Beach County, Town of Jupiter, Florida DOT, FDEP, and the Army Corps of Engineers.

## 1.02 LOCATIONS OF UTILITIES

- A. Information shown on the record drawings as to the location of existing utilities was prepared from the most reliable data available to Baxter & Woodman at that time; however, this information is not guaranteed and it shall be the Contractor's responsibility to determine the location, character, and depth of any existing utilities. Extreme caution shall be exercised to eliminate any possibility of any damage to utilities resulting from his activities.

The Contractor shall be fully responsible for any damage to utilities resulting from his operation.

The Contractor is required to subcontract with a Professional Utility Locator, to locate existing service utilities such as telephone lines, CATV, electric lines, fiber optic lines, gas lines, and any other existing facility.

The Contractor shall be responsible for the immediate repair of damage to existing utilities such as telephone line, CATV, underground electric lines, gas lines, stormwater facilities, septic tanks and any facility that has been marked in the field and/or on the drawings.

The Contractor shall be responsible for damages to existing landscaping, landscape lighting and electrical lines, irrigation system piping and appurtenances (irrigation heads, spray nozzles), and control wiring. Contractor shall complete the repair and restoration of damaged facilities within two (2) calendar days of the damage.

- B. The Contractor shall determine any conflicts between existing utilities, or other structures or facilities, with the alignment or gradient of the proposed work, and report such conflicts to the District, sufficiently in advance of his construction operations so that proper adjustments in the alignment or gradient of the proposed work may be planned by the District to avoid such conflicts. The District shall not be liable for any cost or added expenses to the Contractor for delays, or for the necessary adjustment of previously installed work to avoid such conflicts, due to the Contractor's failure to advise the District of such conflicts adequately in advance of his construction operations.

## 1.03 SILTATION AND BANK EROSION

- A. The Contractor shall take adequate precautions as directed by Engineer and/or regulatory agencies to minimize siltation and bank erosion in the vicinity of wetlands or coastline, in discharging well point systems, or during other activities (including flushing of mains).

#### 1.04 STORAGE OF MATERIALS

- A. Coordinate with Palm Beach County, Town of Jupiter, Florida East Coast Railway LLC and private property owners to identify and utilize storage area(s), and agree to terms and conditions for use of the area to mobilize, and to store materials and equipment.
- B. All materials, supplies and equipment intended for use in the work shall be suitably stored by the Contractor to prevent damage from exposure, admixture with foreign substances, or vandalism or other cause. The District will refuse to accept, or sample for testing, materials, supplies or equipment that have been improperly stored, as determined by the Engineer. Materials found unfit for use shall not be incorporated in the work and shall immediately be removed from the construction or storage site.
  - 1. Delivered materials shall be stored in a manner acceptable to the Engineer before any payment for same will be made.
- C. When storing materials on private property, the Contractor shall submit in writing the property owner's authorization to do so and provide any and all permits that may be required at no expense to the District.

#### 1.05 PRESERVATION OF PROPERTY

- A. The Contractor shall preserve from damage all property along the line of the work, or which is in the vicinity of or is in any way affected by the work, the removal or destruction of which is not called for by the work. Wherever such property is damaged due to the activities of the Contractor, it shall be immediately restored to its original condition by the Contractor at no cost to the District.

#### 1.06 CLEAN UP

- A. The Contractor shall keep the work site free of rubbish and other materials and restore to their original conditions those portions of the site not designated for the alteration by the Contract Documents. Clean up and restoration shall be accomplished daily throughout the contract period and in such a manner as to maintain a minimum of nuisance and interference to the general public and residents in the vicinity of the work.
- B. The Contractor shall also remove, when no longer needed, all temporary structures and equipment used in his operation. It is the intent of this Specification that the construction areas and those other areas not designated for alteration by the Contract Documents shall be immediately restored to original condition. All clean up is subject to approval by the District.

1.07 PUBLIC SAFETY AND CONVENIENCE

- A. The Contractor shall at all times so conduct his work as to ensure the least possible obstruction to traffic, or inconvenience to the general public and residents in the vicinity of the work. No road or street shall be closed to the public, except with the permission of the District, Palm Beach County, FDOT and appropriate Police and Fire Department. Fire hydrants on or adjacent to the work shall be kept accessible. Provisions shall be made by the Contractor to ensure public access to sidewalks, public telephones, and the proper functioning of all gutters, sewer inlets, drainage ditches, and irrigation ditches. No open excavation shall be left overnight. All open excavation within the roadway shall be protected with steel plating.

1.08 SAFETY AND OSHA COMPLIANCE

- A. The Contractor shall comply in all respects with all Federal, State and Local safety and health regulations. Copies of the Federal regulations may be obtained from the U.S. Department of Labor, Occupation Safety and Health Administration (OSHA), Washington, DC 20210 or their regional offices.
- B. The Contractor shall comply in all respects with the applicable Workman's Compensation Law.

1.09 CONTRACTOR'S USE OF PREMISES

- A. Coordinate use of premises under direction of the District. Submit in writing authorization to use the premises and provide any and all permits that may be required at no expense to the District.
- B. Assume full responsibility for the protection and safekeeping of equipment and materials stored on the site.

1.10 SALVABLE MATERIALS

- A. All salvable pipe fittings, valve boxes, or other miscellaneous materials removed during the work and not used in the work shall be cleaned and delivered to the District maintenance facility office, at the Contractor's expense, and shall remain the property of the District. All other materials shall be disposed of by the Contractor at his own expense. No separate payment for this work shall be allowed.
- B. Clean fill generated from the construction shall be delivered to a site as designated by the District, or disposed of by the Contractor at his own expense. No separate payment for this work shall be allowed.

**PART 2 - PRODUCTS (NOT USED)**

**PART 3 - EXECUTION (NOT USED)**

END OF SECTION

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**SECTION 01025  
MEASUREMENT AND PAYMENT**

**PART 1 - GENERAL**

1.01 GENERAL

- A. The Contractor shall receive and accept the compensation provided in the Proposal and the Contract as full payment for performing all operations necessary to complete the work under the Contract, and also in full payment for all loss or damages between the actual quantities of work and quantities herein estimated by the Engineer, or from the action of the elements or from any unforeseen difficulties which may be encountered during the prosecution of the work until the final acceptance by the Owner. The Contractor shall be responsible for conforming to all permit conditions as required by all governing agencies including, but not limited to, the Palm Beach County Health Department, Army Corps of Engineers, Palm Beach County, and the Town of Jupiter, Florida.,
- B. Each of the prices for the individual items stated in the Proposal include all costs and expenses for taxes, labor, supervision, administration, equipment, materials, commissions, transportation charges and expenses, patent fees and royalties, labor for handling materials during inspection, together with any and all other costs and expenses for performing and completing the work as shown on the Plans and specified herein. The basis of payment for an item at the unit price shown in the Proposal shall be in accordance with the description of that item in this Section.
- C. The Contractor's attention is again called to the fact that the quotations for the various items of work are intended to establish a total price for completing the work in its entirety. Should the Contractor feel that the cost for any item of work has not been established by the Bid Form or Payment Items, he shall include the cost for that work in some other applicable bid item, so that his proposal for the project does reflect his total price for completing the work in its entirety.
- D. The District reserves the right to increase or decrease the quantities of work to be paid for at the stated unit price, whichever it deems to be in the best interest of the District.
- E. All required manufacturer testing and certification shall be included in the unit prices shown in the proposal and Contract. Density testing required for compacted backfilling, and concrete strength and materials testing required at the time of construction shall be arranged for by Contractor and paid for by the District. Water quality monitoring testing required for the dewatering permit shall be arranged for by the Contractor and paid for by the District.
- F. Any items not shown or omitted that are required for a complete installation shall be



furnished and installed by the Contractor at no additional cost to the Owner.

- G. Payment for repair and/or replacement of existing utilities will be included in the unit price bid or the lump sum bid amount for the related new construction bid item.
- H. The bids for the work are intended to establish a total cost for the work in its entirety. Should the Contractor feel that the cost for the work has not been established by specific items in the Bid Forms, include the cost for that work in some related bid item so that the Proposal for the project reflects the total cost for completing the work in its entirety.

## **PART 2 - MATERIAL (NOT USED)**

## **PART 3 - EXECUTION**

### **3.01 MEASUREMENT AND PAYMENT**

- A. The quantities for payment under this Contract shall be determined by actual measurement of the completed items, in place, ready for service and accepted by the Owner, in accordance with the applicable method of measurement therefore contained herein unless otherwise stated. A representative of the Contractor shall witness all field measurements.
- B. Payment for all work completed under this Contract shall be in accordance with the provisions of the Contract and upon the basis of specific provisions of this Section of the Contract Documents. The bid items for furnishing and installing work under the Contract shall include full compensation for completing all activities not limited to selling, delivery, construction, testing and restoration, within the limits of right-of-way to right-of-way, and work areas outside of the right-of-way.

### **3.02 PAYMENT ITEMS**

## ***GENERAL CONDITIONS***

- A. **Mobilization/Demobilization, Insurance and Bonds – Bid Item No. 1**
  - 1. Payment for mobilization/demobilization, bonds, insurance, scheduling, temporary facilities, permits and all other activities necessary will be made at the Contract Lump Sum (LS) bid price for this item, which price shall be full compensation for all materials, labor, equipment, tools and all other incidentals necessary to complete this item.
  - 2. For mobilization/demobilization the lump sum cost shall include, but not limited to, those operations necessary for the movement of personnel, equipment, permit fees, school site access badge fees, pay requisitions,

meetings, coordination with contractors, and sub-contractors which may or may not be on this site, meetings with residents and/or government agencies, supplies and incidentals to the project site and to maintain services (mail, trash, etc.). The cost of bonds, insurance, survey layout, and clean up of site, shall also be included in this item. The cost of supervision and/or administration of the project shall be deemed to be included in each of the respective items of work bid herein.

3. **Payment item for mobilization/demobilization, insurance and bonds shall not exceed eight percent (8%) of the contract price. Should the bid price for mobilization, insurance and bonds exceed 8% of the Contract amount, any amount over the 8% will be paid with the Contractor's final payment application.**

**B. Maintenance of Traffic – Bid Item No. 2**

1. Payment for maintenance of traffic will be made at the Contract Lump Sum (LS) bid price for this item, which price shall be full compensation for all materials, labor, equipment, tools and all other incidentals necessary to complete this item.
2. It shall be the Contractor's responsibility to provide all necessary permits and traffic devices to maintain traffic during construction. Traffic devices may be in the form of barricades, personnel, lights, signs, temporary rock roadways, construction and removal of temporary access driveways to residential homes, commercial material for driveway maintenance, etc. The quantity of traffic control to be considered for payment shall be equivalent to the percentage of the project determined by the Engineer to be complete as the day of the pay request submitted. The percent completion of the project shall be based on the percent of the total project actually constructed and not on the percent of the contract price completed.
3. All work shall be in accordance with all applicable Florida Department of Transportation specifications, and in accordance with the governing municipalities (Palm Beach County) and other governing agencies. The MOT plan shall address the Contractor's plan for maintaining access to the homeowner's driveways during all phases of the project.
4. Contractor shall be responsible for coordinating with Palm Beach County Fire and Rescue and Palm Beach County School District as related to this project and any special access requirements that they may need.
5. Refer to Specification Section 01570.

**C. Audio-Video Documentation – Bid Item No. 3**

1. Payment for this item will be made at the Contract Lump Sum (LS) bid price for this item.

2. The Contractor shall provide, prior to start of construction, a video record of the entire project by a professional audio-video taping service acceptable to the Owner. The video shall include all roadways, sidewalks, Contractor's staging area, outside face of houses (front), driveways, walls, fences, landscaping area, wetland areas, etc. for each side of the streets. The audio-video should extend from right-of-way to right-of-way and 10' beyond. The entire lift station site(s) including existing wetlands shall also be videoed. Two (2) copies of the video (DVD format) shall be provided to the District for their use prior to construction activities.
3. Refer to Specifications Section 01360 for detailed description of suggested taping requirements.
4. A Professional Video Taping Company must be used for this work.

D. **NPDES Permit / Erosion Protection Measures / Short-Term Dewatering – Bid Item No. 4**

1. Payment for Contractor required NPDES Permit application (Notice of Intent and Notice of Termination), reporting by a person holding a certification as an FDEP NPDES Construction Site Inspector, and associated erosion protection measures including turbidity abatement for short-term dewatering procedures will be made at the Contract Lump Sum Price (LS) Bid for this item. The percent completion of the project shall be based on the percent of the total project actually constructed and not on the percent of the Contract price completed.
2. Refer to Specification Section 02150.
3. This item includes all silt fencing and/or other required BMP protected devices.

***FORCE MAIN***

A. **Inspection Access Pit (20'x10') and Restoration – Bid Item No. 5**

1. Payment for this item shall be on a Contract Unit (EA) basis.
2. The Unit Price (EA) bid for this item for the Inspection Access Pits as shown on the Drawings and specified shall be full compensation for all work, labor, materials, and equipment to obtain access to the pipeline, including dewatering. This includes all shoring and sheeting required.
3. This item includes all restoration work to return the site to its original condition.

B. **Access to Existing 24" Force Main – Bid Item No. 6**

1. The Unit Price (EA) bid for this item shall be full compensation for the furnishing and installation of force main connections as required for pipeline

televising and non-destructive testing inspection including all adapter fittings, valves, glands, bolts, gaskets and restraining devices, all restoration work and all appurtenances and miscellaneous items of work required.

2. The number of connections to be paid for will be determined by the actual number of units installed and accepted but excluding all other separate bid items.

C. **Cleaning Existing 24" Force Main – Bid Item No. 7**

1. The Contract Lump Sum (LS) bid for this item shall be full compensation for the all work, labor, materials and equipment to clean the pipeline as required for the closed circuit televising and non-destructive testing, including the coordinating and obtaining the water for the flushing, pigging and/or jetting of the pipe.
2. This item also includes disposal of removed debris at a location approved by the District.

D. **Closed Circuit Television Inspection of 24" Force Main– Bid Items No. 8**

1. Ductile iron pipe to be inspected includes a pipe diameter of 24-inch. Payment for performing the closed circuit television inspection and production of the detailed report at the Contract Lump Sum (LS) Bid for this item. The footage shall be horizontal distance measured by the close circuit television inspection equipment and recorded in the detailed report. All visible deficiencies shall be recorded.
2. The report shall classify the type of deficiencies and the relative magnitude of any leakage, root intrusion, etc. observed.
3. Payment includes all coordination necessary to control wastewater flows, labor, material, cleaning, removal of debris, and equipment necessary to televise the force main in accordance with the Drawings and Specifications.
4. This item also includes disposal of de at a location approved by the District.

E. **Non-Destructive Testing of 24" Force Main – Bid Item No. 9**

1. Ductile iron pipe to be inspected includes a pipe diameter of 24-inch. Payment for performing the non-destructive inspection and production of the detailed inspection report shall be at the Contract Lump Sum (LS) Bid for this item. The footage shall be horizontal distance measured by the inspection equipment or based off the closed circuit television (CCTV) inspection footage and recorded in the detailed report. All identified deficiencies shall be recorded.
2. The report shall classify the type of deficiencies, identified structural and

construction features, pipeline corrosion and wall thickness evaluation, repair and rehabilitation locations, and geographical information as specified.

3. This item also includes all necessary labor, materials, and equipment to perform cleaning, debris removal and disposal, pipeline entry point, non-destructive instrument deployment and extraction as needed to perform the inspection.
4. Payment includes all coordination necessary to control wastewater flows, labor, material, cleaning, removal of debris, and equipment necessary to clean the force main for inspection in accordance with the Drawings and Specifications.

END OF SECTION

# **SECTION 01041 PROJECT COORDINATION**

## **PART 1 - GENERAL**

### 1.01 REQUIREMENTS INCLUDED

- A. Engineer will coordinate the work between Prime Contractors as required.
- B. The Contractor shall:
  - 1. Coordinate work of his [own] employees and subcontractors.
  - 2. Expedite his work to assure compliance with schedules.
  - 3. Comply with orders and instructions of Engineer.

### 1.02 RELATED REQUIREMENTS

- A. Section 01152: Applications for Payment
- B. Section 01300: Submittals
- C. Section 01310: CPM Construction Schedule Requirements
- D. Section 01500: Construction Facilities and Temporary Controls
- E. Section 01700: Contract Closeout
- F. Section 02732: Closed Circuit Television Inspection of Sewer Pipe
- G. Section 02736: Non-Destructive Ductile Iron Force Main Inspection

### 1.03 WORK ORGANIZATION AND START-UP

- A. Engineer shall establish on-site lines of authority and communications:
  - 1. Schedule and conduct pre-construction meeting and progress meetings as specified in Section.
  - 2. Establish procedures for [intra-project communications]:
    - a. Submittals
    - b. Reports and records
    - c. Recommendations

- d. Schedules
- e. Resolution of conflicts
- 3. Interpret Contract Documents:
  - a. Transmit written interpretations to [Prime] Contractors, and to other concerned parties.
- 4. Assist in obtaining permits and approvals:
  - a. Verify that Contractor[s] and subcontractors have obtained inspections for Work and for temporary facilities.

#### 1.04 CONTRACTOR'S DUTIES

- A. Construction Schedules:
  - 1. Prepare a detailed schedule of basic operations.
  - 2. Monitor schedules as work progresses:
    - a. Identify potential variances between scheduled and probable completion dates or each phase.
    - b. Recommend to District adjustments in schedule to meet required completion dates.
    - c. Document changes in schedule; submit to District, Engineer and to involved subcontractors.
  - 3. Observe work of each subcontractor to monitor compliance with schedule.
    - a. Verify that labor and equipment are adequate for the work and the schedule.
    - b. Verify that product procurement schedules are adequate.
    - c. Verify that product deliveries are adequate to maintain schedule.
    - d. Report noncompliance to Engineer, with recommendation for changes.
- B. Process Shop Drawings, Product Data and Samples:
  - 1. Prior to submittal to Engineer, review for compliance with Contract Documents:
    - a. Field dimensions and clearance dimensions.
    - b. Relation to available space.
    - c. Effect of any changes on the work of any subcontractor.
- C. Maintain Reports and Records at Job Site, available to Engineer and District.

1. Daily log of progress of work.
2. Records
  - a. Contracts
  - b. Purchase orders
  - c. Materials and equipment records
  - d. Applicable handbooks, codes and standards
3. Maintain file of record documents

#### 1.05 CONTRACTOR'S CLOSEOUT DUTIES

- A. At completion of Work, conduct an inspection to assure that:
  1. Specified cleaning has been accomplished.
  2. Temporary facilities have been removed from site.
- B. Substantial Completion:
  1. Conduct an inspection to develop a list of Work to be completed or corrected.
  2. Assist Engineer in inspection.
  3. Supervise correction and completion of work of subcontractors.

#### 1.06 ENGINEER'S CLOSEOUT DUTIES

- A. Final Completion:
  1. When Contractor determines that Work is finally complete, conduct an inspection to verify completion of Work.
- B. Administration of Contract closeout:
  1. Receive and review contractor's final submittals.
  2. Transmit to District with recommendations for action.

### **PART 2 - PRODUCTS (NOT USED)**

### **PART 3 - EXECUTION (NOT USED)**

END OF SECTION



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## **SECTION 01042 PROJECT MEETINGS**

### **PART 1 - GENERAL**

#### **1.01 ENGINEER RESPONSIBILITIES**

- A. Engineer shall schedule and administer a pre-construction meeting, periodic progress meetings, and specially called meetings throughout progress of the work. Engineer will conduct the following:
  - 1. Prepare agenda for meetings.
  - 2. Distribute written notice of each meeting four days in advance of meeting date.
  - 3. Make physical arrangements for meetings.
  - 4. Preside at meetings.
  - 5. Record the minutes; include significant proceedings and decisions.
  - 6. Reproduce and distribute copies of minutes within three days after each meeting.
    - a. To participants in the meeting.
    - b. To parties affected by decisions made at the meeting.
- B. Representatives of contractors, subcontractors and suppliers attending meetings shall be qualified and authorized to act on behalf of the entity each represents.

#### **1.02 RELATED REQUIREMENTS**

- A. Section 01300: Submittals
- B. Section 01700: Contract Closeout

#### **1.03 PRE-CONSTRUCTION MEETING**

- A. The preconstruction meeting shall be scheduled within 10 days after effective date of the Contract.
- B. A central site for the meeting, convenient for all parties, shall be designated by the District.
- C. The following shall attend:

1. District's representatives.
2. Contractor's superintendent.
3. Contractor's safety officer.
4. Major subcontractors.
5. Representatives from various utilities.
6. Others as appropriate and approved by the District.

D. The suggested agenda shall be as follows:

1. Distribution and discussion of:
  - a. List of major subcontractors and suppliers.
  - b. Projected construction schedules.
2. Critical work sequencing.
3. Major equipment deliveries and priorities.
4. Project coordination and designation of responsible personnel.
5. Procedures and processing of:
  - a. Field decisions.
  - b. Proposal requests.
  - c. Submittals.
  - d. Change orders.
  - e. Applications for payment.
6. Adequacy for distribution of Contract Documents.
7. Procedures for maintaining Record Documents.
8. Use of premises.
  - a. Office, work, and storage areas.
  - b. District's requirements.
9. Construction facilities, controls, and construction aids.
10. Temporary utilities.
11. Safety and first-aid procedures.
12. Security procedures.
13. Housekeeping procedures.

14. Emergency phone numbers.
15. Miscellaneous.

1.04 PROGRESS MEETINGS

- A. Engineer shall schedule regular periodic (monthly) meetings.
- B. Progress meetings shall be held a location as directed by the District.
- C. The following shall attend:
  1. District representatives
  2. Other representatives
  3. Contractor's superintendent
  4. Contractor's safety officer
  5. Subcontractors as appropriate to the agenda
  6. Suppliers as appropriate to the agenda
  7. Others
- D. The suggested agenda shall be as follows:
  1. Review, approval, of minutes of previous meeting.
  2. Review of work progress since previous meeting.
  3. Field observations, problems, conflicts.
  4. Problems which impede construction schedule.
  5. Review of off-site fabrication delivery schedules.
  6. Corrective measures and procedures to regain projected schedule.
  7. Revisions to construction schedule.
  8. Progress, schedule, during succeeding work period.
  9. Coordination of schedules.
  10. Review of submittal schedules; expedite as required.
  11. Maintenance of quality standards.
  12. Pending changes and substitutions.
  13. Review proposed changes for:

- a. Effect on construction schedule and on completion date.
  - b. Effect on other contracts relating to the project.
- 14. Review of record drawings.
  - 15. Other business.

**PART 2 - PRODUCTS (NOT USED)**

**PART 3 - EXECUTION (NOT USED)**

END OF SECTION

## **SECTION 01050 MOBILIZATION**

### **PART 1 - GENERAL**

#### 1.01 REQUIREMENTS INCLUDED

- A. This section covers the work necessary for the movement of personnel, equipment, supplies and incidentals, the establishment and removal of temporary offices and the maintaining of services (mail, trash, & etc.), bonds, insurance, traffic control, survey layout, and site clean up.

### **PART 2 - PRODUCTS**

#### 2.01 GENERAL

- A. Provide all materials and equipment required to accomplish the work as specified.

### **PART 3 - EXECUTION**

#### 3.01 MAINTAIN SERVICES

- A. Maintain postal services facilities in accordance with the requirements of the U.S. Postal Service. Move mailboxes to temporary locations designated by the Postal Service, and upon completion of work in each area, replace them in their original location in accordance with Postal Service Regulations.
- B. Maintain trash pickup facilities in accordance with the requirements of the Palm Beach County Solid Waste Authority. Move trash pickup to temporary locations designated by the Solid Waste Authority, and upon completion of work in each area, notify the Solid Waste Authority that normal pickups may resume.

#### 3.02 TRAFFIC CONTROL

- A. Traffic Routing:
  - 1. Prior to starting work at project site, Contractor shall submit traffic routing plans in accordance with Florida Department of Transportation Standards, to the District, and to the Engineer, for review showing:
    - a. Sequences of construction affecting the use of roadways.
    - b. Time required for each phase of work.

- c. Provisions for decking over excavations or phasing of operations, or a combination of both methods, to provide necessary access.
    - d. Signing, barricading, and striping to provide:
      - 1) Passages for pedestrians.
      - 2) Number and width of vehicular lanes over and adjacent to trenches and other excavations.
  - 2. Contractor shall comply with the requirements of Palm Beach County and the FDOT for traffic regulations and road constructions.
- B. Signs and Equipment:
  - 1. Furnish at the site, or convenient to and immediately available to the site, the following signs and equipment:
    - a. Barricades, as required by FDOT, in sufficient quantity to safeguard the public and the work.
    - b. Portable "TOW-AWAY - NO STOPPING" signs, placed where approved by police department and District.
    - c. Traffic cones, to delineate traffic lanes to guide and separate traffic movements.
  - 2. Signs and equipment shall conform to requirements of the FDOT.
- C. Traffic Safety and Access:
  - 1. Comply with rules and regulations of the city, county, and state authorities regarding closing or restricting the use of public streets or highways. No public or private road shall be closed, except by written permission of the proper authority. Assure the least possible obstruction to traffic.
  - 2. Provide temporary access driveways where required.
  - 3. Provide signs, signals, cones, barricades and trained flagmen to direct traffic in and around the construction site in accordance with Florida Department of Transportation Work Zone Traffic Control Standards.
  - 4. Notify the fire department and police department before closing any street or portion thereof. Notify said departments when the streets are again passible for emergency vehicles. Conduct operations with the least interference to fire equipment access, and at no time prevent such access.

### 3.03 CLEANUP

- A. Progress Cleaning
  - 1. Maintain all construction areas free of waste materials, debris, and rubbish. Maintain all sites in a clean and orderly condition.

2. To prevent dust periodically water bare soil, unpaved streets, roads, detours, and haul roads.
  3. Broom and vacuum clean areas prior to start of surface finishing, and continue cleaning to eliminate dust.
  4. Remove waste materials, debris, and rubbish from site weekly and dispose of at approved location.
  5. Always keep roadways, sidewalks and bicycle paths clear of construction debris and trash.
- B. Upon completion and acceptance of work, remove from the site all equipment and all debris, unused materials, temporary facilities, and other miscellaneous items resulting from or used in the operations. Replace or repair any facility which has been damaged during construction work. Restore the site to the original condition or better.

END OF SECTION



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## **SECTION 01090 REFERENCE STANDARDS**

### **PART 1 - GENERAL**

#### 1.01 REQUIREMENTS INCLUDED

- A. Abbreviation and acronyms used in Contract Documents to identify reference standards.

#### 1.02 QUALITY ASSURANCE

- A. Application: When a standard is specified by reference, comply with requirements and recommendations stated in that standard, except when requirements are modified by the Contract Documents, or applicable codes establish stricter standards.
- B. Publication Date: The publication in effect on the date of issue of Contract Documents, except when a specific publication date is specified.

#### 1.03 ABBREVIATIONS, NAMES, AND ADDRESSES OR ORGANIZATIONS

- A. Obtain copies of referenced standards direct from publication source, when needed for proper performance of Work, or when required for submittal by Contract Documents.

AA	Aluminum Association 818 Connecticut Avenue, N.W. Washington, DC 20006
AABC	Associated Air Balance Council 1000 Vermont Avenue, N.W. Washington, DC 20005
AASHTO	American Association of State Highway & Transportation Officials 444 North Capitol Street, N.W. Washington, DC 20001

ACI	American Concrete Institute Box 19150 Redford Station Detroit, MI 48219
ADC	Air Diffusion Council 435 North Michigan Avenue Chicago, IL 60611
AI	Asphalt Institute Asphalt Institute Building College Park, MD 20740
AISC	American Institute of Steel Construction 1221 Avenue of the Americas New York, NY 10020
AISI	American Iron and Steel Institute 1000 16th Street, N.W. Washington, DC 20036
AMCA	Air Movement and Control Association 30 West University Drive Arlington Heights, IL 60004
ANSI	American National Standards Institute 1430 Broadway New York, NY 10018
ARI	Air-Conditioning and Refrigeration Institute 1815 North Fort Myer Drive Arlington, VA 22209
ASHRAE	American Society of Heating, Refrigerating & Conditioning Engineers 345 East 47th Street New York, NY 10017
ASME	American Society of Mechanical Engineers 345 East 47th Street New York, NY 10017

ASPA	American Sod Producers Association Association Building Ninth and Minnesota Hastings, NE 68901
ASTM	American Society of Testing & Materials 1916 Race Street Philadelphia, PA 19103
AWWA	American Water Works Association 6666 W. Quincy Avenue Denver, CO 80235
AWI	Architectural Woodwork Institute 2310 South Walter Reed Drive Arlington, VA 22206
AWPA	American Wood-Preserver's Association 7735 Old Georgetown Road Bethesda, MD 20014
AWS	American Welding Society 2501 NW 7th Street Miami, FL 33125
CDA	Cooper Development Association 57th Floor, Chrysler Building 405 Lexington Avenue New York, NY 10017
CLFMI	Chain Link Fence Manufacturers Institute 1101 Connecticut Avenue Washington, DC 20036
CRSI	Concrete Reinforcing Steel Institute 180 North LaSalle Street, Suite 2110 Chicago, IL 60601
MF	Factory Mutual System 1151 Boston Providence Turnpike Norwood, MA 02062

FS	Federal Specification General Services Administration Specifications and Consumer Information Distribution Section (WFSIS) Washington Navy Yard, Bldg. 197 Washington, DC 20407
GA	Gypsum Association 1603 Orrington Avenue Evanston, IL 60201
MIL	Military Specification Naval Publications and Forms Center 5801 Tabor Avenue Philadelphia, PA 19120
MLSFA	Metal Lath/Steel Framing Association 221 North LaSalle Street Chicago, IL 60601
NAAMM	National Association of Architectural Metal Manufacturers 221 North LaSalle Street Chicago, IL 60601
NASSCO	National Association of Sewer Service Companies 5285 Westview Drive Suite 202 Frederick, MD 21703
NEBB	National Environmental Balancing Bureau 8224 Old Courthouse Road Vienna, VA 22180
NEMA	National Electrical Manufacturer's Association 2101 L Street, N.W. Washington, DC 20037
NFPA	National Fire Protection Association 470 Atlantic Avenue Boston, MA 02210
NFPA	National Forest Products Association 1619 Massachusetts Avenue, N.W. Washington, DC 20036
NTMA	National Terrazzo and Mosaic Association

	3166 Des Plains Avenue Des Plains, IL 60018
PCA	Portland Cement Association 5420 Old Orchard Road Skokie, IL 20076
PCI	Prestressed Concrete Institute 20 North Wacker Drive Chicago, IL 60606
PS	Product Standard U.S. Department of Commerce Washington, DC 20203
SDI	Steel Deck Institute Box 3812 St. Louis, MO 63122
SDI	Steel Door Institute 712 Lakewood Center North Cleveland, OH 44107
SIGMA	Sealed Insulating Glass Manufacturers Association 111 East Wacker Drive Chicago, IL 60601
SJI	Steel Joist Institute 1703 Parham Road, Suite 204 Richmond, VA 23229
SMACNA	Sheet Metal and Air Conditioning Contractors' National Association 8224 Old Court House Road Vienna, VA 22180
TAS	Technical Aid Series Construction Specifications Institute 1150 Seventeenth Street, N.W. Washington, DC 20036

TCA Tile Council of America, Inc.  
Box 326  
Princeton, NJ 08540

UL Underwriter's Laboratories, Inc.  
333 Pfingston Road  
Northbrook, IL 60062

**PART 2 - PRODUCTS (NOT USED)**

**PART 3 - EXECUTION (NOT USED)**

END OF SECTION

**SECTION 01152**  
**APPLICATION FOR PAYMENT**

**PART 1 - GENERAL**

1.01 REQUIREMENTS INCLUDED

- A. Submit Applications for Payment to Engineer in accordance with the schedule established by Conditions of the Contract and herein.

1.02 RELATED REQUIREMENTS

- A. Agreement Between District and Contractor: Lump Sum and Unit Price.
- B. Conditions of the Contract: Progress Payments, Retainage and Final Payment.
- C. Section 01153: Change Order Procedures.
- D. Section 01370: Schedule of Values.
- E. Section 01700: Contract Closeout.

1.03 FORMAT AND DATA REQUIRED

- A. Submit applications in the form required by District, with itemized data typed on 8½ x 11-inch white paper continuation sheets.
- B. Provide itemized data on continuation sheet:
  - 1. Format, schedules, line items and values: Those of the Schedule of Values accepted by Engineer.

1.04 PREPARATION OF APPLICATION FOR EACH PROGRESS PAYMENT

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



- B. Continuation Sheets:
  - 1. Fill in total list of all scheduled component items of work, with item number and scheduled dollar value for each item.
  - 2. Fill in dollar value in each column for each scheduled line item when work has been performed or products stored.
    - a. Round off values to nearest dollar, or as specified for Schedule of Values.
  - 3. List each Change Order executed prior to date of submission at the end of the continuation sheets.
    - a. List by Change Order Number, and description, as for an original component item of work.

1.05 SUBSTANTIATING DATA FOR PROGRESS PAYMENTS

- A. When the District or the Engineer requires substantiating data, Contractor shall submit suitable information, with a cover letter identifying:
  - 1. Project
  - 2. Application number and date.
  - 3. Detailed list of enclosures.
  - 4. For stored products:
    - a. Item number and identification as shown on application.
    - b. Description of specific material.
- B. Submit one copy of data and cover letter for each copy of application.

1.06 PREPARATION OF APPLICATION FOR FINAL PAYMENT

- A. Fill in Application form as specified for progress payments.
- B. Use continuation sheet for presenting the final statement of accounting as specified in Section 01700 - Contract Closeout.

1.07 SUBMITTAL PROCEDURE

- A. Submit Applications for Payment to Engineer at the times stipulated.
- B. Number: Six (6) copies of Application.

- C. When Engineer finds Application properly completed and correct, he will transmit certificate for payment to District, with copy to Contractor.

**PART 2 - PRODUCTS (NOT USED)**

**PART 3 - EXECUTION (NOT USED)**

END OF SECTION

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## **SECTION 01153 CHANGE ORDER PROCEDURES**

### **PART 1 - GENERAL**

#### **1.01 REQUIREMENTS INCLUDED**

- A. Promptly implement change order procedures.
  - 1. Provide full written data required to evaluate changes.
  - 2. Maintain detailed records of work done on time and material/force account basis.
  - 3. Provide full documentation to Engineer on request.
- B. Designate in writing the member of Contractor's organization:
  - 1. Who is authorized to accept changes in the Work.
  - 2. Who is responsible for informing others in the Contractor's employ of the authorization of changes in the Work.
- C. District will designate in writing the person who is authorized to execute Change Orders.

#### **1.02 RELATED REQUIREMENTS**

- A. Agreement: The amounts of established unit prices.
- B. Special Conditions and General Conditions.
- C. Conditions of the Contract:
  - 1. Methods of determining cost or credit to District resulting from changes in Work made on a time and material basis.
  - 2. Contractor's claims for the additional cost.
- D. Section 01152 entitled: Application for Payment.
- E. Section 01310 entitled: CPM Construction Schedule Requirements.
- F. Section 01370 entitled: Schedule of Values.
- G. Section 01700 entitled: Contract Closeout.

### 1.03 DEFINITIONS

- A. Change Order: See Special Conditions and General Conditions.
- B. Construction Change Authorization: A written order to the Contractor, signed by District and Engineer, which amends the Contract Documents as described, and authorizes Contractor to proceed with a change which affects the Contract Sum or the Contract Time, for inclusion in a subsequent Change Order.
- C. Field Order: A written order, instructions, or interpretations, signed by Engineer making minor changes in the Work not involving a change in Contract Sum or Contract Time.

### 1.04 PRELIMINARY PROCEDURES

- A. District or Engineer may initiate changes by submitting a Proposal Request to Contractor. Request will include:
  - 1. Detailed description of the Change, products, and location of the change in the Project.
  - 2. Supplementary or revised Drawings and Specifications.
  - 3. The projected time span for making the change, and a specific statement as to whether overtime work is, or is not, authorized.
  - 4. A specific 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 Engineer, 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.

1.05 CONSTRUCTION-CHANGE AUTHORIZATION

- A. In lieu of Proposal Request, Engineer may issue a construction change authorization for Contractor to proceed with a change for subsequent inclusion in a Change Order.
- B. Authorization will describe changes in the Work, both additions and deletions, with attachments of revised Contract Documents to define details of the change, and will designate the method of determining any change in the Contract Sum and any change in Contract Time.
- C. District and Engineer will sign and date the Construction Change Authorization as authorization for the Contractor to proceed with the changes.
- D. Contractor shall sign and date the Construction Change Authorization to indicate agreement with the terms therein.

1.06 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 Engineer 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 sources 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, plus additional information:
  - 1. Name of District's authorized agent who ordered the work, and date of the order.
  - 2. Dates and times work was performed, and by whom.

3. Time record, summary of hours worked, and hourly rates paid.
4. Receipts and invoices for:
  - a. Equipment used, listing dates and times of use.
  - b. Products used, listing of quantities.
  - c. Subcontractors.
- D. Document requests for substitutions for Products as specified in Section 01630 – Substitutions and Product Options.

1.07 PREPARATION OF CHANGE ORDERS

- A. Engineer will prepare each Change Order.
- B. District's Form, per example provided by the Engineer.
- C. Change Order will describe changes in the Work, both additions and deletions, with attachments of revised Contract Documents to define details of the change.
- D. Change Order will provide an accounting of the adjustment in the Contract Sum and in the Contract Time.

1.08 LUMP-SUM/FIXED PRICE CHANGE ORDER

- A. Content of Change Orders will be based on, either;
  1. Engineer's Proposal Request and Contractor's responsive Proposal as mutually agreed between District and Contractor.
  2. Contractor's Proposal for a change, as recommended by Engineer.
- B. District and Engineer will sign and date the Change Order as authorization for the Contractor to proceed with the changes.
- C. Contractor shall sign and date the Change Order to indicate agreement with the terms therein.

1.09 UNIT PRICE CHANGE ORDER

- A. Content of Change Orders will be based on, either:
  1. Engineer's definition of the scope of the required changes.
  2. Contractor's Proposal for a change, as recommended by Engineer.
  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 District and Contractor.
  
- C. When quantities of each of the items affected by the Change Order can be determined prior to start of the work:
  - 1. District and Engineer will sign and date the Change Order as authorization for Contractor to proceed with the changes.
  - 2. Contractor shall sign and date the Change Order to indicate agreement with the terms herein.
  
- D. When quantities of the items cannot be determined prior to start of the work:
  - 1. Engineer or District will issue a construction change authorization directing Contractor to proceed with the change on the basis of unit prices, and will cite the applicable unit prices.
  - 2. At completion of the change, Engineer will determine the cost of such work based on the unit process and quantities used.
    - a. Contractor shall submit documentation to establish the number of units of each item and any claims for a change in Contract Time.
  - 3. Engineer will sign and date the Change Order to establish the change in Contract Sum and in Contract Time.
  - 4. District and Contractor will sign and date the Change Order to indicate their agreement with the terms therein.

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

- A. Engineer and District will issue a Construction Change Authorization directing Contractor to proceed with the changes.
  
- B. At completion of the change, Contractor shall submit itemized accounting and supporting data as provided in the Article "Documentation of Proposals and Claims" of this Section.
  
- C. Engineer will determine the allowable cost for such work, as provided in General Conditions and Supplementary Conditions.
  
- D. Engineer will sign and date the Change Order to establish the change in Contract Sum and in Contract Time.



- E. District and Contractor will sign and date the Change Order to indicate their agreement therewith.

1.11 CORRELATION WITH CONTRACTOR'S SUBMITTALS

- A. Periodically revise Schedule of Values and Request 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.
  - 1. 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 01300 SUBMITTALS**

## **PART 1 - GENERAL**

### **1.01 REQUIREMENTS INCLUDED**

- A. Submittals include the preconstruction audio-video recording, traffic control plan, project schedule, shop drawings, product data and samples, and record documents including as-built drawings.

### **1.02 RELATED REQUIREMENTS**

- A. Definitions and additional responsibilities of parties: General Conditions of the Contract.
- B. Section 01390: Pre-Construction Audio-Video Documentation
- C. Section 01570: Traffic Control
- D. Section 01700: Contract Closeout
- E. Section 02140: Dewatering
- F. Section 02732: Preparatory Cleaning and Closed Circuit Television (CCTV) Inspection
- G. Section 02736: Non-Destructive Ductile Iron Force Main Inspection
- H. Section 02936: Sodding

### **1.03 SUBMITTAL PROCEDURES**

- A. Transmit each submittal with Engineer accepted form.
- B. Sequentially number the transmittal forms. Resubmittals to have original number with alphabetic suffix
- C. Identify Project, Contractor, Subcontractor or supplier; pertinent Exhibit sheet and detail number(s), and Technical Specification Section number, as appropriate.
- D. Reports and schedules shall be checked and coordinated with the work of all trades involved, before they are submitted for review by the Engineer and shall bear the Contractor's stamp of approval as evidence of such checking and coordination. Reports or schedules submitted without this stamp of approval shall be returned to

the Contractor for resubmission.

- E. Schedule submittals to expedite the Project, and deliver to Engineer at Baxter & Woodman, Inc., 477 S. Rosemary Ave., Suite 330, West Palm Beach, FL 33401 and allow 7 – 14 working days for review.
- F. Revise and resubmit submittals as required; identify all changes made since previous submittal.
- G. Distribute copies of reviewed submittals to concerned parties. Instruct parties to promptly report any inability to comply with provisions.
- H. Requirements in this Section are in addition any specific requirements for submittals specified in other Divisions and Sections of these Contract Documents.

#### 1.04 INSPECTION PROJECT SCHEDULES

- A. Submit six (6) copies of the initial progress schedule (Refer to Section 01310) within 10 days after date established in the Notice to Proceed for Engineer review.
- B. Revise and resubmit as required.
- C. Submit revised schedules with each Application for Payment, identifying changes since previous version.
- D. Submit computer generated network analysis diagram (Refer to Section 01310) using the Critical Path Method (CPM), generally as outlined in Associated General Contractors of America (AGC) publication “The Use of CPM in Construction – A Manual for General Contractors and the Construction Industry”.
- E. Show complete sequence of inspection by activity, identifying Work of separate stages and other logically grouped activities. Indicate the early and late start, early and late finish, float dates and duration.
- F. Indicated estimated percentage of completed for each item of Work at each submission.

#### 1.05 SHOP DRAWINGS

- A. Shop drawings shall be presented in a clear and thorough manner. Details shall be identified by reference to sheet and detail and schedule.
- B. Minimum sheet size shall be 8 ½ x 11 inches.

## 1.06 PRODUCT DATA AND SAMPLES

- A. Preparation
  - 1. Clearly mark each copy to identify pertinent products or models.
  - 2. Show performance characteristics and capacities.
  - 3. Show dimensions and clearances required.
  - 4. Show wiring or piping diagrams and controls.
- B. Manufacturer's standard schematic drawings and diagrams:
  - 1. Modify drawings and diagrams by deleting information which is not applicable to the work.
  - 2. Supplement standard information to provide information specifically applicable to the work.

## 1.07 ADDITIONAL SUBMITTALS

- 1. Submittal of the preconstruction audio-video recording, traffic control plan, and record documents are described in Sections 01360, 01570, and 01720, respectively.

## 1.08 CONTRACTOR'S RESPONSIBILITIES

- A. Review shop drawings, product data, and samples prior to submission.
- B. Determine and verify:
  - 1. Field measurements
  - 2. Field construction criteria
  - 3. Catalog numbers and similar data
  - 4. Conformance with specifications
- C. Coordinate each submittal with requirements of the work and of the Contract Documents.
- D. Notify the Engineer in writing, at the time of submission, of any deviations in the submittals from requirements of the Contract Documents.
- E. Begin no fabrication or work which requires approved submittals until return of submittals by the Engineer.
- F. Provide a submittal register listing all anticipated submittals.

## 1.09 SUBMISSION REQUIREMENTS

- A. Make submittals in such sequence as to cause no delay in the work.
- B. Number of submittals required:
  - 1. Shop drawings and product data: Submit **eight (8) copies** of each shop drawing submittal.
  - 2. Samples: Submit the quantity stated in each specification section.
- C. Submittals shall contain:
  - 1. The date of submission and the dates of any previous submissions.
  - 2. The project title and number.
  - 3. Contract identification.
  - 4. The names of:
    - a. Contractor
    - b. Supplier
    - c. Manufacturer
  - 5. Identification of the product, with the specification section number
  - 6. Field dimensions, clearly identified as such.
  - 7. Relation to adjacent or critical features of the work or materials.
  - 8. Applicable standards, such as ASTM or federal specification numbers.
  - 9. Identifications of deviations from Contract Documents.
  - 10. Identification of revisions on resubmittals.
  - 11. CONTRACTOR'S stamp initialed or signed, certifying review of submittal, verification of products, field measurements and field construction criteria, and coordination of the information within the submittal with requirements of the work and of Contract Documents.

## 1.10 RESUBMISSION REQUIREMENTS

- A. Make any corrections or changes in the submittals noted by the Engineer and resubmit unless otherwise noted.
- B. Shop drawings and product data:
  - 1. Revise initial drawings or data, and resubmit as specified for the initial submittal.

2. Indicate any changes which have been made other than those suggested by the Engineer.

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

#### 1.11 ENGINEER'S DUTIES

A. Review submittals within 14 working days or in accord with schedule.

B. Affix stamp and initials or signature, and indicate status of submittal.

C. Return submittals to Contractor for distribution, or resubmission.

D. Review initial submittals and one resubmittal. Resubmittals that cannot be approved will be returned. Additional resubmittals will be reviewed by the Engineer, and costs for time and materials for reviewing resubmittals will be back charged by the District to the Contractor.

#### 1.12 SUPPLEMENTS

A. The supplements listed below, following "END OF SECTION" are part of this specification.

1. Forms: Transmittal of Contractor's Submittal

### **PART 2 - PRODUCTS (NOT USED)**

### **PART 3 - EXECUTION (NOT USED)**

END OF SECTION

**TRANSMITTAL OF CONTRACTOR'S SUBMITTAL**  
(Attach to Each Submittal)

DATE: \_\_\_\_\_

**TO:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Submittal No.: \_\_\_\_\_

New Submittal      Resubmittal

Previous Submittal No.: \_\_\_\_\_

Project: \_\_\_\_\_

Project No. \_\_\_\_\_

Specification Section No.: \_\_\_\_\_

**FROM:** \_\_\_\_\_  
Contractor

**(Cover only one section with each transmittal)**

Schedule Date of Submittal: \_\_\_\_\_

SUBMITTAL TYPE:      Shop Drawing  
   Quality Control

Contract Closeout      "Or-Equal"/Substitute  
Sample

**The following items are hereby submitted:**

Number of Copies	Description of Item Submitted (Type, Size, Model Number, Etc.)	Spec. Para. No.	Drawing or Brochure Number	Contains Variation to Contract	
				No	Yes

CONTRACTOR hereby certifies that (i) CONTRACTOR has complied with the requirements of Contract Documents in preparation, review, and submission of designated Submittal and (ii) the Submittal is complete and in accordance with the Contract Documents and requirements of laws and regulations and governing agencies.

By: \_\_\_\_\_  
CONTRACTOR (Authorized Signature)

**SECTION 01310**  
**CPM CONSTRUCTION SCHEDULE REQUIREMENTS**

**PART 1 - GENERAL**

1.01 REQUIREMENTS INCLUDED

- A. This section covers the requirements for submittal of a critical path method (CPM) construction schedule and an associated schedule of values.
- B. Development of the schedule, the cost loading of the schedule, monthly payment requisitions, and project status reporting requirements of the contract shall employ computerized CPM scheduling. The CPM schedule shall be cost loaded based on the schedule of values or unit bid prices or combination thereof.

1.02 CPM PROGRAM

- A. Use PRIMAVERA (R) P6, or an equivalent computer software for the CPM schedule, as approved by the District's Representative. If software other than one of the programs named above is used, provide licensed copy and training to District's Representative

1.03 INITIAL SCHEDULE SUBMITTALS

- A. Submit two short-term schedule documents at the preconstruction conference and as described in the subsection on "Submittals" which shall serve as the Contractor's plan of operation for the initial 60-day period of the contract time and to identify the manner in which the Contractor intends to complete all work within the contract time. Submit (1) a 60-day narrative plan of operation, describing in detail narrative how contract operations will be conducted, and (2) a project overview bar-chart type plan for all work as indicated below.
  - 1. 60-Day Narrative Plan of Operation: During the initial 60 days of the contract time, conduct contract operations in accordance with the 60-day detail narrative and bar chart plan of operation. The bar chart shall show the accomplishment of the Contractor's early activities (mobilization items, permits, submittals necessary for early material and equipment procurement, submittals necessary for long lead equipment procurement, CPM submittals, initial site work, and other submittals and activities required in the first 60 days).
  - 2. Comprehensive Project Overview Bar Chart: The comprehensive overview bar chart shall indicate the major components of the project work and the sequence relations between major components and subdivisions of major components. The overview bar chart shall indicate the relationships and time frames in which the various components of the



work will be substantially complete and placed into service in order to meet the project milestones. Sufficient detail shall be included for the identification of subdivisions of major components into such activities as potholing, excavation, bedding and pipe installation, backfilling, surface restoration, tunneling, structures, relocations, improvements, and other important work for each major facility within the overall project scope. Indicate planned durations and start dates for each work item subdivision. Plot each major component and subdivision component on time scale sheets not to exceed 24 inches by 36 inches in size. Do not use more than four sheets to represent this overview information.

- B. The District's Representative and the Contractor shall meet to review and discuss the narrative 60-day plan of operations and project overview bar chart within 5 days after they have been submitted to the District's Representative. The District's Representative's review and comment on the schedules shall be limited to contract conformance (with the sequencing and interim duration requirements). Make corrections to the schedules necessary to comply with the contract requirements, and adjust the schedules to incorporate any missing information requested by the District's Representative.
- C. Satisfactory incorporation of the District's Representative's comments shall be a condition for progress payments.

#### 1.04 SUBMITTALS

- A. Within 3 calendar days of the Notice to Proceed, submit a written statement of CPM capability, verifying that the Contractor has qualified in-house personnel capable of using the CPM technique or that the Contractor employs a qualified CPM consultant. The statement shall identify the individuals who will perform the CPM scheduling and provide those individuals' detailed resumes. Capability shall be verified by detailed description of construction projects and references on which the individuals have successfully applied computerized CPM and shall include at least three projects of similar nature, scope, and value not less than one-half the total bid price of this project. The statement shall also provide the contact persons for the referenced projects with current telephone and address information.
- B. Submit an initial schedule within ten days of the date of Notice to Proceed. If revisions are required to this initially submitted schedule, resubmit a revised schedule within five calendar days after the Contractor receives the returned copy.
- C. Submit graphic network diagram and tabulated schedules within 30 days of the Notice to Proceed.
- D. Within 10 days after the conclusion of District's Representative's review, revise the network diagram and resubmit the network diagram and a tabulated schedule produced therefrom. The revised network diagram and tabulated schedule will be

reviewed and accepted or rejected by District's Representative within 15 days after receipt. The network diagram and tabulated schedule when accepted by District's Representative shall constitute the project work schedule unless a revised schedule is required due to substantial changes in the work or a change in contract time, delinquency by Contractor requiring a recovery schedule, or as otherwise provided herein below. Activities not occurring as scheduled are delinquent if they begin after early start or they finish after early finish.

- E. Submit a copy of the schedule, clearly showing progress made and actual "S" curves, on a monthly basis along with the Application for Payment.
- F. Schedule submittals to the District's Representative shall include eight hard copies and one electronic copy of a CPM-type construction schedule, generally as outlined in the Associated General Contractors Publication the Use of CPM in Construction.
- G. Submit a preliminary schedule of values for the major components of the work within three days of the Notice to Proceed.
- H. Prepare and submit a detailed schedule of values to the District's Representative within 30 days from the date of Notice to Proceed.

#### 1.05 PROJECT INFORMATION

- A. Each network diagram and report tabulation shall be prefaced with the following summary data:
  - 1. Project name.
  - 2. Contractor.
  - 3. Type of tabulation (initial or updated).
  - 4. Project duration.
  - 5. Project contract completion date.
  - 6. Projected completion date.
  - 7. Variance analysis per activity.

#### 1.06 GRAPHIC NETWORK DIAGRAM AND TABULATED SCHEDULES

- A. The completed schedule shall include a graphic network and tabulated schedules with the graphic network displayed on a sheet with a minimum size of 11 inches by 17 inches and a maximum size of 24 inches by 36 inches. The graphic network shall be the precedence diagram method (PDM). It may be divided into two or more sheets, if necessary, provided that all sheets are properly referenced. Notation on each activity arrow shall include a brief work description and an estimate of the time duration of the work. Show a calendar along the full length of

each sheet. Plot each activity so that the beginning and completion dates can be readily determined by comparison to the calendar scale. Show activities using symbols and/or color that clearly designate whether it is a critical path or noncritical activity. Noncritical path activities shall show estimated work time and free float time.

B. Float Time:

1. Definition: Unless otherwise provided herein, float as referenced in these documents is total float. Total float is the period of time measured by the number of working days each noncritical path activity may be delayed before it and its succeeding activities become part of the critical path. If a noncritical path activity is delayed beyond its float period, that activity then becomes part of the critical path and controls the end date of the project. Thus, the delay of the noncritical path activity beyond its float period will cause delay to the project itself.
2. Float Ownership: Neither the District nor the Contractor owns the float time. The project owns the float time. As such, liability for delay of the project completion date rests with the party actually causing delay to the project completion date. For example, if Party A uses some but not all of the float time and Party B later uses the remainder of the float time as well as additional time beyond the float time, Party B shall be liable for the costs associated with the time that represents a delay to the project's completion date. Party A would not be responsible for any costs since it did not consume all of the float time and additional float time remained; therefore, the project's completion date was unaffected.

C. Display time at the top of the schedule, reading left to right, with no greater than weekly divisions.

D. The schedule shall indicate dates for important activities including:

1. A logical succession of work from start to finish. This logical succession, when accepted, is the Contractor's work plan and is only designated as early start to accommodate standard computerized systems.
2. Detailed definition of each activity.
3. A logical flow of work crews/equipment (crews are to be defined by labor category and labor hours; equipment by type and hours).
4. Shop drawing submittals and reviews.
5. Decisions.
6. Product procurement and delivery.
7. Beginning and completion of each element of construction.
8. Critical coordination dates.
9. Submittal of record drawings and equipment manuals.

10. Cleanup, final inspection, etc.
  11. Any project milestones or phases of work that affect important dates, such as other parallel contracts.
- E. Submit:
1. Activity sort by early start, organized by related elements.
  2. Activity sort by float, organized by related elements.
  3. Activity sort by predecessor/successor.
  4. Narrative description of the logic and reasoning of the schedule.
  5. Resource allocation by activity.
  6. List of cost-loaded activities that identifies specific cost amount for each activity in the CPM schedule.
- F. Show constraints between interrelated activities.
- G. The initial schedule shall include the following minimum data for each activity:
1. Activity numbers.
  2. Estimated duration.
  3. Activity description.
  4. Early start date (calendar dated).
  5. Early finish date (calendar dated).
  6. Status (whether critical).
  7. Float.
  8. Cost of activity.
  9. Other resources including equipment hours by type, labor by craft or crew, and materials by units.
- H. Where float time exists in activities, show the activities with early start/early finish times.
- I. The schedule shall include a title block with the project title, the Contractor's business name, the date of submittal or revision, and the signature of the Contractor's authorized representative attesting to his review and accuracy of the submittal.
- J. The duration indicated for each activity shall be in calendar days and shall represent the single best time considering the scope of the work and resources planned for the activity including time for inclement weather. Except for certain non-labor activities, such as curing concrete or delivering materials, activity durations shall not exceed 14 days, be less than one day, or exceed \$50,000 in

value unless otherwise accepted by the District's Representative.

#### 1.07 CONSTRUCTION SCHEDULE PROGRESS

- A. If the Contractor's progress has fallen behind the accepted construction schedule, the Contractor shall take such steps as may be required, including increasing the number of personnel, shifts, overtime operations, days of work, and amount of construction equipment until such time as the work is back on schedule. Increased costs of any accelerated work program shall be paid for by the Contractor. Submit such recovery schedule within 10 days upon written request by District's Representative.

#### 1.08 ACCEPTANCE

- A. The finalized schedule will be acceptable to the District's Representative when it provides an orderly progression of the Work to completion in accordance with the contract requirements, adequately defines the Contractor's work plan, provides a workable arrangement for processing the submittals in accordance with the project specification requirements, and properly allocates resources (labor, equipment, and costs) to each activity (free of unbalances in resources). When the network diagram and tabulated schedule have been accepted, submit to District's Representative eight copies of the time scaled network diagram; eight copies of a computerized, tabulated schedule in which the activities have been sequenced by activity numbers; and eight copies of all reports required by this specification.
- B. Also submit a USB flash drive that contains all of the schedule submittal information. The disk shall contain data compatible with the specified CPM program to generate network diagrams and schedule reports identical to the hard copies submitted.
- C. Review of the Contractor's project schedule is for conformance to the requirements of the contract documents only. Review by the District's Representative of the Contractor's project schedule does not relieve the Contractor of any of its responsibility whatsoever for the accuracy or feasibility of the project schedule, or of the Contractor's ability to meet the interim milestone date(s) and the contract completion date, nor does such review and acceptance imply or expressly warrant, acknowledge, or admit the reasonableness of the logic, durations, labor, or equipment loading of the Contractor's project schedule.

#### 1.09 REVISIONS OR UPDATES TO CONSTRUCTION SCHEDULE

- A. Submit a revised or updated construction schedule by the third working day of each month. The data date shall be the 25<sup>th</sup> of the preceding month. Revise or update the schedule upon the occurrence of any of the following:
  - 1. When delay in completion of any activity or group of activities indicates

an overrun of the contract time or control point requirement by 10 working days or 10% of the remaining duration, whichever is less.

2. Delays in submittals, deliveries, or work stoppage are encountered which make re-planning or rescheduling of the work necessary.
  3. The schedule does not represent the actual prosecution and progress of the project as being performed in the field and progress for any activity is five working days behind the current schedule.
  4. The Contractor will be performing work at an earlier date than is shown on the schedule and the work will require additional inspection and/or testing personnel.
- B. In the event of any change to the contract, submit a time analysis of the effect on the critical path. If the Contractor maintains there is no impact, submit a statement to that effect.
- C. The cost of revisions to the construction schedule resulting from District-initiated contract changes shall be included in the cost for the change in the work and shall be paid as part of the total cost of the change through the contract allowable percentages for changed work.
- D. The cost of revisions to the construction schedule not resulting from authorized changes in the work shall be the responsibility of the Contractor.

**PART 2 - PRODUCTS (NOT USED)**

**PART 3 - EXECUTION (NOT USED)**

END OF SECTION

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**SECTION 01360**  
**PRE-CONSTRUCTION AUDIO-VIDEO DOCUMENTATION**

**PART 1 - GENERAL**

1.01 REQUIREMENTS INCLUDED

- A. The Contractor shall provide a color audio-video recording showing the entire preconstruction site. All audio/video recordings shall be taken by a professional commercial video photographer. The video photographer shall be an established enterprise that routinely provides these services. The videos shall be in standard electronic compact disc/DVD format, indicating the date, project name, and a brief description of the location where the video was taken. The Contractor shall submit two (2) copies of the preconstruction audio-video to the Engineer.
- B. Include the names and addresses of two references that the professional video photographer has performed color audio-visual recording on projects of a similar nature, including one within the last six months.
- C. No construction shall begin prior to the review and approval of the preconstruction audio-video DVD by the Engineer.

1.02 RELATED REQUIREMENTS

- A. Submit qualifications and references of the professional commercial video photographer.

1.03 QUALITY ASSURANCE

- A. Completed documentation shall reproduce bright, sharp pictures with accurate colors and shall be free from distortion, tearing, rolling, or any other significant picture imperfection. The audio portion of the recording shall reproduce the commentary of the camera operator with proper volume, clarity, and be free of distortion.

**PART 2 - PRODUCTS**

2.01 GENERAL

- A. The total audio-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 video portion of the recording shall produce bright sharp, and clear pictures with accurate colors and shall be free from distortion, and any other form of



picture imperfection. All video recordings shall, by electronic means, display on the screen the time of day, the month, day, and year of the recording.

### **PART 3 - EXECUTION**

#### **3.01 COVERAGE**

- A. Record coverage of all surface features located in the construction's zone of influence including, but not limited to:
  - 1. Roadways, driveways, sidewalks, bicycle paths, railroads.
  - 2. Buildings, walls, retaining walls, seawalls.
  - 3. Ponds, culvert ends, drainage structures.
  - 4. Landscaping, trees, shrubbery, fences, irrigation heads.
- B. Record the individual features of each item with particular attention being focused upon the existence of any faults, fractures, or defects.
- C. Control pan rate, rate of travel, camera height and zoom rate to maintain a steady clear view at all times.
- D. Limit recorded coverage to one side of any street at any one time.
- E. Create a single, continuous, unedited recording which begins and ends within each portion of a particular construction area. The recording shall proceed in the direction of ascending baseline stationing.

#### **3.02 AUDIO CONTENT**

- A. Simultaneously record audio content during video taping.
- B. Audio recording shall assist in viewer orientation and in any needed identification, clarification, or description of features being recorded.
- C. Audio recording will only consist of camera operator commentary.

#### **3.03 INDEXING**

- A. Permanently label each DVD with a sequential DVD number and the project name.
- B. Index each DVD with a digital record of the time and date of the recording which is continuously displayed as the tape is played.

- C. Prepare a written log which describes the contents of each tape including:
  - 1. Names of streets or easements.
  - 2. Coverage begin/end, station and location.
  - 3. Recording date.

3.04 CONDITIONS

- A. Record coverage during dry, clear weather and during daylight hours only.
- B. Record coverage when the area to be video recorded is free of debris or obstructions.
- C. Record coverage no more than 45 days prior to the start of construction.

END OF SECTION

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## **SECTION 01370 SCHEDULE OF VALUES**

### **PART 1 - GENERAL**

#### **1.01 REQUIREMENTS INCLUDED**

- A. Submit to the Engineer a Schedule of Values allocated to the various portions of the Work, within 10 days after award of contract.
- B. Upon the request of the Engineer, support the values with data which will substantiate their correctness.
- C. The Schedule of Values, unless objected to by the Engineer, shall be used only as the basis for the Contractor's Applications for Payment.
- D. Related Requirements in Other Parts of the Contract Documents.
  - 1. Agreement
  - 2. General Conditions
  - 3. Supplementary Conditions

#### **1.02 RELATED REQUIREMENTS**

- A. Section 01152: Application for Payment
- B. Section 01600: Material and Equipment.

#### **1.03 FORM AND CONTENT OF SCHEDULE OF VALUES**

- A. Type schedule on 8½ x 11 inch white paper; Contractor's standard forms and automated printout will be considered for approval by Engineer upon Contractors request. Identify schedule with:
  - 1. Title of Project, location and (City, County, District) Project Number.
  - 2. Engineer and Engineer's Project number.
  - 3. Name and Address of Contractor.
  - 4. Date of Submission.
- B. Schedule shall list the installed value of the component parts of the Work, in sufficient detail to serve as a basis for computing values for progress payments during construction.

- C. Follow the table of contents of these Specifications as the format for listing component items.
  - 1. Identify each line item with the number and title of the respective major section of the specifications.
- D. For each major line item list sub-values of:
  - 1. Major products or operations under the item.
  - 2. Contract conditions, such as: bonds, insurance premiums, job mobilization, construction facilities and temporary controls.
- E. For the various portions of the Work:
  - 1. Each item shall include a directly proportional amount of the Contractor's overhead and profit.
  - 2. For items on which progress payments will be requested for stored materials, break down the value into:
    - a. The cost of the materials, delivered and unloaded, with taxes paid.
    - b. The total installed value.
- F. The sum of all values listed in the schedule shall equal the total Contract Sum.

1.04 SUBSCHEDULE OF UNIT MATERIAL VALUES

- A. Submit a sub-schedule of unit costs and quantities for:
  - 1. Products on which progress payments will be requested for stored products.
- B. The form of submittal shall parallel that of the Schedule of Values, with each item identified the same as the line item in the Schedule of Values.
- C. The unit quantity for bulk materials shall include an allowance for normal waste.
- D. The unit values for the materials shall be broken down into:
  - 1. Cost of the material, delivered and unloaded at the site, with taxes paid.
  - 2. Installation costs, including Contractor's overhead and profit.
- E. The installed unit value multiplied by the quantity listed shall equal the cost of that item in the Schedule of Values.

**PART 2 - PRODUCTS (NOT USED)**

**PART 3 - EXECUTION (NOT USED)**

END OF SECTION

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**SECTION 01500**  
**CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS**

**PART 1 - GENERAL**

1.01 REQUIREMENTS INCLUDED

- A. Furnish, install and maintain temporary utilities required for construction, remove on completion of Work.

1.02 RELATED REQUIREMENTS

- A. Not Used.

1.03 REQUIREMENTS OF REGULATORY AGENCIES

- A. Comply with National Electric Code.
- B. Comply with Federal, State and local codes and regulations and with utility company requirements.

**PART 2 - PRODUCTS**

2.01 MATERIALS, GENERAL

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

2.02 CONSTRUCTION WATER

- A. The Contractor shall make his own arrangements for developing water sources and supply all labor and equipment to collect, load, transport, and apply water as necessary for compaction of materials, testing, dust control, cleaning of pipe, and other construction use.
- B. Develop sources of water supply or obtain water from private sources. Payment for all costs connected with utilization of the source shall be made by the Contractor. Water shall be clean and free from objectionable deleterious amounts of acids, alkalies, salts, or organic materials.



- C. Include the cost of construction water in the appropriate bid item to which it is appurtenant. The cost shall include full compensation for furnishing all labor, materials, tools, and equipment and doing all the work necessary to develop a sufficient water supply and furnishing the necessary equipment for applying the water as described in these specifications.

#### 2.03 TEMPORARY ELECTRICITY AND LIGHTING

- A. Arrange with utility company, provide service required for power and lighting, and pay all costs for service and for power used. The cost of power shall be included in the appropriate bid items to which it is appurtenant and shall include full compensation for furnishing all labor, materials, tools, and equipment required to obtain and distribute power for construction purposes.
- B. Install circuit and branch wiring, with area distribution boxes located so that power and lighting is available throughout the construction by the use of construction-type power cords.
- C. Provide adequate artificial lighting for all areas of work when natural light is not adequate for work, and for areas accessible to the public.

#### 2.04 TEMPORARY HEAT AND VENTILATION

- A. Provide temporary heat and ventilation as required to maintain adequate environmental conditions to facilitate progress of the Work, to meet specified minimum conditions for the installation of materials, and to protect materials and finishes from damage due to temperature or humidity.
- B. Provide adequate forced ventilation of enclosed areas for curing of installed materials, to disperse humidity, and to prevent hazardous accumulations of dust, fumes, vapors or gases.
- C. Portable heaters shall be standard approved units complete with controls.
- D. Pay all costs of installation, maintenance, operation and removal, and for fuel consumed.

#### 2.05 TEMPORARY SANITARY FACILITIES

- A. Provide sanitary facilities in compliance with laws and regulations.
- B. Service, clean and maintain facilities and enclosures.
- C. Existing plumbing facilities shall not be used by construction personnel.

## 2.06 TEMPORARY ACCESS ROAD AND PARKING

### A. Site Access Roads:

1. Construct new temporary access roads over designated easements from public thoroughfare to site entrance.

### B. On-Site Roads and Parking Areas:

1. Locate roads, drives, walks and parking facilities to provide uninterrupted access to construction offices, mobilization, work, storage areas, and other areas required for execution of the contract.
2. Submit proposed location for Engineer's approval.
3. Provide access for emergency vehicles.
  - a. Maintain driveways a minimum of 15 feet wide, between and around combustible materials in storage and mobilization areas.
4. Maintain traffic areas free as possible of excavated materials, construction equipment, products and debris.
5. Keep fire hydrants and water control valves free from obstruction and accessible for use.
6. Provide traffic control devices as required by governing authorities along established public thoroughfares which will be used as haul routes to site access.
7. Provide additional steel plates and dewatering appurtenances to bench down dewatering system as required to allow for unhindered traffic flow through work areas.

## 2.07 TEMPORARY CONTROLS

### A. Noise Control:

1. Not used.

### B. Dust Control:

1. Provide positive methods and apply dust control materials to minimize raising dust from construction operations, and provide positive means to prevent air-borne dust from dispersing into the atmosphere. Use water or dust preventative to control dust. Their supply and application shall be at the expense of the Contractor.

### C. Water Control:

1. Provide methods to control surface water to prevent damage to the Project, the site, or adjoining properties.
    - a. Control fill, grading and ditching to direct surface drainage away from excavations, pits, tunnels and other construction areas; and to direct drainage to proper runoff.
  2. Provide, operate and maintain hydraulic equipment of adequate capacity to control surface water.
  3. Dispose of drainage water in a manner to prevent flooding, erosion, or other damage to any portion of the site or to adjoining areas.
- D. Pest Control:
1. Not used.
- E. Rodent Control:
1. Provide rodent control as necessary to prevent infestation of construction or storage area.
    - a. Employ methods and use materials which will not adversely affect conditions at the site or on adjoining properties.
    - b. Should the use of rodenticides be considered necessary, submit an informational copy of the proposed program to District with a copy to Engineer. Clearly indicate:
      - (1) The area or areas to be treated.
      - (2) The rodenticides to be used, with a copy of the manufacturer's printed instructions.
      - (3) The pollution preventative measures to be employed.
  2. The use of any rodenticide shall be in full accordance with the manufacturer's printed instructions and recommendations.
- F. Debris Control:
1. Maintain all areas under Contractor's control free of extraneous debris.
  2. Initiate and maintain a specific program to prevent accumulation of debris at construction site, storage and parking areas, or along access roads and haul routes.
    - a. Provide acceptable containers for deposit of debris.
    - b. Prohibit overloading of trucks to prevent spillages on access and haul routes.
      - (1) Provide periodic inspection of traffic areas to enforce requirements.
  3. Schedule periodic collection and disposal of debris.

- a. Provide additional collections and disposals of debris whenever the periodic schedule is inadequate to prevent accumulation.

G. Pollution Control:

1. Provide methods, means and facilities required to prevent contamination of soil, water or atmosphere by the discharge of noxious substances from construction operations.
2. Provide equipment and personnel, perform emergency measures required to contain any spillages, and to remove contaminated soils or liquids.
  - a. Excavate and dispose of any contaminated earth off-site, and replace with suit- able compacted fill and topsoil.
3. Take special measure to prevent harmful substances from entering public waters.
  - a. Prevent disposal of wastes, effluents, chemicals, or other such substances adjacent to streams, or in sanitary or storm sewers.
4. Provide systems for control of atmospheric pollutants.
  - a. Prevent toxic concentrations of chemicals.
  - b. Prevent harmful dispersal of pollutants; into the atmosphere.

H. Erosion Control:

1. Plan and execute construction and earth work by methods to control surface drainage from cuts and fills, and from borrow and waste disposal areas, to prevent erosion and sedimentation.
  - a. Hold the areas of bare soil exposed at one time to a minimum.
  - b. Provide temporary control measures such as berms, dikes and drains.
2. Construct fills land waste areas by selective placement to eliminate surface silts or clays which will erode.
3. Periodically inspect earthwork to detect any evidence of the start of erosion, apply corrective measures as required to control erosion.

2.08 FIRE DANGER

- A. Minimize fire danger in the vicinity of and adjacent to the construction site. provide labor and equipment to protect the surrounding private property from fire damage resulting from construction operations. All costs arising from fire or the prevention of fire shall be at the expense of the Contractor.

2.09 CONSTRUCTION STAKING

- A. Not used.

2.10 STAGING AREA

- A. The Contractor staging area shall be one mutually agreed upon by Loxahatchee River District, Palm Beach County, Town of Jupiter, Florida, property owner and the Contractor. Contractor is responsible for securing a staging area within (10) calendar days of NTP.

**PART 3 - EXECUTION**

3.01 GENERAL

- A. Comply with applicable requirements specified in Contract Documents.

3.02 REMOVAL

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

3.03 UTILITY CLEARANCES

- A. Contractor shall be responsible for obtaining all utility clearances. No work will be permitted on site until all utility clearances have been obtained and utility locations clearly identified on the ground, and provisions made to insure the safe conduct of work at the construction sites.
- B. The Contractor shall also check and ensure that any airport clearances are accounted for prior to starting construction.

3.04 HURRICANE PRECAUTIONS

- A. During such periods of time as are designated by the United States Weather Service as being a hurricane warning or alert, the Contractor shall take all

precautions necessary to respond to all threatened storm events, regardless of whether the District or Engineer has given notice of the same.

- B. Suspension of the work caused by a threatened or actual storm event, regardless of whether the District or Engineer has directed such suspension, will entitle the Contractor to additional Contract Time as an excusable delay, and shall not give rise to a claim for compensation.

END OF SECTION

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## **SECTION 01530 BARRIERS**

### **PART 1 - GENERAL**

#### 1.01 REQUIREMENTS INCLUDED

- A. Furnish, install and maintain suitable barriers as required to prevent public entry, and to protect the Work, existing facilities, trees and plants from construction operations; remove when no longer needed, or at completion of Work.

#### 1.02 RELATED REQUIREMENTS

- A. Section 01500: Construction Facilities and Temporary Controls

### **PART 2 - PRODUCTS**

#### 2.01 GENERAL

- A. Materials may be new or used, suitable for the intended purpose, but must not violate requirements of applicable codes and standards.

#### 2.02 FENCING

- A. Minimum fence height six feet.
- B. Open-Mesh Fence:
  - 1. No. 11 gauge, 2-inch mesh, 72 inches high galvanized chain link fabric, with extension arms and three (3) strands of galvanized barbed wire.
  - 2. Galvanized steel posts; 1½ inch line posts and 2-inch corner posts.

#### 2.03 BARRIERS

- A. Materials are Contractor's option, as appropriate to serve required purpose.

### **PART 3 - EXECUTION**



3.01 GENERAL

- A. Install facilities of a neat and reasonably uniform appearance, structurally adequate for the required purposes.
- B. Maintain barriers during entire construction period.
- C. Relocate barriers as required by the progress of construction.

3.02 FENCES

- A. Provide and maintain fences necessary to assure security of the site during construction to keep unauthorized people and animals from the site when construction is not in progress.
- B. Gates shall have locks; and keys shall be furnished to the District.
- C. Provide additional security measures as deemed necessary and approved by the Engineer.

3.03 TREE AND PLANT PROTECTION

- A. Preserve and protect existing trees and plants at site which are designated to remain, and those adjacent to site.
- B. Consult with the Engineer, and remove agreed-on roots and branches which interfere with construction.
  - 1. Employ qualified tree surgeon to remove branches and treat cuts.
- C. Provide temporary barriers to a height of six feet, 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 other construction operations, to prevent damage.
- F. Replace, or suitably repair, trees and plants designated to remain which are damaged or destroyed due to construction operations.

3.04 REMOVAL

- A. Completely remove barricades, omit, when construction has progressed to the point that they are no longer needed and when approved by Engineer.
- B. Repair damage caused by construction. Fill and grade areas of the site to the required evaluations, and clean up the area.

END OF SECTION

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## **SECTION 01570 TRAFFIC CONTROL**

### **PART 1 - GENERAL**

#### 1.01 REQUIREMENTS INCLUDED

- A. Provide, operate and maintain equipment, services and personnel, with traffic control and protective devices, as required to expedite vehicular traffic flow around the construction area.
- B. Remove temporary equipment and facilities when no longer required, restore grounds to original, or to specified conditions.

#### 1.02 REFERENCES

- A. Traffic regulation shall be in accordance with F.D.O.T. Roadway and Traffic Design Standards Series 600, latest Edition, Manual on Uniform Traffic Control Devices, latest Ed., and FDOT Standard Specifications, latest Ed.

#### 1.03 TRAFFIC CONTROL PLAN

- A. The Contractor is to prepare a traffic control plan and/or policy statement for each phase of construction. This plan is to be presented to the Town and County Engineer at or before the pre-construction meeting.
- B. All proposed traffic control plans and policy statements shall be complete and in compliance with Section 1.02.

#### 1.04 TRAFFIC SIGNALS AND SIGNS

- A. Provide and operate traffic control and directional signals required to direct and maintain an orderly flow of traffic in all areas under Contractor's control, or affected by Contractor's operations.
- B. Provide traffic control and direction signs, post mounted, at all areas required by Section 1.02.
- C. Traffic Signals - Construction requiring traffic signal modification shall be reported to the Palm Beach County Traffic Dept. at least 72 hours prior to the commencement of such activities. All excavation work within 30 feet of any traffic signal shall be reported to the Palm Beach County Traffic Dept. at least 72 hours prior to its commencement.

- D. All existing traffic signs shall remain visible throughout construction activities unless superseded by required construction signing.

1.05 FLAGMEN

Provide qualified and suitably equipped flagmen when construction operations encroach on traffic lanes, as required for regulation of traffic (See Section 1.02).

1.06 FLARES AND LIGHTS

- A. Provide lights as required by Section 1.02.
  - 1. To clearly delineate traffic lanes and to guide traffic as required in Section 1.02
  - 2. For use by flagmen in directing traffic.
- B. Provide illumination of critical traffic and parking areas as required in Section 1.02.

1.07 CONSTRUCTION PARKING CONTROL

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

1.08 CONSTRUCTION VEHICLES

- A. All slow moving construction vehicles shall have a slow moving sign visible from the rear of the vehicle.
- B. All vehicles used for construction activities shall have audible back-up warning devices.

1.09 ROAD CLOSURES

- A. No road shall be closed prior to receiving approval from the Palm Beach County Roadway Dept.

- B. At least 30 days prior to a proposed road closure, the Contractor shall submit to the Palm Beach County Roadway Dept. a complete traffic control plan. This plan shall include the following minimum information:
  - 1. Sketch of work site and all area roads, streets and mark driveways.
  - 2. Proposed detour route.
  - 3. All necessary traffic control devices to be used.
  - 4. Emergency Contractor contact person name and phone to be available 24 hours a day.
  - 5. Estimated times/dates of road closure.
  
- C. The Palm Beach County Roadway Dept. shall have the authority to approve an emergency road closure.

**PART 2 - PRODUCTS**

- A. All traffic control devices shall meet or exceed FDOT certification standards and the Manual of Uniform Traffic Control Devices.
  
- B. All traffic signs shall have high intensity face material.

**PART 3 - EXECUTION**

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

END OF SECTION

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## **SECTION 01600 MATERIAL AND EQUIPMENT**

### **PART 1 - GENERAL**

#### **1.01 REQUIREMENTS INCLUDED**

- A. Section generally defines Contractor's responsibilities, unless otherwise indicated, for the following:
  - 1. Products.
  - 2. Transportation and handling.
  - 3. Storage and protection.
  - 4. Product options.
  - 5. Substitutions.

#### **1.02 PRODUCTS**

- A. Products: Means new material, machinery, components, equipment, fixtures, and systems forming the Work. Does not include machinery and equipment used for preparation, fabrication, conveying and erection of the Work. Products may also include existing materials or components required for reuse.
- B. Do not use materials and equipment removed from existing premises, except as specifically permitted by the Contract Documents.

#### **1.03 TRANSPORTATION AND HANDLING**

- A. Transport and handle Products in accordance with manufacturer's instructions.
- B. Promptly inspect shipments to assure that Products comply with requirements, quantities are correct, and Products are undamaged.
- C. Provide equipment and personnel to handle Products by methods which prevent soiling, disfigurement, or damage.

#### **1.04 STORAGE AND PROTECTION**

- A. Store and protect Products in accordance with manufacturer's instructions, with seals and labels intact and legible. Store sensitive Products in weather-tight, climate controlled enclosures.



- B. For exterior storage of fabricated Products, place on secure supports, above ground.
- C. Provide off-site storage and protection when site does not permit on-site storage or protection.
- D. Cover Products subject to deterioration with impervious sheet covering. Provide ventilation to avoid condensation.
- E. Store loose granular materials on solid flat surfaces in a well-drained area. Prevent mixing with foreign matter.
- F. Arrange storage of Products to permit access for inspection. Periodically inspect to assure Products are undamaged and are maintained under specified conditions.

1.05 PRODUCT OPTIONS

- A. Products Specified by Reference Standards or by Description Only: Any Product meeting those standards or description.
- B. Products Specified by Naming One or More Manufacturers: Products of manufacturers named and meeting specifications, no options or substitutions allowed.
- C. Products Specified by Naming One or More Manufacturers with a Provision for Substitutions: Submit a request for substitution for any manufacturer not named.

1.06 SUBSTITUTIONS

- A. Instructions to Bidders specify time restrictions for submitting requests for Substitutions during the bidding period to requirements specified in this Section.
- B. Substitutions may be considered when a Product becomes unavailable through no fault of the Contractor.
- C. Document each request with complete data substantiating compliance of proposed Substitution with Contract Documents.
- D. A request constitutes a representation that the Bidder:
  - 1. Has investigated proposed Product and determined that it meets or exceeds the quality level of the specified Product.
  - 2. Will provide the same warranty for the Substitution as for the specified Product.
  - 3. Will coordinate installation and make changes to other Work which may be required for the Work to be complete with no additional cost to District.

4. Waives claims for additional costs or time extension which may subsequently become apparent.
  5. Will reimburse District for review or redesign services associated with re-approval by the Engineer or governing authorities.
- E. Substitutions will not be considered when they are indicated or implied on shop drawing or product data submittals without separate written request, or when acceptance will require revision to the Contract Documents.
- F. Substitution Submittal Procedure:
1. Submit three copies of request for Substitution for consideration. Limit each request to one proposed Substitution.
  2. Submit shop drawings, Product data, and certified test results attesting to the proposed Product equivalence.
  3. The Engineer will notify Contractor, in writing, of decision to accept or reject request.

**PART 2 - PRODUCTS (NOT USED)**

**PART 3 - EXECUTION (NOT USED)**

END OF SECTION

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## **SECTION 01630 SUBSTITUTIONS AND PRODUCT OPTIONS**

### **PART 1 - GENERAL**

#### **1.01 REQUIREMENTS INCLUDED**

- A. Furnish and install Products specified, under options and conditions for substitutions stated in this Section.

#### **1.02 RELATED REQUIREMENTS**

- A. Information for Bidders and General Conditions.
- B. Section 01340: Shop Drawings
- C. Section 01700: Contract Closeout

#### **1.03 PRODUCTS LIST**

- A. Within 30 days after award of Contract, submit to Engineer five copies of complete list of major Products which are proposed for installation.
- B. Tabulate Products by specification section number and title.
- C. For products specified only by reference standards, list for each such Product:
  - 1. Name and address of manufacturer.
  - 2. Trade Name.
  - 3. Model or catalog designation.
  - 4. Manufacturer's data:
    - a. Reference standards.
    - b. Performance test data.

#### **1.04 CONTRACTOR'S OPTIONS**

- A. For Products specified only by reference standard, select product meeting that standard, by any manufacturer.
- B. For products specified by naming several products or manufacturers, select any one or those products and manufacturers names which complies with

Specifications.

- C. For products specified by naming only one or more products or manufacturers and stating "or equal", submit a request as for substitutions, for any product or manufacturer which is not specifically named.

#### 1.05 SUBSTITUTIONS

- A. Within a period of 30 days after award of Contract, Engineer will consider formal requests from the Contractor for substitution of products in place of those specified:
- B. After the end of that period, the request will be considered only in case of product unavailability or other conditions beyond the control of the Contractor.
- C. Submit a separate request for each substitution. Support each request with:
  - 1. Complete data substantiating compliance of the proposed substitution with requirements stated in the Contract Documents:
    - a. Product identification, including manufacturer's name and address.
    - b. Manufacturer's literature; identify:
      - 1) Product description.
      - 2) Reference standards.
      - 3) Performance and test data.
    - c. Samples, as applicable.
    - d. Name and address of similar projects on which product has been used, and the date of each installation
  - 2. Itemized comparison of the proposed substitution with product specified; List significant variations.
  - 3. Data relating to changes in the construction schedule.
  - 4. Any effect of the substitution on separate contracts.
  - 5. List of changes required in other work or products.
  - 6. Accurate cost data comparing proposed substitution with product specified.
  - 7. Designation of required license fees or royalties.
  - 8. Designation of availability of maintenance services, and sources of replacement materials.
- D. Substitutions will not be considered for acceptance when:
  - 1. They are indicated or implied on Shop Drawings or product data

- submittals without a formal request from Contractor.
2. They are requested directly by a subcontractor or supplier.
  3. No Data relating to changes in construction schedule.
  4. Any effect of substitution on separate contracts.
  5. List of changes required in other work or products.
  6. Accurate cost data comparing proposed substitution with product specified.
  7. Designation of required license fees or royalties.
  8. Designation of availability of maintenance services, sources of replacement materials.
  9. Acceptance will require substantial revision of Contract Documents.
- E. Substitute products shall not be ordered or installed without written acceptance of Engineer.
- F. Engineer will determine the acceptability of proposed substitutions.

1.06 CONTRACTOR'S REPRESENTATION

- A. In making formal request for substitution Contractor represents that:
1. He has investigated proposed product and has determined that it is equal to or superior in all respects to that specified.
  2. He will provide the same warranties or bonds for substitution as for product specified.
  3. He will coordinate installation of accepted substitution into the Work, and will make such changes as may be required for the Work to be complete in all respects.
  4. He waives claims for additional costs caused by substitution which may subsequently become apparent.
  5. Cost data is complete and includes related costs under his Contract, but not:
    - a. Costs under separate contracts.
    - b. Engineer's costs of redesign or revision of Contract Documents.

1.07 ENGINEER DUTIES

- A. Review Contractor's requests for substitutions with reasonable promptness.
- B. Notify Contractor, in writing, of decision to accept or reject requested substitution.

**PART 2 - PRODUCTS (NOT USED)**

**PART 3 - EXECUTION (NOT USED)**

END OF SECTION

# SECTION 01700 CONTRACT CLOSEOUT

## **PART 1 - GENERAL**

### 1.01 REQUIREMENTS INCLUDED

- A. Substantial Completion
- B. Final inspection after completion
- C. Final cleaning
- D. Contractor's closeout submittals
- E. Final adjustment of accounts

### 1.02 SUBSTANTIAL COMPLETION

- A. When Contractor considers Work has reached substantial completion, he shall submit to the Engineer the following:
  - 1. Written notice that the Work is substantially complete in accordance with Contract Documents.
  - 2. A list of items yet to be completed or corrected and explanations thereof.
  - 3. Draft of project inspection reports from CCTV professional and NDT professional.
- B. Within a reasonable time upon receipt of such notice, the Engineer will make an inspection and review documentation, if necessary, to determine the status of completion.
- C. Should the Engineer determine that the Work is not substantially complete:
  - 1. The Engineer will promptly notify the Contractor in writing, giving the reasons thereof.
  - 2. Contractor shall remedy the deficiencies in the work and send a second written notice of Substantial Completion to the Engineer.
  - 3. Upon receipt of the second notice, the Engineer will re-inspect or re-review the Work.



- D. When the Engineer finds the Work is substantially complete he will issue a Certificate of Substantial Completion with a tentative list of items to be completed or corrected before final inspection.
- E. Substantial completion shall be generally defined as when the force main is returned to operational condition for intended use and restoration has been completed. This shall include at a minimum: force main repaired; and restoration of roadways & swales.

#### 1.03 FINAL INSPECTION AFTER COMPLETION

- A. When Contractor considers the Work is complete with all minor deficiencies completed or corrected, he shall submit written certification that:
  - 1. Contract Document requirements have been met.
  - 2. Work has been inspected for compliance with Contract Documents.
  - 3. Work has been completed in accordance with Contract Documents.
  - 4. All minor deficiencies have been corrected or completed and the Work is ready for final inspection.
  - 5. Project inspection reports are complete and submitted.
- B. Within a reasonable time upon receipt of such certification, the Engineer will make an inspection to verify the status of completion.
- C. Should the Engineer determine that the Work is incomplete or defective:
  - 1. The Engineer will promptly notify the Contractor in writing, listing the incomplete or defective work.
  - 2. Contractor shall remedy the deficiencies in the work and send a second written certification to the Engineer that the Work is complete.
  - 3. Upon receipt of the second certification, the Engineer will re-inspect the Work.
- D. When the Engineer determines that the Work is acceptable, under the Contract Documents, he shall request the Contractor to make closeout submittals.

#### 1.04 FINAL CLEANING

- A. Execute prior to final inspection.
- B. Clean site; sweep paved areas, rake clean other surfaces.

- C. Remove waste and surplus materials, rubbish, and construction facilities from the Project and from the site.

1.05 CONTRACTOR'S CLOSEOUT SUBMITTALS

A. Project Record Documents

- 1. At Contract closeout, submit project inspection reports with transmittal letter containing date, Project title, Contractor's name and address, list of documents, and signature of Contractor.
- 2. Drawings; Legibly marked to record actual pipe line alignment, fittings, etc.:
  - a. Horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
  - b. Drawings shall be signed and sealed by a surveyor registered in the State of Florida.
- 3. Specifications and Addenda; Legibly mark each Section to record.
- 4. Changes made by Field Order or by Change Order.

B. Evidence of payment and Release of Liens.

1.06 FINAL ADJUSTMENT OF ACCOUNTS

- A. Submit a final statement of accounting to the Engineer.
- B. Statement shall reflect all adjustments to the Contract Sum.
  - 1. The original Contract sum.
  - 2. Additions and deductions resulting from:
    - a. Previous change orders or written amendment.
    - b. Allowances
    - c. Unit prices
    - d. Deductions for uncorrected work.
    - e. Penalties and bonuses
    - f. Deductions for liquidated damages
    - g. Other adjustments
  - 3. Total Contract Sum as adjusted
  - 4. Previous payments

5. Sum remaining due

**PART 2 - PRODUCTS (NOT USED)**

**PART 3 - EXECUTION (NOT USED)**

END OF SECTION

## **SECTION 02010 SUBSURFACE INVESTIGATION**

### **PART 1 - GENERAL**

#### **1.01 REQUIREMENTS INCLUDED**

- A. Subsurface explorations have been made and copies of the results are included herein for information only. Data on indicated subsurface conditions is not intended as representative or a warranty of accuracy or continuity between soil borings. It is expressly understood that District and Engineer will not be responsible for interpretations or conclusions drawn by Contractor from the soils investigation report. Data is made available only for convenience of Contractor. No claim for extra compensation or for extension of time will be allowed on account of subsurface conditions inconsistent with the data shown. Additional test borings and other exploratory operations may be performed by Contractor, at the Contractor's option; however, no change in the Contract Sum will be authorized for such additional exploration.
  
- B. Data in the soft-dig reports was used for the basis of design and is available to the Contractor for information only. Conditions are not intended as representations or warranties of accuracy or continuity of pot-hole locations. The District and Engineer will not be responsible for interpretations or conclusions drawn from this data by Contractor. The Contractor is required to provide pot-holing in order to field verify location of all utility crossings, including paralleling of utilities, prior to construction of the proposed work.

### **PART 2 - PRODUCTS**

#### **2.01 SOIL BORINGS**

- A. Copies of the following are included in Appendix A of the Contract Documents:
  - 1. Soil boring data.

#### **2.02 SOFT DIG REPORTS**

- A. Copies of the following are included in Appendix B of the Contract Documents:
  - 1. Test hole reports.

### **PART 3 - EXECUTION (NOT USED)**

END OF SECTION

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**SECTION 02012**  
**PROTECTING EXISTING UNDERGROUND UTILITIES**

**PART 1 - GENERAL**

1.01 REQUIREMENTS INCLUDED

- A. This section includes materials and procedures for protecting existing underground utilities.

1.02 RELATED REQUIREMENTS

- A. Section 02225: Trench Excavation and Backfill

**PART 2 - MATERIALS**

2.01 REPLACEMENT IN KIND

- A. Except as indicated below or as specifically authorized by the District's Representative, reconstruct utilities with new material of the same size, type, and quality as that removed.

**PART 3 - EXECUTION**

3.01 GENERAL

- A. Replace in kind street improvements, such as curbs and gutters, barricades, traffic islands, signalization, fences, signs, etc., that are cut, removed, damaged, or otherwise disturbed by the construction.
- B. Where utilities are parallel to or cross the construction but do not conflict with the Work, follow the procedures given below and as indicated in the drawings. Notify the utility owner 48 hours in advance of the Work and coordinate the construction schedule with the utility owner's requirements. For utility crossings not shown in the drawings, refer to the General Conditions and the instructions of the District's Representative for guidance.
- C. Determine the true location and depth of utilities and service connections which may be affected by or affect the work. Determine the type, material, and condition of these utilities. In order to provide sufficient lead-time to resolve unforeseen conflicts, order materials and take appropriate measures to ensure that there is no delay in work.

### 3.02 PROCEDURES

- A. Protect in Place: Protect utilities in place, unless abandoned, and maintain the utility in service, unless otherwise specified in the specifications.
- B. In the event an existing utility is damaged by the Contractor which was accurately marked in the field, shown on the drawings, or previously identified through potholing procedures, the Contractor shall be responsible to make the repair if directed by District or pay the Utility Company's current repair rate if Utility Company is required to make the repair.

### 3.03 COMPACTION

- A. Utilities Protected in Place: Backfill and compact under and around the utility so that no voids are left.
- B. Utilities Reconstructed: Prior to replacement of the utility, backfill the trench and compact to an elevation 1 foot above the top of the ends of the utility. Excavate a cross trench of the proper width for the utility and lay, backfill, and compact.

END OF SECTION

## **SECTION 02100 SITE PREPARATION**

### **PART 1 - GENERAL**

#### 1.01 REQUIREMENTS INCLUDED

- A. This Section covers clearing, grubbing and stripping along the construction sites, complete as specified herein.
- B. The Contractor shall clear and grub all of the area within the limits of construction or as required. This shall be limited to the road rights-of-way and easements.

#### 1.02 PAYMENT

- A. Unless noted otherwise on the Bid Form, no separate payment will be made for Work covered under this Section. All costs in connection therewith or incidental thereto are to be included in the respective Contract Price for the item or structure to which the Work pertains.

### **PART 2 - PRODUCTS (NOT USED)**

### **PART 3 - EXECUTION**

#### 3.01 PROTECTION

- A. Locate, identify and protect existing utilities.
- B. Protect trees, plant growth that are not required to be removed in the construction.

#### 3.02 CLEARING

- A. The surface of the ground, for the area to be cleared and grubbed shall be completely cleared of all timber, brush, stumps, roots, grass, weeds, rubbish and all other objectionable obstructions resting on or protruding through the surface of the ground. However, those trees which are designated by the Engineer shall be preserved as hereinafter specified. Clearing operations shall be conducted so as to prevent damage to existing structures and installations, and to those under construction, and so as to provide for the safety of employees and others. Clearing for structures shall consist of topsoil and vegetation removal.



- B. Unless otherwise shown on the plans, standard clearing and grubbing shall be performed over the limits of the construction, with the exception that, where so directed by the District, desirable trees shall be protected and left standing. No trees shall be removed beyond right-of-way limits or easements where construction will occur until the Contractor receives the District's direction and approval.

### 3.03 GRUBBING

- A. Grubbing shall consist of the complete removal of all stumps, roots, matted roots, brush, timber, logs and any other organic or metallic debris not suitable for foundation purposed or subgrade, resting on, under or protruding through the surface of the ground to a depth of 12 inches below the subgrade. All depressions excavated below the original ground surface for or by the removal of such objects, shall be refilled with suitable materials and compacted to a density as required by these Specifications.

### 3.04 DEMUCKING, BACKFILLING AND COMPACTION REQUIREMENTS

- A. All organic surface soils and muck shall be removed from backfill and under all structures and pipes.

### 3.05 DISPOSAL OF CLEARED, GRUBBED, AND DEMUCKED MATERIAL

- A. The Contractor shall dispose of all material and debris from the clearing and grubbing operation by hauling such material and debris away to an approved disposal site. Disposal by burial will not be permitted. Disposal by burning may be allowed if permitted by local regulation and is subject to approval of the District. The Contractor shall be responsible for obtaining all required approvals and permits for any burning operation and shall include any costs for same in the various contract prices. Burning shall be allowed only at location where adjacent trees and shrubs will not be harmed. The cost of disposal (including hauling) of cleared and grubbed material and debris shall be considered a subsidiary obligation of the Contractor, the cost of which shall be included in the contract prices.

### 3.06 PRESERVATION OF TREES, SHRUBS, AND OTHER PLANT MATERIAL

- A. All plant materials (trees, shrubbery, and plants) beyond the easement and right-of-way limits shall be saved and protected from damage resulting from the work. No filling, excavating, trenching, or stockpiling of materials will be permitted within the drip lines of these plant materials.

3.07 PRESERVATION OF DEVELOPED PRIVATE PROPERTY

- A. The Contractor shall exercise extreme care to avoid unnecessary disturbance of developed private property as applicable. Trees, shrubbery, gardens, lawn and other landscaping, which in the opinion of the Engineer must be removed, shall be replaced and replanted to restore the construction easement to the condition existing prior to construction.
- B. All soil preparation procedures and replanting operations shall be under the supervision of a nurseryman experienced in such operations.
- C. Improvements to the land such as fences, walls, outbuildings, etc., which of necessity must be removed shall be replaced with equal quality materials and workmanship. All costs to be included in the contract prices.
- D. The Contractor shall clean up the construction site across developed private property directly after construction is completed upon approval of the Engineer.

3.08 PRESERVATION OF PUBLIC PROPERTY

- A. The appropriate paragraphs of Articles 3.05 and 3.06 of these specifications shall apply to the preservation and restoration of all damaged areas of public lands, parks, rights-of-way, easements, etc.

END OF SECTION

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## **SECTION 02140 DEWATERING**

### **PART 1 - GENERAL**

#### 1.01 REQUIREMENTS INCLUDED

- A. The work covered by this Section consists of furnishing all permits, labor, equipment, appliances and materials, and performing all operations required for dewatering excavations as required to ensure that all work is performed in the dry.
- B. The Contractor shall not discharge water from dewatering operations in any manner that will:
  - 1. Adversely affect the water quality of adjoining water bodies.
  - 2. Violate federal, state or local laws and regulations.
  - 3. Allow discharge to flow onto private property.
  - 4. Hamper the movement of traffic.
  - 5. Damage portions of the work previously constructed.

#### 1.02 RELATED REQUIREMENTS

- A. Division 2 – Site Work (As Applicable)

#### 1.03 PAYMENT

- A. Dewatering is included in the Bid Form. Provide labor, equipment and materials to furnish, assemble and maintain pumps and transmission piping as required to transmit groundwater from the Contractor's dewatering system, settling tanks and transfer pump(s) to the discharge location; furnish and assemble pump(s) and transmission piping from the dewatering system to the approved discharge location.

#### 1.04 SUBMITTALS

- A. Shop Drawings: Water Control Plan, including dewatering pumps, stilling basin, and means of sound attenuation. Dewatering operations shall not commence until District and Engineer have reviewed and approved this plan.

## 1.05 WATER CONTROL PLAN

- A. As a minimum, include descriptions of proposed groundwater and surface water control facilities including, but not limited to, equipment, methods, standby equipment and power supply, pollution control facilities, discharge locations to be utilized, and provisions for immediate temporary water supply as required by this Section.

## 1.06 QUALITY ASSURANCE

- A. **Installer Qualifications:** An experienced installer that has specialized in design of dewatering systems and dewatering work.
- B. Contractor's dewatering personnel must include key personnel with at least 5 years of experience with dewatering methods in similar type and classifications of soils and groundwater conditions representative of this project. Experience must include dewatering excavations greater than 18-ft. depth. Refer to Geotechnical Report for existing soil conditions and groundwater level information and permitting requirements. The opinions expressed in the Geotechnical Report are those of a geotechnical engineer and represent interpretations of subsoil conditions, tests, and results of analyses conducted by geotechnical engineer. The District or Engineer will not be responsible for interpretations or conclusions drawn from this data.

## **PART 2 - PRODUCTS (NOT USED)**

### 2.01 PUMP DRIVERS

- A. Sound attenuated pumps as manufactured by Thompson Pumps with "Silent Knight" canopy, shall be used for all dewatering activities that require a pumping system. Contractor shall demonstrate, measure and record the dB levels at the time of initial set-up. The Contractor shall record the dB levels weekly.

## **PART 3 - EXECUTION**

### 3.01 PUMPING AND DRAINAGE

- A. The Contractor shall be responsible for following the SFWMD Dewatering Permit conditions for all dewatering activities for this project including but not limited to necessary pumping, methods of drainage, removal of water, etc.
- B. In areas of deep trench where dewatering and maintenance of vehicular traffic is

required, the Contractor shall bench down the sides of the trench in order to cover the dewatering well point heads with temporary steel plating.

- C. The Contractor shall provide all labor, materials, tools and equipment necessary to properly control the quality of the discharge from dewatering operations. The Contractor shall comply with all applicable laws, rules and regulations governing the discharge of water from dewatering operations.
- D. The Contractor's dewatering system equipment and materials must be capable of spanning an entire sewer pipe run from manhole to manhole in one installation set-up.
- E. The Contractor is prohibited from discharging dewatering water in a manner that flooding occurs to private property or roadways or to the extent discharge water impairs access to private property by local residents.
- F. The Contractor shall provide the Engineer access to collect water samples as needed to monitor discharge water quality.
- G. Discharge water exiting the Contractor's dewatering system shall not exceed background turbidity of the receiving water body (Loxahatchee River) as referenced by the background sampling location as determined by the Engineer. Discharge shall comply with SFWMD permit conditions and FDEP requirements for a Generic Permit for the discharge of Produced Groundwater from a non-contaminated site activity (62-621.300(2) FAC) and any other applicable regulations governing discharge of dewatering water. Water discharge activities shall be adjusted accordingly and corrective actions taken if the water exiting the dewatering system exceeds these requirements to be complaint with all applicable regulations. Contractor shall implement best management practices (BMPs) and install pollution control devises including but not limited to settling tanks, silt barriers, and hay bales as needed to comply with discharge water quality requirements.
- H. The Contractor shall bear all costs associated with dewatering including costs of damage to property caused by dewatering.
- I. The Contractor shall provide all necessary facilities to provide for attenuation of noise levels associated with dewatering pumps and ancillary equipment.
- J. The Contractor shall at all times during construction provide and maintain proper equipment and facilities to remove all water entering excavations, and shall keep such excavations dry so as to obtain a satisfactory undisturbed subgrade foundation condition until the fills, structures or pipes to be built thereon have been completed to such extent that they will not be floated or otherwise damaged by allowing water levels to return to natural levels.

- K. Dewatering shall at all times be conducted in such a manner as to preserve the undisturbed bearing capacity of the subgrade soils at proposed bottom of excavation and to preserve the integrity of adjacent structures. Well or sump installation shall be constructed with proper sand filters to prevent drawing of finer grained soil from the surrounding ground.
- L. Water entering the excavation from surface runoff shall be collected in shallow ditches around the perimeter of the excavation, drained to sumps, and pumped from the excavation to maintain a bottom free from standing water.
- M. The Contractor shall take all additional precautions to prevent uplift of any structure during construction.
- N. The conveying of water in open ditches or trenches will not be allowed. Permission to use any storm sewers, or drains, for water disposal purposes shall be obtained from the authority having jurisdiction. Any requirements and costs for such use shall be the responsibility of the Contractor. However, the Contractor shall not cause flooding by overloading or blocking up the flow in the drainage facilities, and he shall leave the facilities unrestricted and as clean as originally found. Any damage to facilities shall be repaired or restored as directed by the District or the authority having jurisdiction, at no cost to the District.
- O. Flotation shall be prevented by the Contractor by maintaining a positive and continuous operation of the dewatering system. The Contractor shall be fully responsible and liable for all damages which may result from failure of this system.
- P. Removal of dewatering equipment shall be accomplished after the system is no longer required; the material and equipment constituting the system, shall be removed by the Contractor. As the wellpoints are withdrawn, the locations of the voided areas shall backfilled by jetting approved backfill material (grout) into the voids until they are completely filled. These restored wellpoint voids are subject to random density verification testing.
- Q. The Contractor shall take all necessary precautions to preclude the accidental discharge of fuel, oil, etc. in order to prevent adverse effects on groundwater and surface water quality.
- R. Contractor shall provide for and be responsible for the prevention, control and abatement of erosion and water pollution until completion of the Project (see also Section 02150 – Erosion and Sedimentation Control). Contractor shall provide all temporary erosion control features necessary to prevent, control and abate erosion and water pollution. During the construction of the project, the Contractor shall comply with the Water Quality Standards of the State of Florida FAC 17-302.540.

END OF SECTION

**SECTION 02150**  
**EROSION AND SEDIMENTATION CONTROL**

**PART 1 - GENERAL**

1.01 REQUIREMENTS INCLUDED

- A. Provide erosion control measures on the project and in areas outside the right-of-way where work is accomplished in conjunction with the project, so as to prevent pollution of water, detrimental effects to public or private property adjacent to the project right-of-way and damage to work on the project. Construct and maintain temporary erosion control features or, where practical, construct and maintain permanent erosion control features as shown in the plans or as may be directed by the District.

1.02 GENERAL

- A. Coordinate the installation of temporary erosion control features with the construction of the permanent erosion control features to the extent necessary to ensure economical, effective, and continuous control of erosion and water pollution throughout the life of the Contract.
- B. Contractor or his subcontractor must employ a person who holds a certification as a Florida Department of Environmental Protection NPDES Construction Site Inspector.
- C. Due to unanticipated conditions, the District may direct the use of control features or methods other than those included in the original Contract.

1.03 BEST MANAGEMENT PRACTICES

- A. Prevent pollution of streams, canals, lakes, reservoirs, and other water impoundments with fuels, oils, bitumens, calcium chloride, or other harmful materials. Also, conduct and schedule operations to avoid or otherwise minimize pollution or siltation of such water impoundments, and to avoid interference with movement of migratory fish. Do not dump any residue from dust collectors or washers into any live stream.
- B. Restrict construction operations in rivers, streams, lakes, tidal waters, reservoirs, canals, and other water impoundments to those areas where it is necessary to perform filling or excavation to accomplish the work shown in the plans and to those areas which must be entered to construct temporary or permanent structures. As soon as conditions permit, promptly clear rivers, streams, and impoundments of all obstructions placed therein or caused by construction operations.



- C. Except as necessary for construction, do not deposit excavated material in rivers, streams, canals, or impoundments, or in a position close enough thereto, to be washed away by high water or runoff.
- D. Where pumps are used to remove highly turbid waters from enclosed construction areas such as cofferdams or forms, treat the water by one or more of the following methods prior to discharge into State waters: pumping into grassed swales or appropriate vegetated areas or sediment basins, or confined by an appropriate enclosure such as turbidity barriers when other methods are not considered appropriate.
- E. Do not disturb lands or waters outside the limits of construction as staked, except as authorized by the District.
- F. Obtain the District's approval for the location of, and method of operation in, borrow pits, material pits, and disposal areas furnished for waste material from the project (other than commercially operated sources) such that erosion during and after completion of the work will not result in probability of detrimental siltation or water pollution.

## **PART 2 - PRODUCTS**

### **2.01 MATERIALS FOR TEMPORARY EROSION CONTROL**

- A. The District will not require testing of materials used in construction of temporary erosion control features other than as provided for geotextile fabric in 985-3 unless such material is to be incorporated into the completed project. When no testing is required, the District will base acceptance on visual inspection.
- B. The Contractor may use new or used materials for the construction of temporary silt fence, staked turbidity barriers, and floating turbidity barrier not to be incorporated into the completed project, subject to the approval of the District.

### **2.02 PRECONSTRUCTION REQUIREMENTS**

- A. At the Preconstruction Conference, provide to the District an Erosion Control Plan meeting the requirements or special conditions of all permits authorizing project construction. If no permits are required or the approved permits do not contain special conditions or specifically address erosion and water pollution, the project Erosion Control Plan will be governed by Section 3.02 herein, and FDOT Section 104.
- B. Ensure the Erosion Control Plan includes procedures to control off-site tracking of soil by vehicles and construction equipment and a procedure for cleanup and reporting of non-storm water discharges, such as contaminated groundwater or

accidental spills. Do not begin any soil disturbing activities until District's direction.

- C. Failure to sign any required documents or certification statements will be considered a default of the Contract. Any soil disturbing activities performed without the required signed documents or certification statements may be considered a violation of the DEP Generic Permit.
- D. When the Stormwater Pollution Prevention Plan (SWPPP) is required, prepare the Erosion Control Plan in accordance with the planned sequence of operations and present in a format acceptable to the District. The Erosion Control Plan shall describe, but not be limited to, the following items or activities:
  - 1. For each phase of construction operations or activities, supply the following information:
    - a. Locations of all erosion control devices
    - b. Types of all erosion control devices
    - c. Estimated time erosion control devices will be in operation
    - d. Monitoring schedules for maintenance of erosion control devices
    - e. Methods of maintaining erosion control devices
    - f. Containment or removal methods for pollutants or hazardous wastes
  - 2. The name and telephone number of the person responsible for monitoring and maintaining the erosion control devices.
  - 3. Do not begin construction activities until after the District has received the Erosion Control Plan.
- E. Comply with the approved Erosion Control Plan.

## **PART 3 - EXECUTION**

### **3.01 CONSTRUCTION REQUIREMENTS**

- A. **Limitation of Exposure of Erodible Earth:** The District may limit the surface areas of unprotected erodible earth exposed by the construction operation and may direct the Contractor to provide erosion or pollution control measures to prevent contamination of any river, stream, lake, tidal waters, reservoir, canal, or other water impoundments or to prevent detrimental effects on property outside the project right-of-way or damage to the project. Limit the area in which excavation and filling operations are being performed so that it does not exceed the capacity to keep the finish grading, grassing, sodding, and other such

permanent erosion control measures current in accordance with the accepted schedule.

Do not allow the surface area of erodible earth that clearing and grubbing operations or excavation and filling operations expose to exceed 750,000 sq ft without specific prior approval by the Engineer. This limitation applies separately to clearing and grubbing operations and excavation and filling operations.

The Engineer may increase or decrease the amount of surface area the Contractor may expose at any one time.

- B. **Incorporation of Erosion Control Features:** Incorporate permanent erosion control features into the project at the earliest practical time. Use approved temporary erosion control features to correct conditions that develop during construction which were not foreseen at the time of design, to control erosion prior to the time it is practical to construct permanent control features, or to provide immediate temporary control of erosion that develops during normal construction operations, which are not associated with permanent erosion control features on the project. The District may authorize temporary erosion control features when Topsoil is specified in the Contract and the limited availability of that material from the grading operations will prevent scheduled progress of the work or damage the permanent erosion control features.
- C. **Scheduling of Successive Operations:** Schedule operations such that the area of unprotected erodible earth exposed at any one time is not larger than the minimum area necessary for efficient construction operations, and the duration of exposure of uncompleted construction to the elements is as short as practicable.

Schedule and perform clearing and grubbing so that grading operations can follow immediately thereafter. Schedule and perform grading operations so that permanent erosion control features can follow immediately thereafter if conditions on the project permit.

- D. **Details for Temporary Erosion Control Features:**
1. **General:** Use temporary erosion and water pollution control features that consist of, but are not limited to, temporary grassing, temporary sodding, temporary mulching, sandbagging, slope drains, sediment basins, sediment checks, berms, baled hay or straw, floating turbidity barrier, staked turbidity barrier and silt fence. For design details for some of these items, refer to the Water Quality Section of the FDOT Design Standards.
  2. **Temporary Grassing:** The District may designate certain areas of grassing constructed in accordance with Section 570 as temporary erosion control features. The District may direct the Contractor to omit permanent type grass seed from grassing and reduce the specified rate of spread for fertilizer used in conjunction with grassing operations when such work is designated as a temporary erosion control feature.

3. **Temporary Sod:** Furnish and place sod in accordance with Section 575 within areas designated by the District to temporarily control erosion. If the District determines that the sod will be of a temporary nature, he may not require fertilizer and lime. Keep the sod in a moist condition in order to ensure growth. The Contractor will pay for all required watering.
4. **Temporary Mulching:** Furnish and apply a 2 to 4-inch thick blanket of straw or hay mulch to designated areas, then mix or force the mulch into the top 2 inches of the soil in order to temporarily control erosion. Use only un-decayed straw or hay which can readily be cut into the soil and which otherwise complies with 981-3. The Contractor may substitute other measures for temporary erosion control, such as hydro-mulching, chemical adhesive soil stabilizers, etc., for mulching with straw or hay, if approved by the District. When beginning permanent grassing operations, plow under temporary mulch materials in conjunction with preparation of the ground.
5. **Sandbagging:** Furnish and place sandbags in configurations to control erosion and siltation.
6. **Slope Drains:** Construct slope drains in accordance with the details shown in the plans, the Design Standards, or as may be approved as suitable to adequately perform the intended function.
7. **Sediment Basins:** Construct sediment basins in accordance with the details shown in the plans, the Design Standards, or as may be approved as suitable to adequately perform the intended function. Clean out sediment basins as necessary in accordance with the plans or as directed.
8. **Berms:** Construct temporary earth berms to divert the flow of water from an erodible surface.
9. **Baled Hay or Straw:** Provide bales having minimum dimensions of 14 by 18 by 36 inches at the time of placement. Construct Baled Hay or Straw dams according to details shown in the plans, as directed by the District or as shown in the FDOT Design Standards to protect against downstream accumulations of sediment.

Use natural baled hay or straw meeting the requirements of 981-3 or synthetic hay bales may be used as an alternative to natural baled hay or straw. Synthetic hay bales should be interlocking, have pre-made stake holes, are made of synthetic fibers (polypropylene, nylon, polyester) that meet the Environmental Protection Agency's TCLP standards, and produced into a filter medium with needle-punched fibers. Use synthetic hay bales listed on the Qualified Products List. Wash out and remove sediment deposits when the deposits reach 1/2 the height of the reusable synthetic hay bale or as directed by the District. Dispose of the washout in accordance with 104-3 or in an area approved by the District. Synthetic hay bales that have had

sediment deposits removed may be reinstalled on the project as approved by the District.

10. Temporary Silt Fences:

- a. **General:** Furnish, install, maintain, and remove temporary silt fences, in accordance with the manufacturer's directions, these Specifications, the details as shown on the plans, and the FDOT Design Standards.
- b. **Materials and Installation:** Use a geotextile fabric made from woven or nonwoven fabric, meeting the physical requirements of Section 985 according to those applications for erosion control.

Choose the type and size of posts, wire mesh reinforcement (if required), and method of installation. Do not use products which have a separate layer of plastic mesh or netting. Provide a durable and effective temporary silt fence that controls sediment comparable to the Design Standards, Index No. 102.

Install all sediment control devices in a timely manner to ensure the control of sediment and the protection of lakes, streams, gulf or ocean waters, or any wetlands associated therewith and to any adjacent property outside the right-of-way as required.

At sites where exposure to such sensitive areas is prevalent, complete the installation of any sediment control device prior to the commencement of any earthwork.

After installation of sediment control devices, repair portions of any devices damaged at no expense to the District.

Erect temporary silt fence at upland locations across ditchlines and at temporary locations shown on the plans or approved by the Engineer where continuous construction activities change the natural contour and drainage runoff. Do not attach temporary silt fence to existing trees unless approved by the District.

- c. **Inspection and Maintenance:** Inspect all temporary silt fences immediately after each rainfall and at least daily during prolonged rainfall. Immediately correct any deficiencies. In addition, make a daily review of the location of silt fences in areas where construction activities have changed the natural contour and drainage runoff to ensure that the silt fences are properly located for effectiveness. Where deficiencies exist, install additional silt fences as directed by the Engineer.

Remove sediment deposits when the deposit reaches approximately 1/2 of the volume capacity of the temporary silt fence or as directed by the Engineer. Dress any sediment deposits remaining in place after the temporary silt fence is no longer required to conform with the finished grade, and prepare and seed them in accordance with Section 570.

11. **Floating Turbidity Barriers and Staked Turbidity Barriers:** Install, maintain, and remove turbidity barriers to contain turbidity that may occur as the result of dredging, filling, or other construction activities which may cause turbidity to occur in the waters of the State. The Contractor may need to deploy turbidity barriers around isolated areas of concern such as seagrass beds, coral communities, etc. both within as well as outside the right-of-way limits. The District will identify such areas. Place the barriers prior to the commencement of any work that could impact the area of concern. Install the barriers in accordance with the details shown in the plans or as approved by the District. Ensure that the type barrier used and the deployment and maintenance of the barrier will minimize dispersion of turbid waters from the construction site. The District may approve alternate methods or materials.

Operate turbidity barriers in such a manner to avoid or minimize the degradation of the water quality of the surrounding waters.

12. **Rock Bags:** Furnish and place rock bags to control erosion and siltation. Place the bags as shown in the plans, the FDOT Design Standards or as directed by the District. Use a fabric material with openings that are clearly visible to minimize clogging yet small enough to prevent rock loss. Use material of sufficient strength to allow removing and relocating bags without breakage. The bag size when filled with rocks shall be approximately 12 by 12 by 4 inch. Use No. 4 or No. 5 coarse aggregate rock.

13. **Artificial Coverings:**

- a. **General:** Install artificial coverings in locations where temporary protection from erosion is needed. Two situations occur that require artificial coverings. The two situations have differing material requirements, which are described below.

- 1) Use artificial coverings composed of natural or synthetic fiber mats, plastic sheeting, or netting as protection against erosion, when directed by the District, during temporary pauses in construction caused by inclement weather or other circumstances. Remove the material when construction resumes.
- 2) Use artificial coverings as erosion control blankets, at locations shown in the plans, to facilitate plant growth while permanent grassing is being established. For the

purpose described, use non-toxic, biodegradable, natural or synthetic woven fiber mats. Install in accordance with 571-3 as for plastic erosion mat. Install erosion control blankets capable of sustaining a maximum design velocity of 6.5 ft/sec as determined from tests performed by Utah State University, Texas Transportation Institute or an independent testing laboratory approved by the District. Furnish to the District, two certified copies of manufacturers test reports showing that the erosion control blankets meet the requirements of this Specification. Certification must be attested, by a person having legal authority to bind the manufacturing company. Also, furnish two 4 by 8 inch samples for product identification. The manufacturers test records shall be made available to the District upon request. Leave the material in place, as installed, to biodegrade.

- E. **Removal of Temporary Erosion Control Features:** In general, remove or incorporate into the soil any temporary erosion control features existing at the time of construction of the permanent erosion control features in an area of the project in such a manner that no detrimental effect will result. The Engineer may direct that temporary features be left in place.

### 3.02 INSPECTIONS AND REPORTING

- A. The Contractor's certified NPDES Construction Site Inspector shall complete the required NPDES construction site inspection reports and provide them to the District. Reports shall be done on a weekly basis, at a minimum.

### 3.03 MAINTENANCE OF EROSION CONTROL FEATURES

- A. **General:** Provide routine maintenance of permanent and temporary erosion control features, at no expense to the District, until the project is complete and accepted. If reconstruction of such erosion control features is necessary due to the Contractor's negligence or carelessness or, in the case of temporary erosion control features, failure by the Contractor to install permanent erosion control features as scheduled, the Contractor shall replace such erosion control features at no expense to the District. If reconstruction of permanent or temporary erosion control features is necessary due to factors beyond the control of the Contractor, the District will pay for replacement under the appropriate Contract pay item or items.

Inspect all erosion control features at least once every seven calendar days and within 24 hours of the end of a storm of 0.50 inch or greater. Maintain all erosion control features as required in the Stormwater Pollution Prevention Plan, Contractor's Erosion Control plan and as specified in the State of Florida

Department of Environmental Protection Generic Permit for Stormwater Discharge from Large and Small Construction Activities.

- B. **Mowing:** The District may direct mowing of areas within the limits of the project. Mow these designated areas within seven days of receiving such order. Remove and properly dispose of all litter and debris prior to the mowing operation. Use conventional and specialized equipment along with hand labor to mow the entire area including slopes, wet areas, intersections, overpasses and around all appurtenances. Mow all areas to obtain a uniform height of 6 inches, unless directed otherwise by the District.

### 3.04 PROTECTION DURING SUSPENSION OF CONTRACT TIME

- A. If it is necessary to suspend the construction operations for any appreciable length of time, shape the top of the earthwork in such a manner to permit runoff of rainwater, and construct earth berms along the top edges of embankments to intercept runoff water. Provide temporary slope drains to carry runoff from cuts and embankments that are in the vicinity of rivers, streams, canals, lakes, and impoundments. Locate slope drains at intervals of approximately 500 feet, and stabilize them by paving or by covering with waterproof materials. Should such preventive measures fail, immediately take such other action as necessary to effectively prevent erosion and siltation. The District may direct the Contractor to perform, during such suspensions of operations, any other erosion control work deemed necessary.

END OF SECTION



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**SECTION 02224**  
**PIPE EMBEDMENT MATERIALS**

**PART 1 - GENERAL**

1.01 REQUIREMENTS INCLUDED

- A. Pipe embedment materials, as specified herein, shall be installed as shown on the details, and/or as specified.

1.02 RELATED REQUIREMENTS

- A. Loxahatchee River Environmental Control District's Manual of Minimum Construction Standards and Technical Specifications

**PART 2 - PRODUCTS**

2.01 CLASS 1 MATERIALS (BEDDING ROCK)

- A. The material shall be  $\frac{3}{4}$  inch to  $\frac{1}{4}$  inch graded material such as coral, crushed stone, crushed shells or bedding rock, well graded in size, 100% passing a 1-inch sieve opening, and as specified in ASTM 57. The bedding rock shall consist of clean hard and durable particles or fragments, free from dirt, vegetable or other objectionable matter. Samples and gradation analysis shall be approved by the Design Engineer before any material is delivered to the job site.

2.02 CLASS 2 MATERIAL

- A. The material shall be well graded, clean coarse sand and gravels with a maximum particle size of  $\frac{3}{4}$  inch, containing a small percentage of fines and free of organic and other deleterious matter.

2.03 CLASS 3 MATERIAL (SELECT BACKFILL)

- A. The material shall be fine sand and clayey gravels, including fine sands, sand-clay mixtures and gravel-clay mixtures, free of organic and other deleterious matter.

**PART 3 - EXECUTION**

3.01 PLACING AND COMPACTING

- A. The material shall be spread in layers of uniform thickness and installed to the densities and where shown on the Standard Details or as required.
- B. After each pipe has been brought to grade, aligned and placed in final position, the Embedment material shall be deposited and densified under the pipe haunches on each side of the pipe. Following this operation, the remainder of the embedment material shall be installed as shown on the Standard Details and as specified herein.

END OF SECTION

**SECTION 02225  
TRENCH EXCAVATION AND BACKFILL**

**PART 1 - GENERAL**

1.01 REQUIREMENTS INCLUDED

- A. This section covers the work necessary for the trench excavation and backfill, complete.
- B. Trenches in existing paved areas shall be backfilled to the level of the bottom of the base course. Installation of base course and pavement shall be as specified in Section 02575 – Surface Restoration.
- C. Concrete backfill will be used where, in the opinion of the Engineer, there is insufficient cover over the pipe for proper cover and protection.

1.02 RELATED REQUIREMENTS

- A. Loxahatchee River Environmental Control District's Manual of Minimum Construction Standards and Technical Specifications

1.03 TRENCH EXCAVATION

- A. Excavation is unclassified. Complete all excavation regardless of the type of materials encountered. The Contractor shall make Contractor's own estimate of the kind and extent of the various materials which will be encountered in the excavation.

**PART 2 - PRODUCTS**

2.01 TRENCH SAFETY SYSTEM

- A. The Contractor shall follow the provisions of the "Florida Trench Safety Act," (CS/HB 3183), which incorporates OSHA Standards 29 CFR's 1926.650, Subpart P as the state's trench safety standards. Trench excavation 5' or deeper shall have an adequate safety system consisting of sheeting and shoring, suitable trench box, or other suitable system meeting the requirements of the Act.
- B. The Contractor shall be solely responsible for making all excavations in a safe manner. Provide appropriate measures to retain side slopes to ensure that persons working in or near the excavation are protected.

## 2.02 FOUNDATION STABILIZATION

- A. Foundation stabilization shall conform to No. 57 coarse aggregate.

## 2.03 TRENCH BACKFILL

- A. Select Granular Backfill for Pipe Base, and Pipe Zone in Dewatered or Dry Trench: Excavated trench material free from dirt, clay balls, muck, roots, and organic matter and containing less than 10 percent by weight passing the No. 200 sieve. Trench excavated materials may require processing to obtain the required gradation and/or to obtain the moisture contents necessary to meet the compaction requirements. Provide imported material of equivalent quality, if required to accomplish the work.
- B. Granular Backfill Above the Pipe Zone: Excavated trench material free from dirt, clay balls, muck, and organic matter. The material, shall have a maximum particle size of 3" and less than 20 percent passing the No. 200 sieve. Trench excavated materials may require processing to obtain the required gradation and/or to obtain the moisture contents necessary to meet the compaction requirements. Provide imported material of equivalent quality, if required to accomplish the work.
- C. Imported Granular Pipe Bedding and Pipe Zone for Wet Laying (Trench) Condition as Approved by Engineer: Pipe bedding and pipe zone material are identical and shall be drain field lime rock, graded crushed lime rock with a maximum particle size of 1/2", with no more than 5 percent passing the No. 200 sieve, or similar accepted material and shall be imported if necessary at the Contractor's own expense. Lime rock screenings or material resulting from trench excavation, except for lime rock which has been crushed and graded to size as specified, will not be accepted for pipe bedding material.
- D. Imported Granular Pipe Bedding and Pipe Zone Material Acceptance: Imported pipe bedding and pipe zone materials specified in this section are subject to the following requirements:
  - 1. All tests necessary for the Contractor to locate an acceptable source of imported material shall be made by the Contractor. Certification that the material conforms to the Specification requirements along with copies of the test results from a qualified commercial testing laboratory shall be submitted to the Engineer for acceptance at least 10 days before the material is required for use. All material samples shall be furnished to the laboratory by the Contractor at the Contractor's sole expense. Samples shall be representative and be clearly marked to show the source of the material and the intended use on the project. Sampling of the material source shall be done by the Contractor in accordance with ASTM D75. Notify the Engineer at least 24 hours prior to sampling. The Engineer may, at the Engineer's option, observe the sampling procedures. Tentative acceptance of the material source shall be based on an inspection of the source by the Engineer and/or certified test results submitted by the Contractor to the Engineer, at the Engineer's

discretion. No imported materials shall be delivered to the site until the proposed source and materials' tests have been tentatively accepted in writing by the Engineer. Final acceptance will be based on tests made on samples of material taken from the completed and compacted course by the laboratory. The completed course is defined as a course or layer that is ready for the next phase of construction.

- E. Gradation tests by the Contractor shall be made on samples taken at the place of production prior to shipment. Samples of the finished product for gradation testing shall be taken from each 1,500 tons of prepared materials or more often as determined by the Engineer, if variation in gradation is occurring, or if the material appears to depart from the Specifications. Test results shall be forwarded to the Engineer within 48 hours after sampling.
- F. If tests conducted by the Contractor or the Engineer indicate that the material does not meet Specification requirements, material placement will be terminated until corrective measures are taken. Material which does not conform to the Specification requirements and is placed in the work shall be removed and replaced at the Contractor's sole expense. Sampling and testing performed by the Contractor shall be done at the Contractor's sole expense.
- G. Concrete for Trench Backfill: Conform to ASTM C94, Alternate 3. Proportion to obtain a 28-day compressive strength of 2,500 pounds per square inch. Use a minimum of five sacks of cement per cubic yard of concrete.

#### 2.04 SELECTED FILL MATERIAL FOR MINIMUM COVER REQUIREMENTS

- A. Where shown or directed, waste trench material shall be used to provide minimum cover, provided no piece of material is larger than 3".

#### 2.05 IMPORTED TOPSOIL

- A. Imported topsoil shall be suitable sandy loam from an approved source, which possesses friability and a high degree of fertility. It shall be free of clods, roots, gravel, and other inert material. It shall be free of quack grass, horsetail, and other noxious vegetation and seed. Should such regenerative material be present in the soil, the Contractor shall remove, at his expense, all such growth, both surface and root, which may appear in the imported topsoil within 1 year following acceptance of the job in a manner satisfactory to the District.

#### 2.06 COMPACTION EQUIPMENT

- A. Compaction equipment shall be of suitable type and adequate to obtain the amount of compaction specified. Compaction equipment shall be operated in strict accordance

with the manufacturer's instructions and recommendations and shall be maintained in such condition that it will deliver the manufacturer's rated compactive effort.

#### 2.07 DRAIN GRAVEL

- A. Drain gravel shall be No. 57 stone size as specified in Section 901 of the Florida Department of Transportation Standard Specifications for Road and Bridge Construction.

### **PART 3 - EXECUTION**

#### 3.01 TRENCH SAFETY SYSTEM

- A. Install in trench excavations 5' or deeper to meet requirements of the Florida Trench Safety Act.

#### 3.02 PREPARATION OF RIGHT-OF-WAY

- A. Where clearing or partial clearing of the right-of-way is necessary, complete prior to the start of trenching. Cut trees and brush as near to the surface of the ground as practicable, remove all stumps, and pile for disposal. Do not permit excavated materials to cover brush or trees prior to disposal.
- B. Do not remove existing trees or tree limbs whether on public or private property, unless they are within 4' of the pipe centerline, without permission from the Engineer.

#### 3.03 DISPOSAL OF CLEARED MATERIAL

- A. The Contractor shall bear all costs of disposing of trees, stumps, brush, roots, limbs, and other waste materials from the clearing operation. Material shall be disposed in such a manner as to meet all requirements of state, county, and local regulations regarding health, safety, and public welfare.
- B. In no case shall any material be left on the project, shoved onto abutting private properties, or be buried in embankments or trenches on the project.

#### 3.04 OBSTRUCTIONS

- A. This item refers to obstructions which may be removed and do not require replacement. Remove obstructions within the trench area or adjacent thereto such as tree roots, stumps, abandoned piling, buildings and concrete structures, logs, and debris of all types without additional compensation. The Engineer may, if requested,

make changes in the trench alignment to avoid major obstructions, if such alignment changes can be made within the easement or right-of-way without adversely affecting the intended function of the facility. The Contractor shall pay all additional costs or credit the District for any savings resulting from such alignment changes.

- B. Dispose of obstructions removed from the excavation in accordance with Paragraph DISPOSAL OF CLEARED MATERIAL.

### 3.05 PAVEMENT, CURB, AND SIDEWALK REMOVAL

- A. Where adjoining pavement is to remain, cut all bituminous and concrete pavements, regardless of the thickness, and all curbs and sidewalks, prior to excavation of the trenches with an approved pavement saw, hydrohammer, or approved pavement cutter. Pavement and concrete materials removed shall be hauled from the site and not used for trench backfill.
- B. The entire roadway, including stabilized subgrade, base and paving, shall be removed and replaced in areas where gravity sewers are installed. The Contractor will install 12 inches of base and 2 inches of pavement for all areas so cut.

### 3.06 TRENCH WIDTH

- A. Minimum width of unsheeted trenches in which pipe is to be laid shall be 18" greater than the inside of the pipe, or as approved. Sheeting requirements shall be independent of trench widths.
- B. The maximum width at the top of the landside trench will be the pipe outside diameter plus 24", except where excess width of excavation would cause damage to adjacent pavement, structures or property.
- C. Confine trench widths to dedicated rights-of-way or construction easements, unless special written agreements have been made with the affected property owner.

### 3.07 GRADE

- A. Excavate the trench to the lines and grades shown or as established by the Engineer with proper allowance for pipe thickness and for pipe base or special bedding when required. If the trench is excavated below the required grade, correct any part of the trench excavated below the grade at no additional cost to the District, with gravel of the type specified for pipe base. Place the gravel over the full width of trench in compacted layers not exceeding 6" deep to the established grade with allowance for the pipe base or special bedding.

### 3.08 ADDITIONAL EXCAVATION



- A. When unsuitable material is encountered in the excavation, the Contractor shall notify the Engineer for his review. Unsuitable materials existing below the Contract bottom limits for excavation shall be removed as directed in writing by the Engineer. Such Additional Excavation shall be conducted at a time when the Engineer is present and shall not exceed the vertical and lateral limits as prescribed by the Engineer. Such determination will only be made after the trench has been dewatered.
- B. The voids left by the removal of unsuitable material shall be filled with material consisting of either: (1) select granular backfill; (2) imported granular pipe bedding material; (3) concrete for backfill; whichever is ordered by the Engineer. Select granular backfill or pipe bedding shall be compacted to 100 % density as specified under compaction requirements.

### 3.09 SHORING, SHEETING, AND BRACING OF TRENCHES

- A. Sheet and brace the trench when necessary to prevent caving during excavation in unstable material, or to protect adjacent structures, property, workers, and the public. Increase trench widths accordingly by the thickness of the sheeting. Maintain sheeting in place until the pipe has been placed and backfilled at the pipe zone. Shoring and sheeting shall be removed, as the backfilling is done, in a manner that will damage the pipe or permit voids in the backfill. All sheeting, shoring, and bracing of trenches shall conform to the safety requirements of the federal, state or local public agency having jurisdiction. The most stringent of these requirements shall apply.

### 3.10 LOCATION OF EXCAVATED MATERIALS

- A. During trench excavation, place the excavated material only within the construction easement, right-of-way, permitted, or approved working area. Do not obstruct any private or public-traveled roadways or streets. Conform to all federal, state and local codes governing the safe loading of all trenches with excavated material. For subaqueous installations, place the excavated material as shown on the Drawings.

### 3.11 REMOVAL OF WATER

- A. At all times, except as approved by the Engineer, provide and maintain ample means and devices to promptly remove and dispose of all water entering the trench or effluent junction box excavation during the time the trench is being prepared for the pipe laying, during the laying of the pipe, and until the backfill at the pipe zone has been completed. These provisions shall apply during the noon hour as well as overnight.
- B. The Contractor shall, where applicable, backfill and compact all voids left by dewatering well points located within 3 feet of any paved areas. Compact to 95 percent of maximum dry density per ASTM D-1557, AASHTO T-180.

- C. Dispose of the water in a manner to prevent damage to adjacent property. Drainage of trench water through the pipeline under construction is prohibited.

### 3.12 FOUNDATION STABILIZATION

- A. When, in the opinion of the Engineer, after dewatering, the existing material in the bottom of the trench is unsuitable for supporting the pipe, excavate below the flow line of the pipe, as directed by the Engineer. Backfill the trench to subgrade of pipe base with FOUNDATION STABILIZATION material specified hereinbefore. Place the foundation stabilization material over the full width of the trench and compact in layers not exceeding 6" deep to the required grade.

### 3.13 PIPE BASE AND PIPE ZONE BACKFILL

- A. Pipe base and pipe zone backfill are included in specification for pipe.

### 3.14 TRENCH BACKFILL ABOVE PIPE ZONE

- A. When backfill is placed mechanically, push the backfill material onto the slope of the backfill previously placed and allow to slide down into the trench. Do not push backfill into the trench in such a way as to permit free fall of the material until at least 2' of cover is provided over the top of the pipe. Under no circumstances allow sharp, heavy pieces of material to drop directly onto the pipe or the tamped material around the pipe. Do not use backfill material of consolidated masses larger than 1/2 cubic foot. Place in 12" layers and compact each layer to 95% of maximum dry density per ASTM D-1557, AASHTO T-180.

### 3.15 MAINTENANCE OF TRENCH BACKFILL

- A. Maintain the backfilled trench surface between any two manholes until the following operations have been completed and approved by the Engineer.
  - 1. Manholes and manhole castings installed.
  - 2. Compaction testing.
  - 3. Cleanup and restoration of all physical features.
  - 4. Utilities restored to their original condition or better.
  - 5. And, in general, all work required between the two manholes accomplished with the exception of repaving.
- B. This maintenance shall include, but not be limited to, stabilized subgrade, limestone base, prime coat and sanded in paved areas to keep the surface of backfilled trenches reasonably smooth, free from ruts and potholes, and suitable for normal traffic flow.

No more than 1500 linear feet of trench shall be opened without such maintenance being performed, except as provide for elsewhere.

- C. No additional payment will be made for the maintenance of the trench backfill prior to completion of the work outlined above.
- D. No pavement replacement shall be undertaken until all items outlined above have been completed and approved by the Engineer.

### 3.16 DISPOSAL OF EXCESS EXCAVATED MATERIAL

- A. Dispose of all excess excavated materials. Make arrangements for the disposal and bear all costs incidental to such disposal. Comply with Special Condition 9.19.
- B. See Special Provision Part 4, this section.

### 3.17 DRAINAGE CULVERTS

- A. Replace in kind drainage culverts which are removed and are at or near right angles to the pipe centerline. If the pipe is damaged during removal, dispose of it and furnish and install at no additional cost to the District. Pay Items for drainage work are only as shown on the drawings, and listed in the Bid Form.
- B. All culverts with centerlines over 4' from the pipe centerline shall be protected from damage or restored to equivalent condition, if damaged, at no additional cost to the District.
- C. Replace culverts to the lines and grades established by the District. Do not replace culverts until the proposed pipeline is installed and the backfill of the trench as been completed to the subgrade of the culvert.

### 3.18 BLASTING

- A. No blasting of any kind will be permitted.

### 3.19 PIPE COVER

- A. In locations where insufficient pipe cover exists, place **SELECTED FILL** material as specified herein before over the pipe as shown or directed and to provide a minimum cover of 3'. No additional payment will be made for furnishing additional pipe cover. Otherwise, concrete backfill shall be provided.

### 3.20 SETTLEMENT

- A. Any settlement noted in backfill, fill, or in structures built over the backfill or fill within the 1-year warranty period in accordance with the General Conditions will be considered to be caused by improper compaction methods and shall be corrected at no cost to the District. Structures damaged by settlement shall be restored to their original condition by the Contractor at no cost to the District.

### 3.21 TESTING

- A. The Contractor shall, at his expense, have an independent testing laboratory determine in-place density and moisture content by any one or combination of the following methods; ASTM D2822, D1556, D2216, D3017, or other methods as selected by the Engineer. Cooperate with the testing work by leveling small test areas designated by the Engineer. Backfill test are at Contractor's sole expense. The frequency and location of testing shall be one test per lift for every 300' or portion thereof of pressure pipe.

### 3.22 SPECIAL PROVISIONS

- A. The Contractor shall deliver all excess backfill material to District's designated site, which is the LRD Wastewater Treatment Plant on Central Boulevard, in the Town of Jupiter, Florida. Broken pavement of any kind will be properly disposed of by the Contractor at his own expense elsewhere.

END OF SECTION

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## **SECTION 02367 SHEET PILES**

### **PART 1 - GENERAL**

#### 1.01 REQUIREMENTS INCLUDE

- A. This Section covers the work necessary for the temporary sheet piles and cells, complete.
- B. The cost of sheet piles will be incidental to the Work should the Contractor deem it necessary to utilize.

#### 1.02 REFERENCES

- A. The following is a list of standards which may be referenced in this section:
  - 1. American Society for Testing and Materials (ASTM):
    - a. A36, Structural Steel.
    - b. A183, Carbon Steel Track Bolts and Nuts.
    - c. A123, Zinc (Hot-Dip Galvanized) Coating on Iron and Steel Products.
    - d. A153, Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware (R 1987).
    - e. A307, Carbon Steel Bolts and Studs, 60,000 psi Tensile Strength.
    - f. A328, Steel Sheet Piling.
    - g. A572, High-Strength Low-Alloy Columbium-Vanadium Steels of Structural Quality.
    - h. Comply with all OSHA Standards.

#### 1.03 DEFINITIONS

- A. Obstruction: Sudden and significant increase of penetration resistance and deviation of pile out of tolerance resulting from encountering a subsurface or physical condition.
- B. Practical Refusal: Penetration resistance of at least 120 blows per foot for 3 continuous feet, 200 blows per foot for 1 foot, or 50 blows per inch for 2-consecutive inches, whichever comes first, and to continue driving pile would be impractical. These criteria apply only for hammer sizes and operation as specified.

- C. Rated Hammer Energy:
  - 1. Diesel Hammers: Product of rated stroke times ram weight.
  - 2. Air Hammers: Rated energy from manufacturer's literature.
- D. Refusal: Zero rate of penetration for 10 seconds during pile driving.
- E. Set: Pile penetration in inches per blow.
- F. Sweep: Deviation from straightness measured along two perpendicular faces of pile while not subject to bending forces.
- G. Termination Penetration Resistance: Penetration resistance exceeding 60 blows per foot at which driving may be terminated.

#### 1.04 SUBMITTALS

- A. Administrative Submittals: Pile driving schedule.
- B. Shop Drawings: Indicate tie rods and accessories, number of piles required, fabricated comers, and detail dimensions.
- C. Quality Control Submittals:
  - 1. Manufacturer's product data prior to ordering piles.
  - 2. Written sequence of setting and driving operation
  - 3. Drilling: Manufacturer's literature on equipment and operation procedures.
  - 4. Hammers: Manufacturer's specifications and catalog information. Show data necessary for computing bearing value of piles driven.
  - 5. Installer qualifications.

#### 1.05 QUALIFICATIONS

- A. Piling Installer: Minimum of 5 years of past successful experience on 10 projects of sheet pile installation (submit project list to Engineer).

#### 1.06 DELIVERY, STORAGE, AND HANDLING

- A. Sheet Piles: Lift and handle so that maximum bending stresses shall not exceed 22,500 pounds per square inch.

1.07 SPECIAL TOOLS

- A. Tool checking interlock dimensions.

**PART 2 - PRODUCTS**

2.01 SHEET PILES

- A. Minimum size and wall thickness shown manufactured to ASTM A572, Grade 50.
- B. Sections: Continuously interlocking type, structural characteristics as follows:

<b>Section Designation</b>	<b>Nominal Web Thickness/In.</b>	<b>Weight Per SF-Pounds</b>	<b>Sect. Modulus Per LF/Cu.In.</b>
PZ38	3/8 by 1/2	38.0	46.8
PZ32	3/8 by 1/2	32.0	38.3
PZ27	3/8	27.0	30.2
PDA27	3/8	27.0	10.7
PMA22	3/8	22.0	5.4
PSA23	3/8	23.0	2.4
PSA28	1/2	28.0	2.5
PS28	3/8	28.0	1.9
PS32	1/2	32.0	1.9
PSX32	29/64	32.0	2.4

- C. Section Modulus: Base on individual whole piece, not dependent on the interlock friction between pile sections to secure the required section modulus.
- D. Pulling (Handling) Holes: Manufacturer's standard, additional will not be allowed.
- E. Tolerances: Weight per square foot may not vary by more than 2-1/2 percent over or under that specified.

2.02 ACCESSORIES

- A. Tie Rod Assembly: Adjust spacing, size, plate dimensions, and length of tie rods if piling sections are of different proportions.
  - 1. Tie Rods:



- a. Fabricated Steel: ASTM A36, upset ends, threaded American Standard Free Fit, Class 2.
  - b. Coat with grease and wrap for protection from rust and physical damage while in transit.
2. Turnbuckles:
- a. Forged steel with American Standard Class 2 fit threads, takeup, and other dimensions as shown in American Institute of Steel Construction, Manual of Steel Construction.
  - b. Finished with parts properly shaped and free from fins, cracks, flaws, seams, and other injurious defects.
  - c. Screw Threads: True to form, clean cut, and free from injurious defects.
  - d. Nuts: Standard hexagon, American Standard Class 2 fit threads.
- B. Steel Shapes, Plates, Bars, and Washers:
- 1. General: ASTM A36, provide cut washers for each bolt head and nut.
  - 2. Bolts: ASTM A307, of length to finish 1/4 inch outside the nut and have additional thread to retighten.
  - 3. Hardware: Hot-dip galvanize, ASTM A123.

## **PART 3 - EXECUTION**

### **3.01 DRIVING EQUIPMENT**

- A. Air or Steam Hammer: Minimum manufacturers' rated capacity of 24,000 foot-pounds of energy per blow.
  - 1. Pressure Gauge: Locate near hammer for measuring air or steam pressure.
- B. Diesel Hammers:
  - 1. Ram Weight: Not less than 3,600 pounds.
  - 2. Energy Developed: Exceed 13,000 foot-pounds per blow.
- C. Sonic Hammers: Use of adequate size and type. Demonstrate capability prior to approval for pile driving.
- D. Drop Hammer or Combination of Water Jets and Hammer:
  - 1. Drop Hammers:
    - a. Weight:

- 1) Piles 50 Feet Long or Less: Minimum 3,000 pounds.
  - 2) Piles Over 50 Feet Long: Minimum 4,000 pounds.
- b. Drop Height: Maximum 10 feet.
  - c. Hammer Head: Certified, weight stamped.

### 3.02 PILE LENGTHS

- A. Lengths shown are those required below cutoff as shown on the shop drawings. Furnish sheet piling with sufficient extra length to provide for fresh heading and to reach from the cutoff elevation up to position of driving equipment.

### 3.03 DRIVING GUIDES

- A. Position sheet piles using temporary guide wales support and anchor guide wales to form rigid structures during the sheet pile setting and driving operation.
- B. Guide Wales: Stationary (not moveable) with fluctuating water stage.

### 3.04 SETTING

- A. Clean pile, inspect for defects and proper interlock dimensions.
- B. Allow pile sufficient clearance in the interlocks to slide, under its own weight, in the interlock of the sheet pile previously placed until the top of existing ground is reached by the tip of the sliding pile. Do not use vibratory or drive hammer to force the interlocking of piles.

### 3.05 DRIVING

- A. Before driving is started, check sheet piles for position and alignment. Locate pile top within 2 inches of location shown.
- B. Drive sheet piles to the tip elevations shown. Drive down piles which are raised during the process *of* driving adjacent piles.
- C. If refusal is reached before driving to the specified tip elevation, an impact hammer or controlled jetting may be used. Perform jetting on both sides of sheet pile simultaneously with driving.
- D. Remove and replace sheet pile driven out *of* interlock.
- E. Driving Tolerances:
  1. Not more than 1/8 inch per foot from the vertical in all directions. Furnish plumb line or other device for checking vertical alignment.

2. Not more than 1 percent from vertical or 2 percent from batter shown.

### 3.06 PILE CUTOFF

- A. Cut square at required elevation with tools that will not damage area below cut surface.
- B. Tolerance: Plus or minus 1/2 inch.

### 3.07 CUTTING AND SPLICING PILES

- A. Extend to required grade by welding on additional full length piles driven below grade, and piles with damaged heads which have been cut off to permit further driving.
- B. Pile Splicing: Butt weld, making full penetration of the web. Piles adjoining spliced piles shall be full length piles.

### 3.08 WALES AND CAPS

- A. After driving sheet piling, install channel wales. Bolt splices in wales with field bolts. Set wales horizontal.
- B. Installation:
  1. Weld Splices using a single bevel butt joint, welded on one side on backing structure.
  2. Space wales within 1/4 inch for welded splices. Fabricate accessories by welding or as otherwise shown.

### 3.09 TIE ROD ASSEMBLIES

- A. Installation:
  1. Hand backfill tie rods to 6-inch depth above rods.
  2. Support tie rods in straight line from bulkhead to anchor wall.
  3. Maintain tie rod support until such time as rod is tensioned.
- B. Use sandfill or wood cribbing to maintain tie rod alignment.
- C. Tension tie rods with turnbuckles in Engineer's presence. Lubricate turnbuckles with graphite prior to tensioning.

3.10 TIE ROD HOLES

- A. Neatly cut through sheet piles by mechanical means. Flame cutting shall not be used.
- B. Spacing may vary up to 4 inches to avoid cutting sheet pile interlocks.
- C. Variations in Spacing: Prevent an accumulative variation of more than 4 inches.

3.11 SITE RESTORATION

- A. Sheet piles to be removed by Contractor

END OF SECTION

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# **SECTION 02521 FLOWABLE FILL**

## **PART 1 - GENERAL**

### 1.01 REQUIREMENTS INCLUDED

- A. This Section specifies the requirements for flowable fill used for trenches, support for pipe structures, culverts, utility cuts and other works where cavities exist and where firm support is needed for pavements and structural elements. Flowable fill may also be used to fill water pipes that need to be abandoned in place and at other locations approved by the Engineer.

### 1.02 REFERENCE SPECIFICATIONS

- A. Section 01010: Summary of Work
- B. Section 01090: Reference Standards
- C. Section 01300: Submittals
- D. Section 02225: Trench Excavation and Backfill

## **PART 2 - PRODUCTS**

### 2.01 MATERIALS

- A. The materials used shall conform with the requirements specified in Division III of the F.D.O.T. Standard Specification for Road and Bridge Construction, latest edition, and herein. Specific reference are as follows:
  - 1. Portland Cement (Type I, II or III) Section 921
  - 2. Fly Ash, Slag and other Pozzolanic materials for Portland Cement Concrete Section 929
  - 3. Fine Aggregate (Sand)\* Section 902
  - 4. Water Section 923

\*Any clean sand with 100% passing 3/8" sieve and not more than 10% passing with 200 mesh may be used.

## 2.02 MIX PROPORTIONS

- A. The Contractor shall be responsible for producing a flowable mixture using these guidelines and by adjusting his mixture design as called for by circumstances or as may be directed by the Engineer.
- B. Flowable fill material shall be proportioned to produce a 28-day compressive strength of a minimum of 100 psi for flowable fill for piping structures.
- C. General mix quantities are as follows:

<u>Components</u>	<u>Pounds per Cubic Yard</u>
Cement	50-100*
Fly Ash or Granulated Blast Furnace Slag	0-600
Fine Sand	2,750 (Adjust to yield one cubic yard of flowable fill)
Water	500 (Max.)

\*The percentage of cement may be increased above these limits only when early strength is required and future removal is unlikely.

- D. Weights for fine aggregates and water shall be adjusted for removability, pumpability and flowability. If required, strength test data shall be provided prior to batching.
- E. If required by the Engineer, the flowability can be measured by afflux time determined in accordance with ASTM C 939 and shall be 30 seconds +/- 5 seconds as measured on mortar passing the No. 4 sieve. The equipment required to perform this test shall be provided by the Contractor.

## **PART 3 - EXECUTION**

### 3.01 PRODUCTION AND PLACING

- A. Flowable fill shall be produced and delivered using ready mix concrete trucks and placed easily by chute in a flowable condition directly into the cavity to be filled or into a pump for final placement.
- B. The flowable fill shall be placed to the designated fill line without vibration or other means of compaction. Placement shall be avoided during inclement weather, e.g. rain. The Contractor shall take all necessary precautions to prevent any damages caused by hydraulic pressure of the fill during placement prior to hardening. Also, necessary means to confine the material within the designated

space shall be provided by the Contractor.

### 3.02 ACCEPTANCE

- A. The flowable shall be proportioned and placed as specified herein. In general, the strength desired is the maximum hardness that can be excavated at a later date using conventional excavation equipment. No curing protection is required.
- B. The fill shall be left undisturbed until material obtains sufficient strength. Sufficient strength is 250 psi penetration resistance as measured using a hand held penetrometer. The penetrometer shall be provided by the Contractor.
- C. All flowable fill areas subject to traffic loads must have a durable riding surface.
- D. An approved type of accelerator may be approved for the placement of “Flowable Fill” in traffic areas when submitted to the Engineer. Depending on the condition of the cavity, paving can begin from 8-24 hours after placement.

END OF SECTION



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## **SECTION 02575 SURFACE RESTORATION**

### **PART 1 - GENERAL**

#### 1.01 REQUIREMENTS INCLUDED

- A. This section covers the work necessary to replace all pavement, curbs, sidewalks, and other street features damaged either directly or indirectly by the operation incidental to the Work, complete.

#### 1.02 RELATED REQUIREMENTS

- A. Loxahatchee River Environmental Control District's Manual of Minimum Construction Standards and Technical Specifications

### **PART 2 - PRODUCTS**

#### 2.01 ROCK FOR SURFACING AND BASE

- A. Limestone quality and gradation shall conform to Section 911, FDOT Standard Specifications.
- B. Submit proof in the form of test results from a commercial testing laboratory or other evidence satisfactory to the Engineer to show that the materials meet the quality and gradation requirements.

#### 2.02 ASPHALT CONCRETE

- A. Asphalt concrete mix conforming to the Standard Specifications Type S-1 for pavement restoration
- B. The asphalt concrete for overlay shall be Type S-1 in conformance with Section 331, FDOT Standard Specifications.

#### 2.03 ASPHALT PRIME

- A. Liquid asphalt for use as a prime coat under asphalt concrete shall be RC-70 or MC-70 liquid asphalt conforming to AASHTO M 81 or M 82.

## 2.04 CONCRETE

- A. Concrete for curbs, sidewalks, pavement, and miscellaneous construction shall conform to ASTM C94, Alternate 3; and shall have a design mix proportioned for 3,000 pounds per square inch compressive strength at 28 days. Concrete mix shall contain no less than 5½ sacks of cement per cubic yard.
  - 1. Concrete Forms: All forms for curbs and sidewalks shall be either 2" dimensioned lumber, plywood, or metal forms. Forms on the face of the curb shall have no horizontal form joints within 7" of the top of the curb.
  - 2. Curbing Compound: Commercial grade conforming to ASTM C309, Type I.
  - 3. Reinforcing Steel: Conform to ASTM A615, Grade 60.

## **PART 3 - EXECUTION**

### 3.01 CONSTRUCTION PROCEDURE

- A. The Engineer reserves the right to vary the classes of backfill and the type of resurfacing as best serves the interest of the District. Trench backfill shall be as specified in Section 02225 -Trench Excavation and Backfill.
- B. Replace all bituminous pavement damaged under this Contract with asphalt concrete regardless of original type.
- C. Concrete pavement replacement will be required where existing concrete driveways are disturbed.
- D. In addition to the requirements set forth herein, the work shall conform to the applicable workmanship requirements of the state highway and municipal specifications.

### 3.02 REMOVAL OF PAVEMENT, SIDEWALK, CURBS, AND GUTTERS

- A. Removal of all pavement, sidewalks, curbs, and gutters shall conform to Section 02225, TRENCH EXCAVATION AND BACKFILL.

### 3.03 STREET MAINTENANCE

- A. Maintain all trenches as specified under Section 02225 TRENCH EXCAVATION AND BACKFILL.

### 3.04 ASPHALT CONCRETE PAVEMENT REPLACEMENT

#### A. Subgrade:

1. Bring the trench to a smooth, even grade at the correct distance below the top of the existing pavement surface so as to provide adequate space for the base course and pavement.
2. Stabilize the top 12 inches per FDOT Section 160.
3. Compact the subgrade to 98 percent of maximum dry density as determined by ASTM D1557 with mechanical vibratory or impact tampers. Determine the amount and method of compaction necessary to prevent settlement. Any subsequent settlement of the finished surfacing during the warranty period shall be promptly repaired by the Contractor, at the Contractor's sole expense.

#### B. Limestone Base Course:

1. Place sufficient base course on the subgrade in one lift to obtain a minimum thickness of 6 1/2" after compaction. Place and process as required to provide a smooth surface without segregation.
2. Compact the base course to 100 percent of maximum dry density as determined by ASTM D1557 with mechanical vibratory or impact tampers. Determine the amount and method of compaction necessary to prevent subsequent settlement. Any subsequent settlement of the finished surfacing during the warranty period shall be promptly repaired by the Contractor, at the Contractor's sole expense.
3. Place base course under all pavement to be replaced and, in addition, under gravel surfaced shoulders and other graveled areas.
4. Testing frequency shall be as specified in Section 02225 – Trench Excavation and Backfill.

#### C. Prime Coat: After the base course has been compacted, apply an asphalt prime coat, specified above, at 0.25- to 0.45-gallon per square yard to the surface of the base course and to the edges of the existing pavement. Sand to minimize tracking.

#### D. Asphalt Concrete

1. Place the asphalt concrete on the prepared base course to yield a compacted thickness of not less than 1 3/4" for pavement replacement. Place asphalt concrete after the prime coat has set. Spread and level the asphalt concrete with hand tools or by use of a mechanical spreader, depending upon the area to be paved. Bring the asphalt concrete to the proper grade and compact by rolling or the use of hand tampers where rolling is impossible or impractical.

2. Roll with power rollers capable of providing compression of 200 to 300 pounds per linear inch. Begin the rolling from the lower edge of the section progressing toward the center. Overlap each preceding track by at least 1/2 the width of the roller and make sufficient passes over the entire area to remove all roller marks and to produce the desired result, as determined by the Engineer.
3. Comply with provisions of FDOT Section 330.

E. Asphalt Concrete Overlay

1. Prior to the laying of the asphalt prime coat and asphalt concrete overlay the surface of the pavement to be covered shall be cleaned of all loose and deleterious materials by the use of power brooms or blowers, and supplemented by hand brooming when necessary. An asphalt prime coat (tack coat) is required on all asphalt prior to the laying the asphalt concrete overlay.
2. Rolling as specified above - Asphalt Concrete.
3. When joining existing pavement, the finished surface of the new paving shall be flush with the surface and shall conform to the grade and crown of the adjacent pavement.

3.05 WEATHER CONDITIONS

- A. Asphalt shall not be applied to wet material. Asphalt shall not be applied during rainfall, sand or dust storms, or any imminent storms that might adversely affect the construction. The Engineer will determine when surfaces and material are dry enough to proceed with construction. Asphalt concrete shall not be placed (1) when the atmospheric temperature is lower than 40 degrees F, (2) during heavy rainfall, or (3) when the surface upon which it is to be placed is frozen or wet. Asphalt for prime coat shall not be applied when the surface temperature is less than 50 degrees F. Exceptions will be permitted only in special cases and only with prior written approval of the Engineer.

3.06 PROTECTION OF STRUCTURES

- A. Provide whatever protective coverings may be necessary to protect the exposed portions of bridges, culverts, curbs, gutters, posts, guard fences, road signs, and any other structures from splashing oil and asphalt from the paving operations. Remove any oil, asphalt, dirt, or any other undesirable matter that may come upon these structures by reason of the paving operations.
- B. Where water valve boxes, manholes, catch basin, or other underground utility appurtenances are within the area to be surfaced, the resurfacing shall be level with the top of the existing finished elevation of these facilities. If it is evident that these

facilities are not in accordance with the proposed finished surface, the Contractor shall notify the proper authority and either raise or lower the appurtenances or make arrangement with that authority in order to have the facility altered before proceeding with the resurfacing around the obstruction. Consider any delays experienced from such obstructions as incidental to the paving operation. No additional payment will be made. Protect all covers during asphalt application.

### 3.07 EXCESS MATERIALS

- A. Dispose of all excess backfill material to District's designated site, which is the LRD Wastewater Treatment Plant on Central Boulevard, in the Town of Jupiter, Florida. Make arrangements for the disposal and bear all costs incidental to such disposal.

### 3.08 CONTRACTOR'S RESPONSIBILITY

- A. Settlement of replaced pavement over trenches within the warranty period shall be considered the result of improper or inadequate compaction of the subbase or base materials. The Contractor shall promptly repair all pavement deficiencies noted during the warranty period at the Contractor's sole expense.

### 3.09 CONCRETE PAVEMENT

- A. Pavement replaced shall be the same thickness as that removed, except that in no instance shall it be less than a minimum of 6". Protect the newly placed concrete from traffic for a period of 7 days and cure by covering with burlap, sand, earth, or sawdust, which is kept continuously wet. Finish to match existing.
- B. Handle and place concrete pavement in accordance with the Standard Specifications.

### 3.10 SIDEWALKS AND CURBS

- A. Replace concrete sidewalks and curbs to the same section width, depth, line, and grade as that removed or damaged. Cut ends of existing curb to a vertical plane. Prior to replacing the sections, properly backfill and compact the trench to prevent subsequent settlement.
- B. Cut ends of existing curbs to a vertical plane. Construct forms to match existing. Place concrete and finish exposed surfaces similar to adjacent curb.
- C. Replace concrete sidewalks between scored joints and make replacement in a manner that will avoid a patched appearance. Provide a minimum 2" thick compacted base of clean 3/4" minus crushed rock or gravel of quality hereinbefore specified. Finish concrete surface similar to the adjacent sidewalks. Score joints and finish edges with a steel edging tool.

- D. Tunneling under curbs and sidewalks is optional. However, should any subsequent cracking, subsidence, or any other indication of failure occur within the warranty period, the damaged section shall promptly be replaced at the Contractor's sole expense.

3.11 ASPHALT DRIVEWAYS AND WALKS

- A. Replace asphalt driveways and walks in accordance with Paragraph 3.04 ASPHALT CONCRETE PAVEMENT REPLACEMENT.

3.12 SODDING

- A. Installation of sodding shall be as specified in Section 02936 - Sodding.

END OF SECTION

## **SECTION 02580 PAVEMENT MARKING**

### **PART 1 - GENERAL**

#### 1.01 REQUIREMENTS INCLUDED

- A. Reflectorized traffic striping and marking (in accordance with FDOT Specifications, Section 710).
- B. Thermoplastic traffic striping and marking (in accordance with FDOT Specifications, Section 711).
- C. Reflective pavement markers (in accordance with FDOT Specifications, Section 706).

#### 1.02 PAYMENT

- A. Payment for traffic striping and marking as detailed on the Drawing shall be made as indicated on the Bid Form.

#### 1.03 REFERENCES

- A. Florida Department of Transportation - Standard Specifications for Road and Bridge Construction, herein after referred to as the FDOT Specification. This document must be on site during the Work.
- B. Manual on Uniform Traffic Control Devices for Streets and Highways.
- C. Palm Beach County Typical No. T-P-18.

### **PART 2 - PRODUCTS**

#### 2.01 MATERIALS

- A. Reflectorized Traffic Paint: In accordance with Section 710 of the FDOT Specifications.
- B. Thermoplastic Traffic Paint: In accordance with Sections 711 of the FDOT Specifications.
- C. Reflective Pavement Markers: In accordance with Section 706 of the FDOT Specifications.



## 2.02 EQUIPMENT

- A. In accordance with the following FDOT Specifications: Section 710 for reflectorized striping and marking, and Section 711 for thermoplastic striping and marking.

## **PART 3 - EXECUTION**

### 3.01 PREPARATION

- A. Contractor shall establish the necessary tack points and other controls for alignment of the stripes.
- B. Tolerances in dimensions and alignment shall be in accordance with FDOT Specification 710.
- C. Prior to placing any pavement markings, Contractor shall contact the Engineer and the Town of Jupiter, Florida to review locations in the field.

### 3.02 APPLICATION

- A. Apply reflectorized striping and marking in accordance with FDOT Specification 710-6.
- B. Apply thermoplastic striping and marking in accordance with FDOT Specification 711.
- C. Apply reflective pavement markers in accordance with Sections 706 of the FDOT Specifications.

### 3.03 FIELD QUALITY CONTROL

- A. All Work under this Section which fails to meet the Specifications, including the permissible tolerances and the appearance requirements, or are marred or damaged by traffic or from other cause, shall be corrected at the Contractor's expense to the approval of the Engineer.

### 3.04 PROTECTION

- A. Protection of newly painted stripes and of traffic shall be in accordance with FDOT Specification Section 710.

END OF SECTION

**SECTION 02610**  
**FORCE MAINS - DUCTILE IRON PIPE AND FITTINGS**

**PART 1 - GENERAL**

1.01 REQUIREMENTS INCLUDED

- A. The Work under this Section shall include furnishing and installing ductile iron pipe and fittings, furnishing and installing additional materials as necessary complete, with appurtenances for a complete pipeline project.

1.02 RELATED REQUIREMENTS

- A. Section 01010: Summary of Work
- B. Section 01300: Submittals
- C. Section 02140: Dewatering
- D. Section 02225: Trench Excavation and Backfill
- E. Loxahatchee River Environmental Control District's Manual of Minimum Construction Standards and Technical Specifications

1.03 GENERAL

- A. In general, the Work under this Section shall include but is not limited to furnishing and installing the following:
  - 1. Force Main:
    - a. Ductile iron push-on pipe with an interior epoxy lining.
    - b. Ductile iron restrained mechanical joint pipe and fittings with an interior ceramic epoxy lining. All nuts and bolts shall be 316 SS.
- B. The Work shall also include the furnishing of all labor, materials, equipment for the proper construction of the project in accordance with these Contract Documents.

1.04 REFERENCES

- A. AASHTO - American Association of State Highway and Transportation Officials.
- B. ANSI - American National Standards Institute.

C. AWWA - American Water Works Association.

1.05 CONNECTION TO WORK BY OTHERS OR EXISTING LINES

A. Work under this Contract requires the Contractor to access the interior of the subject force main to perform cleaning and CCTV inspection. The Contractor under this Contract shall perform the following work and include the cost thereof in the contract price and at no additional cost to the District:

1. Excavate to expose section of force main where Contractor plans to cut or tap in order to access the interior of the pipe in order to insert cleaning equipment and CCTV equipment as necessary to complete Work.
2. Furnish and install necessary pipe, fittings, specials and appurtenances to return the force main to operable condition.
3. Furnish and install restraining devices to existing piping, if necessary.

**PART 2 - PRODUCTS**

2.01 PIPE MATERIALS

A. Ductile Iron Pipe and Fittings:

1. Ductile Iron Pipe shall be centrifugally cast in metal or sand lined molds conforming to ANSI/AWWA C151 A21.51, latest revision
2. Minimum pressure class is 350 up to 20-inches in diameter and pressure class 250 for larger diameters.
  - a. Approved manufacturers:
    - 1) American Cast Iron Pipe Company,
    - 2) U.S. Pipe, and
    - 3) McWayne Corporation.
3. All piping shall be factory pressure tested, including end connections and weld-on outlets.
4. Minimum Special Thickness Class 53 is required for all flanged pipe.
5. All ductile iron pipe and fittings installed for domestic wastewater force mains shall be furnished with a corrosion resistant coating (Protecto 401). All nuts and bolts shall be 316 SS.

B. Polyethylene Encasement Material:

1. All Ductile Iron Pipe furnished and installed under this Contract shall be polyethylene encased. The Contractor shall supply all encasement materials.
2. The material shall be extruded tube form, flat sheets of high quality virgin polyethylene, 8 mils thick, pigmented with 2.0% to 2.5% of well dispersed carbon black with stabilizers. Minimum dielectric strength will be 500 volts per mil thickness.
3. A plastic adhesive tape approximately two inches wide will be used to close seams and overlaps. The tape must bond securely under water to polyethylene and metal surfaces. Approved types are Polyken No. 900 Polyethylene, Scotchrap No. 50 Polyvinyl, or equal. The tape material and installation procedures shall conform to ASTM A674.

## 2.02 RESTRAINED JOINTS

- A. Lengths of pipe restraint shall meet the requirements set forth in the District's Manual of Minimum Construction Standards and Technical Specifications for ductile iron pipe and fittings at a minimum.
- B. Approved restrained joint systems are:
  1. American – Flex-Ring, Lock Ring; push-on joint pipe with Fast Grip Gasket
  2. US Pipe – TR Flex; push-on joint pipe with Field Lock 350 Gasket
  3. McWayne Corporation – Super-Lock

## **PART 3 - EXECUTION**

### 3.01 GENERAL

- A. Pipe must be delivered to the job site by means which will adequately support it, and not subject it to undue stresses. Pipe shall be unloaded carefully and strung or stored as close to the final point of placement as practical.
- B. Utmost care shall be exercised in loading and placing of all pipe, fittings, valves, etc., in order to avoid shock and/or damage. Lifting shall be by hoist or skids when hand lifting is not feasible. Dropping will not be permitted. Pipe handled on skidways must not be skidded or rolled against pipe already on the ground.
- C. Any pipe, special casting, or other appurtenances broken or damaged after delivery to the site shall be replaced by the Contractor at its own expense. All pipes and special castings shall be carefully examined for defects, and no pipe or

special casting shall be laid which is known to be defective. If any such pipe or special casting shall be discovered to be defective after being laid, it shall be removed and replaced with a sound casting by the Contractor at its own expense.

### 3.02 PREPARATION

- A. Clean off scale and dirt both inside and outside before assembly. Remove welding slag or other foreign material from piping.
- B. Before running lines, the Contractor shall carefully verify the location, depth, type of joint needed, and size of pipe to which connection is proposed. The Contractor shall then assure itself that the lines can be run as contemplated without interfering with footings, walls, other piping, fixtures, etc. Any necessary deviations shall be referred to the Engineer for final adjustment before lines are run.
- C. All lengths of pipe shall be dimensioned accurately to measurements established at the site, and shall be worked into place without springing or forcing. Cut sections of pipe shall be reamed to remove all burrs.
- D. The Contractor shall cut all pipe and drill all holes that may be necessary, whenever and wherever so required. This work shall be done in a thorough and workmanlike manner.
- E. Changes in direction, unless otherwise noted or approved by the Engineer, shall be made with approved restrained joint fittings. The bending of pipe is strictly prohibited.
- F. Any transition from one pipe size to another shall be made with a reducing fitting. Reducing bushings are prohibited except where specifically called for on the Contract Drawings.
- G. Deflection of piping at joints is permitted. The maximum allowable deflection shall be 75% of the maximum allowable deflection recommended by the pipe manufacturer.

### 3.03 INSTALLATION OF PIPING

- A. Lines, Grades, Stakes and Templates:
  - 1. If a section of pipe is removed in order to gain access to the interior of the pipe, the replacement pipe shall be installed at the same line and grade as the existing pipe.
  - 2. The Contractor shall give the Engineer a minimum of 48 hours notice for any engineering or inspection necessary to continue or complete the Work.

B. Excavation:

1. The Contractor shall perform all excavation required for the installation of all parts of the project. All excavation shall be in strict accordance with the requirements of Section 02225.
2. The excavation of the trench shall be the minimum required to perform the work safely or where in the opinion of the Engineer it is necessary to drain wet ground, or for other reasons as approved by the Engineer.
3. All excavations shall be made by open cut. The sides of the trench shall be kept as nearly vertical as possible, especially from the trench floor to a level of one foot above the top of the pipe. Trench bottoms shall not be less than 24 inches wider nor more than 36 inches wider than the outside diameter of the pipe laid therein, and shall be excavated true to line, so that a clear space of not less than twelve inches nor more than eighteen inches in width is provided on each side of the pipe.
4. The bottom of trenches shall be accurately graded to provide uniform bearing and support for each section of pipe on undisturbed soil at every point along its entire length, except for portions of the pipe sections where it is necessary to excavate for bell holes. Bell holes shall be excavated only to an extent sufficient to permit accurate work in the making of the joints and to ensure that the pipe, for a maximum of its length, will rest upon the prepared bottom of the trench.
5. Excavation carried beyond or below grades specified by the Engineer shall be backfilled at the Contractor's expense with earth, sand, or gravel as directed by the Engineer, and shall be thoroughly tamped.
6. The materials excavated shall be deposited on the sides of the trenches and beyond the reach of slides, with the banks trimmed up so as little inconvenience as possible is made to public travel or occupants of adjoining property.
7. Sidewalks, roads, streets, and pavements shall not be obstructed by excavated materials, except as authorized by the Engineer. In this case, adequate temporary provisions will be made for a satisfactory temporary passage of pedestrians and vehicles.
8. Adequate bridging and planked crossings must be provided and maintained across all open trenches for pedestrians and vehicles. Barriers, lights, flares and any other necessary warning devices shall be provided and maintained by the Contractor at trenches, excavations and embankments, at no additional compensation.
9. In case it is necessary to place excavated material adjacent to buildings, the Contractor shall erect barriers to keep the earth at least four feet from the front of such buildings. In case earth is deposited on grass plots, the

Contractor shall remove it carefully when backfilling so as to not destroy the grass. All shade trees, shrubs, etc., along the line of construction shall be reasonably protected.

10. The Contractor shall, without additional expense, provide suitable temporary channels for any water that may flow along or across the site of the Work.
11. Where the bottom of the trench is found to consist of material which is unstable to such a degree that, in the opinion of the Engineer, it cannot be removed and shaped to adequately support the pipe, the trench bottom shall be stabilized by the Contractor to the satisfaction of the Engineer, without extra compensation.

C. Pipe Clearances in Rock:

1. Ledge rock, boulders and large stones shall be removed to provide a clearance of at least six inches below and on each side of all pipe, valves and fittings. Before the pipe is laid, all irregularities of the rock are to be filled with earth or sand well rammed into place and the bottom of the trench brought to proper grade.
2. The specified minimum clearances are the minimum clear distances which will be permitted between any part of the pipe and appurtenances being laid and any part, projection, or point of such rock, boulder or stone.

D. Blasting:

1. Blasting for rock excavation will not be permitted.

E. Bracing and Shoring:

1. The Contractor shall do all bracing, sheeting and shoring necessary to perform and protect all excavations as required for safety and as otherwise directed by the Engineer.

F. Dewatering:

1. The Contractor shall at all times during construction of the Work, provide and maintain ample means and devices with which to promptly and efficiently remove and properly dispose of all water entering trenches and excavations and keep said excavations dry until the structures to be built thereon are completed.
2. No pipe joints shall be laid in water, nor shall water be allowed to rise over masonry or mortar until the concrete or mortar has set for at least 24 hours. Dewatering operations shall be in strict accordance with the requirements of Section 02140.

G. Bedding and Base Fill:

1. After pipe joints have been inspected and given preliminary approval, and sufficient time has elapsed for setting of joints, backfilling shall be performed by hand, together with tamping, until fill has progressed to an elevation at least one foot above the top of the pipe.
2. During this initial stage of backfilling, approved granular materials or loose soil free from lumps, organic materials or stones shall be deposited in layers six inches thick and compacted by hand, or with manually operated machine tampers actuated by compressed air or other suitable means. Tamps and machines shall be suitable for the Work.
3. It is the intention of these Specifications to lay the subaqueous crossing pipe on a sand or crushed gravel foundation. Should rock be encountered above the trench bottom it shall be excavated to a depth of twelve inches under the pipe to allow for placing sand or crushed gravel bedding material.
4. In no case shall the gradient or alignment of any aerial, subaqueous, or road crossing be changed from that indicated on the Contract Drawings without the permission of the Engineer.

H. Backfilling:

1. The Contractor shall perform all backfilling that may be required for the installation of any and all parts of the Project. Backfilling shall be performed in accordance with Section 02225 – Trench Excavation and Backfill.
2. After the pipe is laid as specified herein, the trench shall be backfilled with selected fine materials from the excavation or borrow.

I. Clean-Up:

1. The Contractor shall clean up and legally dispose of all trash, wood forms and other debris and restore the job site to a condition acceptable to the District.
2. Excess excavated material within the FDOT right-of-ways shall be hauled to a location designated by the Engineer, within 20 miles. The Contractor shall include in the cost of the pipe installation removal and disposal of all excess excavated material.
3. Pipe laying operations shall not be permitted to extend excessive distances ahead of clean-up. Unless otherwise directed by the Engineer, clean-up activities shall not lag behind pipe installation by more than 500 feet.

J. Tees, Crosses, Bends, Plugs, Caps, Blind Flanges, Etc.:



1. Standard plugs shall be inserted into the bells of all dead end pipes, tees or crosses; spigot ends shall be capped; flanged ends shall have suitable blind flanges.
2. All tees, crosses, bends, plugs, and other fittings shall be mechanically restrained in accordance with the pipe manufacturers design manual for restrained joints.

K. Temporary Plugging:

1. Piping shall be temporarily plugged at the end of each day's work. Plugging shall be adequate to prevent the entry of animals into the pipe or the entrance or insertion of deleterious materials. Plugs installed for pressure testing shall be fully secured and blocked to withstand the test pressure.
2. 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.

L. Flanged Joints:

1. Care shall be taken in bolting flanged joints that there is no restraint on the opposite end of that would prevent pressure from being evenly and uniformly applied on the gasket.
2. Bolts shall be gradually tightened, each in turn, at a uniform rate of gasket compression around the entire flange.

END OF SECTION

**SECTION 02645**  
**VALVES AND APPURTENANCES**

**PART 1 - GENERAL**

1.01 REQUIREMENTS INCLUDED

- A. The Contractor shall provide all tools, supplies, materials, equipment and all labor necessary for the finishing, epoxy coating, installing, adjusting and testing of all valves and appurtenant work, complete and operable in accordance with the requirements of the Contract Documents. Where buried valves are shown, the Contractor shall furnish and install valve boxes to grade, with covers, extensions and position indicators.

1.02 RELATED REQUIREMENTS

- A. Loxahatchee River Environmental Control District's Manual of Minimum Construction Standards and Technical Specifications

**PART 2 - PRODUCTS**

2.01 GENERAL

- A. All buried valves and appurtenances including exposed nuts, bolts, and retainer glands shall be given an exterior approved bitumastic or epoxy coating.
- B. All valves shall open counterclockwise. All valves shall have extension stems pinned to the operating nut with a stainless steel pin extension. Stems will not be required where the valve operation nut is less than 30" from finished grade.
- C. Valves shall be covered by a Manufacturer's 10 year limited warranty from date of purchase by end user and delivered within 30 days from receipt of purchase order. The supplier will also provide laminated maintenance manuals.

2.02 RESILIENT SEAT GATE VALVES

- A. Gate valves shall be resilient seated, manufactured to meet or exceed the requirements of AWWA C509 or C515, Latest Revision, and in accordance with the following specifications. Valves shall have an unobstructed waterway canal equal to or greater than the full nominal diameter of the valve.
- B. The valves are to be non-rising stem with the stem made of cast, forged, or rolled bronze as shown in AWWA C509. Two stem seals shall be provided and shall be

of the O-ring type, one above and one below the thrust collar. A 2-inch square operating nut shall be provided for operating the valve. The stem nut, also made of bronze, may be independent of the gate or cast integrally with the gate. If the stem nut is cast integrally, the threads shall be straight and true with the axis of the stem to avoid binding during the opening or closing cycle.

- C. The valve body, bonnet, and bonnet cover shall be ductile iron. All ferrous surfaces inside the valve body shall have a fusion bonded epoxy coating applied at the valve manufacturer's facilities. The coating shall meet or exceed all requirements of AWWA C550. All bolts, nuts and washers shall be stainless steel to limit exterior corrosion and maintain fastener strength. The sealing mechanism shall consist of a cast iron or ductile iron gate having a vulcanized BunaN or SBR synthetic rubber coating or a Buna-N rubber seat mechanically retained on the gate. The resilient sealing mechanism shall provide zero leakage at 250-psi working pressure. All valves shall have pressure tests performed to the requirements of AWWA C509 or C515 specifications, as applicable, prior to shipment from the manufacturer. Valve shall seat and be drip-tight at the working pressure when installed with the line flow in either direction.
- D. All valves are to be tested in strict accordance with AWWA C509.
- E. Resilient seat gate valves shall be as manufactured by:
  - 1. Mueller,
  - 2. Metro-Series,
  - 3. American Darling or
  - 4. Approved equal
- F. Plug valves shall be as manufactured by:
  - 1. DeZurik Corporation,
  - 2. Keystone Valve Manufacturing Company (Ballcentric Type),
  - 3. Milliken, or
  - 4. Approved equal.

### 2.03 VALVE BOXES AND VAULTS

- A. All buried plug valves and resilient seat gate valves shall be equipped with valve boxes. Valve boxes shall be heavy duty construction for traffic loading type, cast iron, three piece, slide type, or screw type with drop covers. The valve boxes shall be adjustable to six inches up or down from the nominal required cover of the pipe. A number six base section shall be provided. Minimum shaft diameter shall be 5-1/4 inches and minimum metal thickness shall be 3/16 inch. Boxes shall be coated with an approved bitumastic or epoxy coating. Valve box covers shall have the word "SEWER" or "REUSE" cast thereon depending on the application. Swing check valves shall be installed in an approved suitable vault for easy access by the District maintenance staff.

- B. Valve boxes shall be installed on firmly compacted material at a level approximately equal to the elevation of the valve packing plate. No contact between the valve and the box shall be permitted. On plug valves, the positioner on the operating mechanism shall be kept free of rocks, debris, etc.
- C. Where valves are installed with over six feet of cover, or where the ground water table is within three feet of the ground level, an extension stem shall be provided to bring an operating nut within two feet of the finished grade. This extension stem shall be satisfactorily pinned to the valve operation nut to prevent dislodging during operation of the valve.

### **PART 3 - EXECUTION**

#### **3.01 VALVE INSTALLATION**

- A. All valves and appurtenances shall be installed in accordance with the manufacturer's written instructions and in the locations shown, true to alignment and rigidly supported. Any damage to the valves and appurtenances shall be repaired to the satisfaction of the Engineer before they are installed.
- B. All valves shall be installed to provide easy access for operation, removal, and maintenance and to avoid conflicts between valve operators and structural members or handrails.
- C. Install all floor boxes, brackets, extension rods, guides, the various types of operators and appurtenances as shown on the Drawings that are in masonry floors or walls, and install concrete inserts for hangers and supports as soon as forms are erected and before concrete is poured. Before setting these items, the Contractor shall check all plans and figures which have a direct bearing on their location, and he shall be responsible for the proper location of these valves and appurtenances during the construction of the structures.
- D. Valve boxes with concrete bases shall be installed as shown on the Drawings. Mechanical joints shall be made in the standard manner. Valve stems shall be vertical in all cases. Place cast iron box over each stem with base bearing on compacted fill and top flush with final grade. Boxes shall have sufficient bracing to maintain alignment during backfilling. Knobs on cover shall be parallel to pipe. Remove any sand or undesirable fill from valve box.

#### **3.02 PAINTING AND COATINGS**

- A. Valves shall be shop primed and field finish painted for interior and exposed service in with an acceptable bitumastic or epoxy coating. Except where otherwise specified, all exposed interior ferrous surfaces, exclusive of stainless steel surfaces, of valves 4-inch and larger, as well as the exterior surfaces of all

submerged and buried valves, shall receive a fusion-bonded epoxy coating in accordance with AWWA C550. Flange faces of valves shall not be epoxy coated. The Contractor through the valve manufacturer shall certify in writing that such coating has been applied and tested in the manufacturing plant prior to shipment, in accordance with these Specifications.

### 3.03 TESTING

- A. All valves shall be hydrostatically field tested at the specified pipeline test pressures specified in the piping sections. Any leakage or "sweating" of joints shall be stopped and all joints shall be tight.

END OF SECTION

**SECTION 02732**  
**PREPARATORY CLEANING AND CLOSED CIRCUIT TELEVISION**  
**(CCTV) INSPECTION**

**PART 1 - GENERAL**

1.01 REQUIREMENTS INCLUDED

- A. Provide internal force main inspection of the entire force main section by the use of closed circuit television inspection equipment to compile accurate information as to the general and specific conditions of the pipe, location of fittings and other features of the pipe, as specified herein.
  - 1. Conduct inspections in digital format (.mpg, .mp4, or other approved format) and submitted on two USB (2.0/3.0) powered portable hard drives as specified
  - 2. Provide the District with the necessary software to view the inspections, as necessary.
  - 3. All CCTV work shall conform to current National Association of Sewer Service Companies (NASSCO) - Pipeline Assessment Certification Program (PACP) standards.
  - 4. Create an opening into the force main in order to provide access to the interior of the pipe for cleaning and inspecting.
  
- B. Provide preparatory cleaning of the entire force main section before conducting the internal pipe inspection, as specified herein.
  
- C. See Part 3 of this section for instructions on obtaining water for use in cleaning operations.
  
- D. Supplying all labor, materials, equipment and apparatus not specifically mentioned herewith or noted on the exhibits, but which are incidental and necessary to complete the work specified.

1.02 RELATED REQUIREMENTS

- A. Loxahatchee River Environmental Control District's Manual of Minimum Construction Standards and Technical Specifications

1.03 JOB CONDITIONS

- A. Contractor shall conduct operations in a manner to cause the least possible obstruction and inconvenience to traffic, pedestrians and to adjacent property owners or tenants.

1.04 SUBMITTALS

- B. Provide detailed Pipe Entry Point plan as a shop drawing for review and approval.
  - 1. Identify strategy and documentation for the access of the force main to accommodate entry and extraction point of cleaning and inspection instrument installation, instrument deployment, instrument extraction, and force main repair/restoration to perform the condition assessment.
    - a. Force main entry and extraction point repair/restoration to be completed in accordance with Loxahatchee River Environmental Control District's Manual of Minimum Construction Standards and Technical Specifications.
  - 2. Identify any local risks and operational considerations to perform the inspection.
- C. Video Inspection USBs, DVDs and Written Logs
- C. Prior to submission of payment for this work submit all of the inspections on two external portable hard drives (with identical contents) as specified in paragraph 2.02 D to the Engineer.

1.05 QUALITY ASSURANCE

- A. Utilize cleaning, televising and recording equipment meeting the requirements of Part 2 of this Section.
- B. Provide preparatory cleaning and prepare hard drives in accordance with Part 3 of this Section.
- C. Use only television operators trained and certified by NASSCO in PACP to provide standardization and consistency in the proper and accurate interpretation of observation for defects, categorizing, designating, quantifying, and recording of observations.
- D. Provide copies of each equipment operator's Certification Number at the preconstruction conference.
- E. Include the operators PACP certification number on each inspection log.

## **PART 2 - PRODUCTS**

### **2.01 PREPARATORY CLEANING EQUIPMENT**

- A. General:
  - 1. Provide equipment constructed for ease and safety of operation and capable of cleaning to the degree specified in Part 3 of this Section.
  - 2. Provide equipment satisfactory to the Engineer.
  
- B. High-Velocity Jet (Hydrocleaning) Equipment:
  - 1. Provide equipment with a selection of 2 or more nozzles capable of producing a scouring action from 15 to 45 degrees in all size lines designated to be cleaned.
  - 2. Provide equipment capable of producing a minimum of 2,000 psi at 65 gpm for light cleaning.
  - 3. Provide higher capacity cleaning equipment for large diameter pipes and heavy cleaning.
  - 4. Accessories:
    - a. Provide a root cutter or a sand nozzle if the condition of the sewer necessitates.
  
- C. Pigging Equipment:
  - 1. Contractor shall furnish and install poly-pigs and pigging apparatus. Remove upon successful completion of all pipeline cleaning. The pig shall be 2-inches larger than the diameter of the force main.
  - 2. Contractor must provide poly-lined flushing discharge pits.
  - 3. Contractor is solely responsible for all costs associated with supplying, maintaining and operating any and all vac-trucks necessary to complete the flushing and pigging activities. Contractor is also solely responsible for all costs and fees associated with the disposal of all vacuum collected fluids. The Contractor will not be permitted under any circumstance to use any District owned equipment or material to perform any of the work associated with the Contract.

### **2.02 INTERNAL SEWER INSPECTION EQUIPMENT**

- A. General:
  - 1. Provide a closed circuit television (CCTV) and audio-video recording system for internal inspection of force mains capable of producing picture quality to the satisfaction of the Engineer.



- B. Television Camera:
  - 1. Use a digital color television camera designed and constructed for force main inspection with the following capabilities:
    - a. High-resolution color-chip camera and monitor capable of producing a minimum of 650 lines of resolution.
    - b. Adequate and adjustable directional lighting to allow a clear picture of the entire periphery of the pipe.
    - c. Provide auxiliary lighting for force mains larger than 12-inch diameter.
    - d. Operable in 100 percent humidity conditions.
    - e. Use a camera that has a 360 degree radial by 270 degree pan-and tilt viewing field.
    - f. Remote or manually propelled.
    - g. Electronic footage counters accurate to less than 1 percent error over the length of the particular sewer being inspected.
    - h. Skids or floatation device where it is necessary to raise the camera in large sewers specifically sized for each pipe diameter to position the camera in the center of the pipe.
  
- C. Audio-Video Recording System:
  - 1. General:
    - a. Provide the total audio-video recording system and procedures as required to produce a high quality digital video and audio production of bright, sharp, clear pictures with accurate colors, free from distortion. The audio portion shall have proper volume and clarity and shall be free from distortion.
  
- D. External Portable Hard Drive:
  - 1. Inspections shall be conducted in digital format (.mpg, .avi, or other approved format) and two (2) copies submitted on two (2) identically prepared USB 2.0/3.0 powered portable hard drives, each with a minimum capacity of 2 terabytes (2 Tb).
    - a. Provide one set of DVDs in addition to USB media.
      - (1) Provide one set of a professionally prepared index listing the contents of each disc and a bound document containing the written logs grouped by disc content.

## **PART 3 - EXECUTION**

### **3.01 GENERAL**

- A. Contractor shall construct access to the interior of the force main as described in Contractor's plan and as approved by the District and Engineer.

- B. Excavations, temporary piping and fittings required for access to the pipelines to be cleaned, and restoration of excavations shall be performed and installed by the Contractor. Excavations shall provide access one foot below the pipeline.
- C. If required, sheeting, bracing, and other appropriate means, methods and techniques of maintaining excavations to prevent accidents, cave-ins, or breaking of the ground outside of the excavation area shall be provided by the Contractor.
- D. Contractor shall secure a source of potable water which is suitable to complete the required cleaning and/or pigging activities per the Specifications.
  - 1. Contractor shall coordinate with the water utility to identify a source and acquire a temporary service meter, if required.
  - 2. Contractor shall be responsible for all costs associated with setting up a temporary account as well as for payment for the volume of potable water used during the completion of the work.

### 3.02 PREPARATORY CLEANING

- A. Provide preparatory cleaning of the force main section to permit unobstructed passage of the television camera and clean enough for the camera to discern structural defects, misalignment, pipe features and to the satisfaction of the Engineer.
- B. Perform a cleaning with high-velocity jet and/or poly-pig.
  - 1. Cleaning with a high-velocity jet shall consist of passes or flushes of the entire sewer section, if necessary, to allow adequate viewing of the pipe for the purpose of proper condition assessment.
    - a. Limit pullback speed to no more than one foot per second, and utilize maximum pressure.
- C. Perform additional cleaning, as approved by the District when the initial passes of the jetting equipment and/or initial pass of the pig was not effective, consisting of additional passes or flushes of the entire pipe section with high-velocity jet, power rodding, pigging or bucket equipment equipped with root cutter and sand nozzles and root saws or expandable cutters if conditions necessitate.
  - 1. Comply with paragraphs D and E of this Section regarding debris removal and disposal.
  - 2. Remove enough debris to allow for a detailed inspection of the pipe, including grease buildup.
- D. Remove existing debris and debris resulting from the cleaning operation.

- E. All water needed to flush and clean the existing main prior to inspection may be diverted to the District's gravity sewer system. The District's gravity sewer system adjacent to the project can be seen in Appendix A and Appendix C of the Contract Documents.
  - 1. Provide a vacuum truck for this operation if necessary.
  - 2. Discharge into the gravity sewer system must occur between the hours of 10 AM and 3 PM and not during wet weather.
  - 3. Contractor to coordinate with District staff 48 hours in advance of discharge into gravity sewer.

### 3.03 INTERNAL SEWER INSPECTION

- A. Begin each inspection with written and verbal explanation of the current date, project name, and District; followed by the general locations, manhole segment and direction of viewing and beginning footage count superimposed on the video signal. Provide continuous footage counter throughout the entire video recording.
- B. Conduct the inspections from south to north. Utilize "reverse" direction inspections only if television equipment encounters an impassible obstruction that requires the camera to be inserted in northern end in order to complete the inspection.
  - 1. The cost to reset the televising equipment for a reverse setup is considered incidental to the cost of that section.
  - 2. Maintain continuous verbal commentary of the sewer inspection for entire length of inspection. This is utilized as a cross-check against written logs and is useful as a reminder of which sewer section is being televised.
- C. Professionally label all external hard drives showing the District's name, the sewer lines recorded, the date, and Contractor's name.
- D. Move the camera, at a speed no greater than 30 feet per minute and stopping at all defects and points of infiltration and pan as necessary to permit proper documentation of the sewer's condition.
- E. Inspect the entire length of the force main section.
- F. Use air blowers, fans, or other means to evacuate steam from the force main if such conditions exist.
- G. Stop at all fittings, features, and note items such as type of connection, plugs, leaks, type of material, etc.
  - 1. Adjust focus and lighting as needed to obtain a bright clear view of the item being inspected.

- H. Stop televising if camera becomes submerged.
  - 1. Use high-pressure jetting or other means to lower water level to a point below camera.
  - 2. Provide temporary plugs if necessary, or directed by the Engineer.
  
- I. Documentation:
  - 1. Inspection Logs:
    - a. Provide inspection logs with the following information:
      - b. District's Name.
      - c. Inspector's Name.
      - d. Crew Chief's Name.
      - e. Date.
      - f. From
      - g. To
      - h. Direction of Flow.
      - i. Type of Pipe.
      - j. Joint Spacing.
      - k. Section Length.
      - l. Pipe Size.
      - m. Direction of Inspection (camera movement).
      - n. Surface conditions.
      - o. Document the footage and clock orientation of all pipe defects, change in pipe material, infiltration, building service connections and any other abnormal conditions.
      - p. Use terminology generally accepted by the industry.
      - q. Provide computer generated entries on inspection logs.
      - r. Complete inspection log in the field.
  - 2. Provide an audio track describing all information documented in the Inspection Log.

END OF SECTION

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BAXTER & WOODMAN

02732 - 8 PREPARATORY CLEANING AND CLOSED  
CIRCUIT TELEVISION (CCTV) INSPECTION

**SECTION 02736**  
**NON-DESTRUCTIVE DUCTILE IRON FORCE MAIN INSPECTION**

**PART 1 - GENERAL**

1.01 REQUIREMENTS INCLUDED

- A. Contractor shall furnish all supervision, tools, equipment, materials, labor, and other incidental items required to thoroughly perform a detailed non-destructive inspection of ductile iron piping specified herein.
  - 1. Record inspections in digital format and submitted on two USB (2.0/3.0) powered portable hard drives as specified.
  - 2. Provide the District with all necessary software to view the inspections, as required.
  
- B. Furnish all equipment, materials, and labor to install temporary piping required to direct all water used for gaining access to the pipelines for inspection herein or as otherwise directed by the District.
  
- C. Contractor is solely responsible for all costs associated with supplying, maintaining, and operating any and all vac-trucks and jetting trucks necessary to complete the inspection activities.
  - 1. Contractor is solely responsible for all costs and fees associated with obtaining and transporting water.
  - 2. Contractor is solely responsible for all costs and fees associated with the disposal of all vacuum collected fluids.
  - 3. The Contractor will not be permitted under any circumstance to use any District owned equipment or material to perform any of the work associated with the Contract.

1.02 RELATED REFERENCES

- A. Section 01700: Contract Closeout
  
- B. Section 02610: Force Mains – Ductile Iron Pipe and Fittings
  
- C. Section 02732: Preparatory Cleaning and Closed Circuit Television (CCTV) Inspection
  
- D. Loxahatchee River Environmental Control District’s Manual of Minimum Construction Standards and Technical Specifications

### 1.03 SUBMITTALS

- A. Provide force main non-destructive inspection plan for review and approval.
1. Identify the type of inspection technology being proposed, data capable of being collected, accuracy of data collection, conditions assessed, and pipeline requirements for equipment (i.e. pipe under pressure, pipe empty of flow, etc.).
    - a. The inspection equipment shall have a range of mechanical systems to accommodate ductile iron pipe diameters of 16-inches to 24-inches, at a minimum.
      - 1) Equipment shall have the ability to maneuver through bends of 90<sup>0</sup> maximum, open valves, and other pipeline features.
      - 2) The inspection equipment shall collect the appropriate data to detect localized corrosion and wall loss on the ductile iron pipe.
      - 3) Technology shall be able to detect localized wall loss.
  2. Provide examples of calibration curves generated from ductile iron pipe and provide detailed data regarding how these curves are used to estimate the pipe damage.
  3. Provide evidence that the inspection technology has been utilized on a minimum of 200 miles of pipeline.
- B. Provide detailed Pipe Entry Point plan as a shop drawing for review and approval.
1. Identify strategy and documentation for the access of the force main to accommodate entry and extraction point installation, instrument deployment, instrument extraction, and force main repair/restoration to perform the condition assessment.
    - a. Force main entry and extraction point repair/restoration to be completed in accordance with Loxahatchee River Environmental Control District's Manual of Minimum Construction Standards and Technical Specifications.
  2. Identify any local risks and operational considerations to perform the inspection.
- C. Contractor to furnish a Draft Inspection Report for the Engineer's review and comment. An electronic version of the Final Inspection Report shall be furnished upon receiving and incorporating the Engineer's comments. The Inspection Report shall include the following assessment data at a minimum:
1. Identified features of the existing force main, including, but not limited to, the following:

- a. Pipeline size,
  - b. Bends, Fittings, and Joints,
  - c. Pipeline Length, and
  - d. Pipeline alignment
2. Pipeline corrosion and pipe wall loss/remaining thickness evaluation
  3. A prioritized listing with a location map of potential pipe wall assessment locations and repair and/or rehabilitation locations based on the cumulative data
  4. GIS database modeled from inspection data integrated with geographical information with respect to the existing pipeline alignment
- D. Contractor to furnish a Final Inspection Report after integrating any comments received from the Engineer.

#### 1.04 SCHEDULE

- A. All pipeline inspection shall be performed between the hours of 8:00 A.M. and 4:00 P.M, Monday through Friday.
- B. District staff shall be given 48 hours notice prior to the start of pipeline inspection work.

#### 1.05 WORKMANSHIP

- A. Contractor may furnish the services of a specialty subcontractor for the proper cleaning and flushing of all pipelines specified in Section 02670 and as required to perform the inspection as specified herein.
- B. All personnel shall be trained and accredited to be in compliance with OSHA 29, CFR 1910.120, Health and Safety Training.
- C. Contractor shall render confined space areas safe for the services, including locking and tagging pumps, valves, and motors; dewatering areas to permit movement of persons and equipment; air ventilation (forced air if necessary for OSHA requirements) and vector and rodent control as necessary.

### **PART 2 - PRODUCTS (NOT USED)**

### **PART 3 - EXECUTION**



### 3.01 NON-DESTRUCTIVE FORCE MAIN INSPECTION

- A. Excavations, temporary piping, and fittings required for access to the pipelines to be inspected shall be installed, and restoration of excavations shall be performed by, by the Contractor.
  - 1. Excavations shall provide access to one foot below the pipeline.
  - 2. Excavations shall be performed as specified in Section 02225.
- B. If required, sheeting, bracing, and other appropriate means, methods, and techniques of maintaining excavations to prevent accidents, cave-ins, or breaking of the ground outside of the excavation area shall be provided by the Contractor.
  - 1. Sheeting, bracing, and other appropriate means shall be performed as specified in Section 02367.
- C. All water needed to flush and clean the existing main prior to inspection may be diverted to the District's gravity sewer system. The District's gravity sewer system adjacent to the project can be seen in Appendix A and Appendix C of the Contract Documents.
  - 1. Force main cleaning shall be done in accordance with Section 02732.
  - 2. Provide a vacuum truck for this operation if necessary.
  - 3. Discharge into the gravity sewer system must occur between the hours of 10 AM and 3 PM and not during wet weather.
  - 4. Contractor to coordinate with District staff 48 hours in advance of discharge into gravity sewer.
- D. Contractor shall secure a source of potable water which is suitable to complete the required non-destructive inspection activities per the Specifications.
  - 1. Contractor shall coordinate with the water utility to identify a source and acquire a temporary service meter, if required.
  - 2. Contractor shall be responsible for all costs associated with setting up a temporary account as well as for payment for the volume of potable water used during the completion of the work.
- E. Notify Engineer and the District 48 hours in advance of the start of all non-destructive inspection activities.
  - 1. Contractor shall coordinate with the Engineer and the District to divert the flow and isolate the force main to be inspected.

## **SECTION 02936 SODDING**

### **PART 1 - GENERAL**

#### 1.01 REQUIREMENTS INCLUDED

- A. Section generally defines Contractors responsibilities, unless otherwise indicated for the following:
  - 1. Preparation of subsoil
  - 2. Placing topsoil
  - 3. Fertilizing
  - 4. Sod installation
  - 5. Maintenance

#### 1.02 REFERENCES

- A. FDOT - Florida Department of Transportation - Standard Specifications for Road and Bridge – Latest Edition.

#### 1.03 QUALITY ASSURANCE

- A. Sod Producer: Company specializing in sod production and harvesting with minimum 5 years of experience, and certified by the State of Florida.
- B. Installer: Company approved by the sod producer.
- C. Sod: Minimum age of 18 months, with root development that will support its own weight, without tearing, when suspended vertically by holding the upper two corners.
- D. Submit sod certification for grass species and location of sod source.
- E. The Engineer reserves the right to test, reject or approve all materials before application.

#### 1.04 REGULATORY REQUIREMENTS

- A. Comply with regulatory agencies for fertilizer.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Deliver products to site under provisions of Section 01600 – Material and Equipment.
- B. Store and protect products under provisions of Section 01600 – Material and Equipment.
- C. Deliver sod on pallets. Protect exposed roots from dehydration.
- D. Do not deliver more sod than can be laid within 48 hours.
- E. Deliver fertilizer in water proof bags showing weight, chemical analysis, and name of manufacturer.
- F. Contractor shall furnish the Engineer invoices of all materials received such that the minimum application rate of materials may be determined.

1.06 MAINTENANCE SERVICE

- A. Maintain sodded areas immediately after placement until grass is well established and exhibits a vigorous growing condition.

**PART 2 - PRODUCTS**

2.01 MATERIALS

- A. Sod:
  - 1. The sod shall be Argentine Bahia or Floritam, to closely match existing as directed, with well matted roots.
  - 2. The sod shall be commercial size rectangular measuring 12-inches by 24 inches or larger.
  - 3. The sod shall be sufficiently thick to secure a dense stand of live grass, with a minimum thickness of 2-inches.
  - 4. The sod shall be live, fresh and uninjured at the time of planting.
  - 5. The sod shall have a soil matt of sufficient thickness adhering firmly to the roots to withstand all necessary handling and be reasonably free of weeds and other grasses.
  - 6. The sod shall be planted as soon as possible after being harvested and shall be shaded kept moist from the time of harvesting until it is planted.

7. The source of the sod may be inspected and approved by the Engineer prior to construction.
- B. Topsoil:
1. Excavated from site and free of weeds.
- C. Fertilizer:
1. In accordance with FDOT 982-1.
- D. Water:
1. Clean, fresh, and free of substances or matter which could inhibit vigorous growth of grass.

### **PART 3 - EXECUTION**

#### 3.01 INSPECTION

- A. Verify that prepared subsoil is ready to receive the work of this Section.

#### 3.02 FERTILIZING

- A. Apply fertilizer in accordance with manufacturer's instructions.
- B. Apply after smooth raking of topsoil and prior to installation of sod.
- C. Apply fertilizer no more than 48 hours before laying sod.
- D. Mix thoroughly into upper 2 inches of topsoil.
- E. Lightly water to aid the dissipation of fertilizer.

#### 3.03 LAYING SOD

- A. Moisten prepared surface immediately prior to laying sod.
- B. Lay sod tight with no open joints visible, and no overlapping; stagger end joints 12 inches minimum. Do not stretch or overlap sod pieces.

#### 3.04 MAINTENANCE

- A. Water to prevent grass and soil from drying out.
- B. Immediately replace sod in areas which show deterioration or bare spots.

- C. Contractor shall include in pricing, water and equipment to insure adequate survival of the sod for 60 days after substantial completion.

END OF SECTION

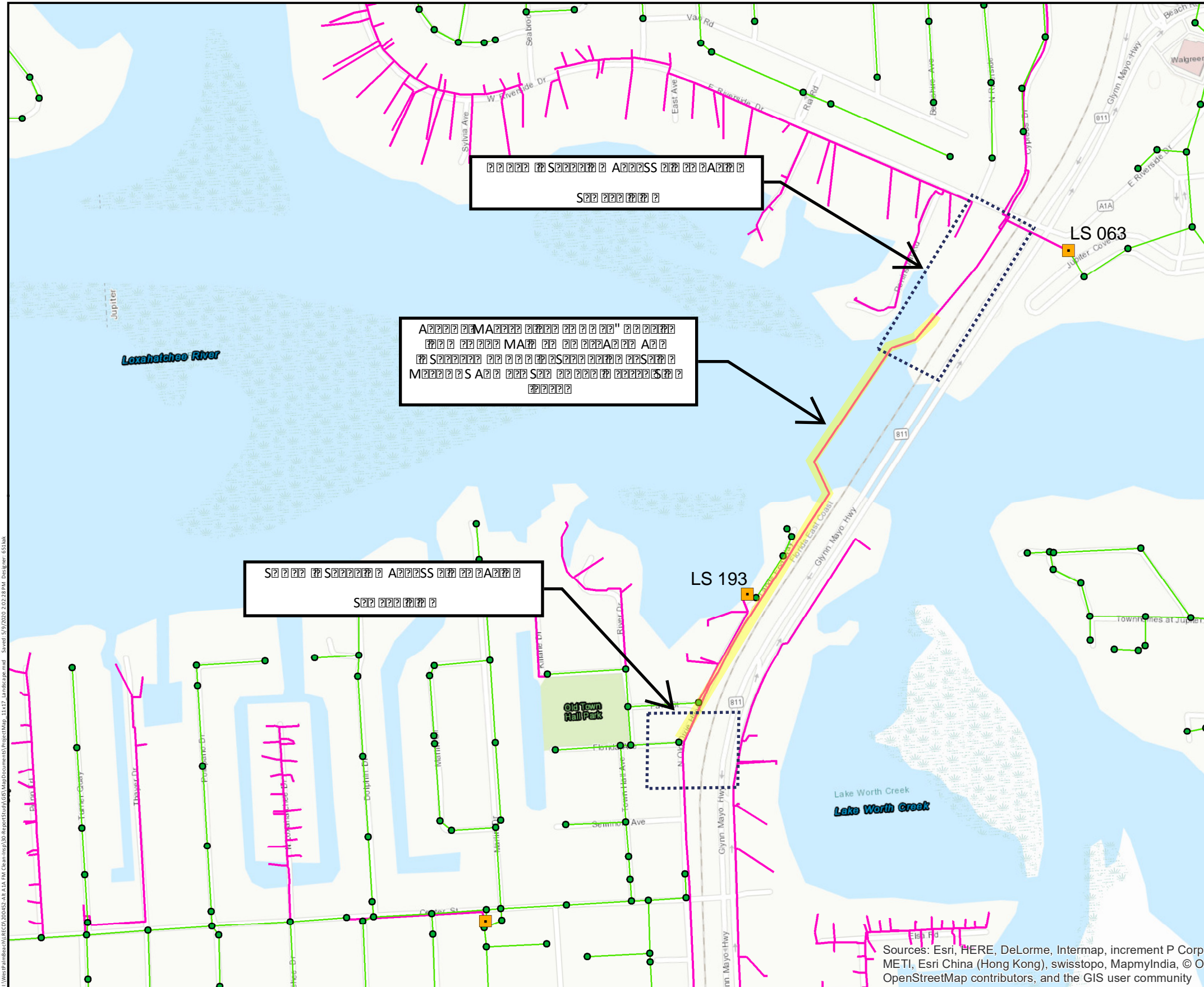
**APPENDIX A**

**ALTERNATE A1A 24-INCH FORCE MAIN INSPECTION  
ACCESS PIT LOCATIONS**

# ALTERNATE A1A 24-INCH FORCE MAIN CLEANING & INSPECTION

## LOXAHATCHEE RIVER ENVIRONMENTAL CONTROL DISTRICT

## Project Location



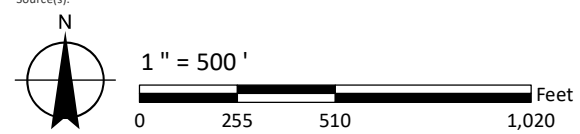
### GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS OF THE LOXAHATCHEE RIVER DISTRICT, PALM BEACH COUNTY, FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION, PALM BEACH COUNTY HEALTH DEPARTMENT, FLORIDA DEPARTMENT OF TRANSPORTATION, AND NATIONAL CODES WHERE APPLICABLE.
2. ALL CONSTRUCTION SHALL BE DONE IN A SAFE MANNER, SPECIFICALLY, THE RULES AND REGULATIONS OF THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION AND THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES SHALL BE STRICTLY OBSERVED.
3. CONTRACTOR SHALL MAINTAIN LOCAL TRAFFIC AT ALL TIMES DURING CONSTRUCTION AND SHALL BE REQUIRED TO PROVIDE ALL BARRICADES, LIGHTING, SIGNAGE, AND FLAGMEN AS NECESSARY TO PROVIDE FOR THE SAFETY OF THE PUBLIC IN THE WORK AREA.
4. DRAWING ELEVATIONS ARE BASED ON NGVD 29 DATUM.
5. LOCATIONS OF EXISTING FACILITIES AS SHOWN ON CONSTRUCTION DRAWINGS ARE APPROXIMATE AND ARE DRAWN FROM AVAILABLE RECORDS. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THE FACILITIES SHOWN NOR FOR ANY FACILITY NOT SHOWN.
6. ALL OPEN TRENCHES AND HOLES ADJACENT TO ROADWAY SHALL BE PROPERLY MARKED AND BARRICADED TO ASSURE THE SAFETY OF BOTH VEHICULAR AND PEDESTRIAN TRAFFIC.
7. CONTRACTOR SHALL MAINTAIN HIS WORK WITHIN R/W AND EASEMENT LIMITS UNLESS OTHERWISE NOTED ON DRAWINGS.
8. PROJECT SITE SAFETY:
  - A. THE ENGINEER/OWNER OR THEIR EMPLOYEES HAVE NO AUTHORITY TO EXERCISE ANY CONTROL OVER THE CONTRACTOR, ANY SUB-CONTRACTOR OR OTHER ENTITY OR THEIR EMPLOYEES IN CONNECTION WITH THEIR WORK OR ANY JOB SITE HEALTH OR SAFETY PRECAUTIONS.
  - B. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR JOB SITE SAFETY, AND WARRANTS THAT THIS INTENT IS MADE EVIDENT BY THE AGREEMENT BETWEEN OWNER AND CONTRACTOR.
  - C. ALL EXISTING OVERHEAD AND UNDERGROUND UTILITIES SHOWN ON THESE DRAWINGS OR ENCOUNTERED THROUGH THE PROGRESSION OF WORK AT THIS PROJECT SITE ARE ASSUMED TO BE LIVE. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SAFETY PRECAUTIONS WHEN WORKING AROUND EXISTING OVERHEAD OR UNDERGROUND UTILITIES

### EROSION CONTROL

1. ALL STORM SEWER INLET GRATES TO BE COVERED WITH FABRIC DURING CONSTRUCTION.
2. CUT AND FILL SLOPES TO BE CONSTRUCTED IN A MANNER THAT WILL MINIMIZE EROSION. SILT FENCES TO BE USED WHERE NECESSARY.
3. CONSTRUCTION VEHICLE ACCESS ROUTES SHALL BE SWEEPED CLEAN OF SEDIMENT, CONCRETE AND OTHER CONSTRUCTION MATERIALS AS NEEDED.
4. ALL BERMS, DIKES, AND SPOIL PILES SUBJECT TO EROSION MUST BE STABILIZED OR CONTAINED TO PREVENT EROSION AND RUN OFF FROM THE PROJECT.
5. THE QUALITY OF THE DISCHARGE WATER FROM DEWATERING AND CONSTRUCTIONS ACTIVITIES SHALL MEET STATE WATER QUALITY STANDARDS.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PREPARATION AND PERMITTING OF A STORMWATER POLLUTION PREVENTION PLAN FOR THE PROJECT.

Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community, Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors, and the GIS user community



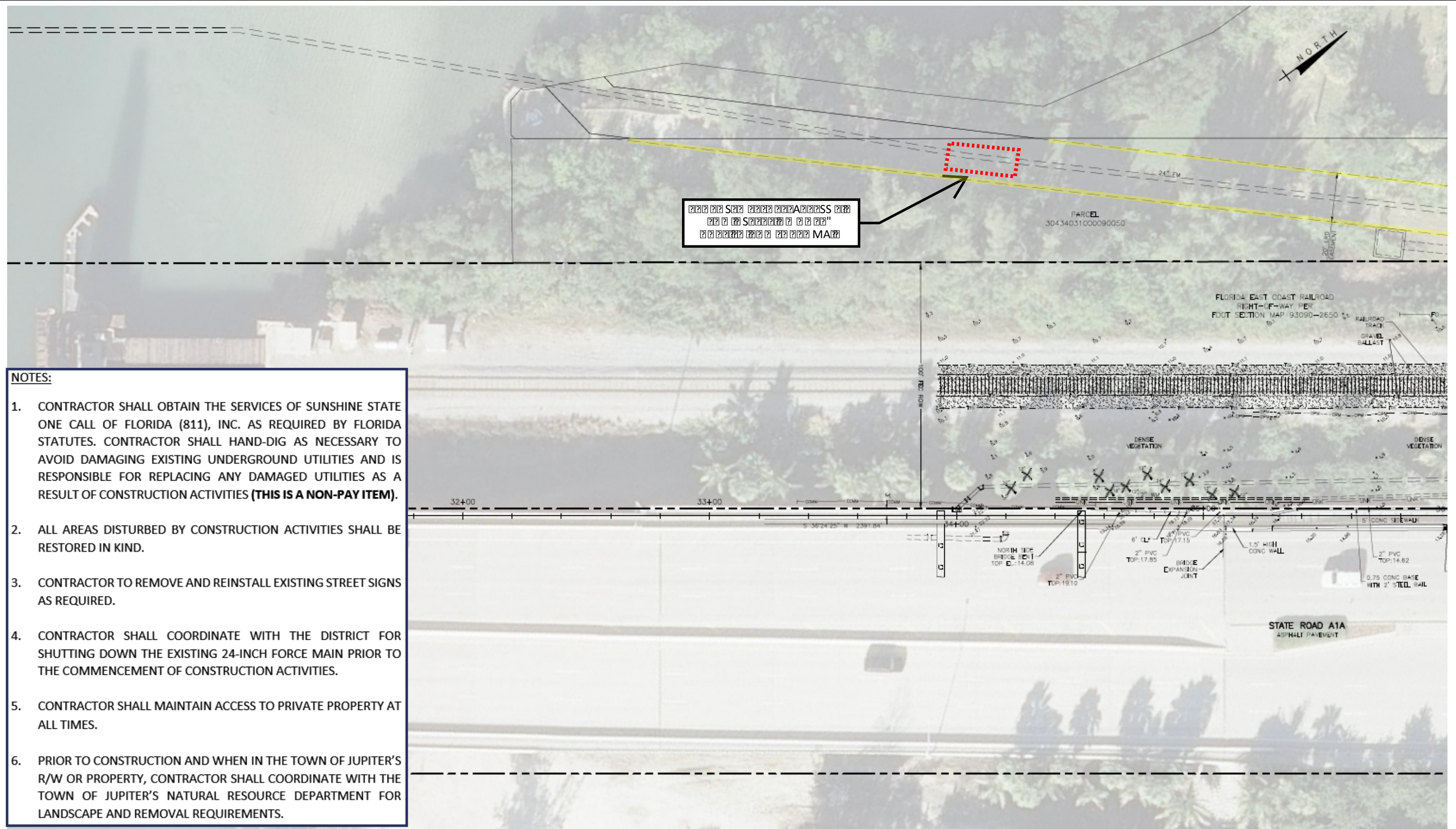
### Legend

- Lift Station
- Manhole
- Gravity Sewer
- Force Main





# ALTERNATE A1A 24-INCH FORCE MAIN CLEANING & INSPECTION



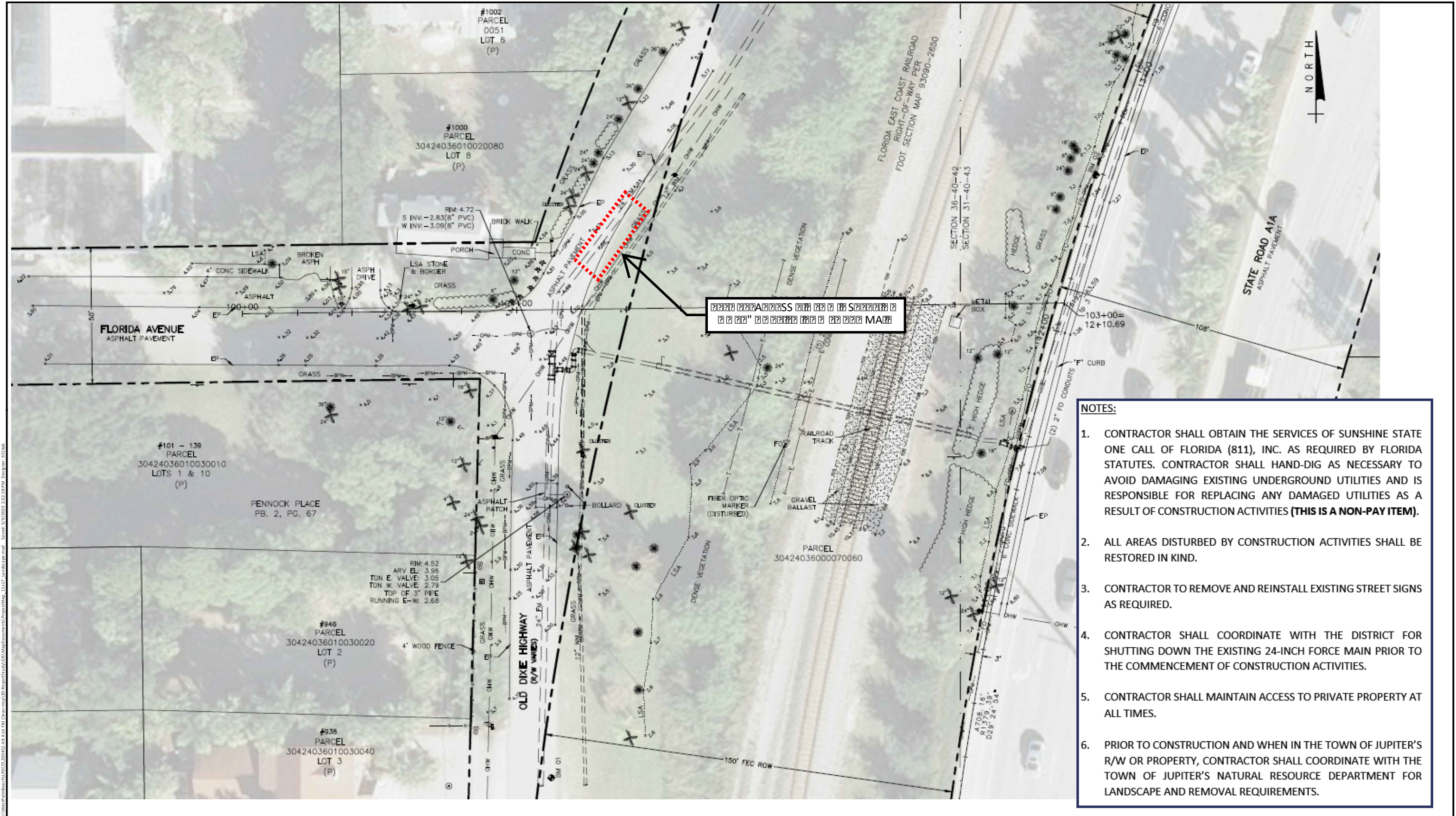
- NOTES:**
1. CONTRACTOR SHALL OBTAIN THE SERVICES OF SUNSHINE STATE ONE CALL OF FLORIDA (811), INC. AS REQUIRED BY FLORIDA STATUTES. CONTRACTOR SHALL HAND-DIG AS NECESSARY TO AVOID DAMAGING EXISTING UNDERGROUND UTILITIES AND IS RESPONSIBLE FOR REPLACING ANY DAMAGED UTILITIES AS A RESULT OF CONSTRUCTION ACTIVITIES **(THIS IS A NON-PAY ITEM)**.
  2. ALL AREAS DISTURBED BY CONSTRUCTION ACTIVITIES SHALL BE RESTORED IN KIND.
  3. CONTRACTOR TO REMOVE AND REINSTALL EXISTING STREET SIGNS AS REQUIRED.
  4. CONTRACTOR SHALL COORDINATE WITH THE DISTRICT FOR SHUTTING DOWN THE EXISTING 24-INCH FORCE MAIN PRIOR TO THE COMMENCEMENT OF CONSTRUCTION ACTIVITIES.
  5. CONTRACTOR SHALL MAINTAIN ACCESS TO PRIVATE PROPERTY AT ALL TIMES.
  6. PRIOR TO CONSTRUCTION AND WHEN IN THE TOWN OF JUPITER'S R/W OR PROPERTY, CONTRACTOR SHALL COORDINATE WITH THE TOWN OF JUPITER'S NATURAL RESOURCE DEPARTMENT FOR LANDSCAPE AND REMOVAL REQUIREMENTS.

Source(s):

# ALTERNATE A1A 24-INCH FORCE MAIN CLEANING & INSPECTION

## LOXAHATCHEE RIVER ENVIRONMENTAL CONTROL DISTRICT

## South Access Pit Location



- NOTES:**
1. CONTRACTOR SHALL OBTAIN THE SERVICES OF SUNSHINE STATE ONE CALL OF FLORIDA (811), INC. AS REQUIRED BY FLORIDA STATUTES. CONTRACTOR SHALL HAND-DIG AS NECESSARY TO AVOID DAMAGING EXISTING UNDERGROUND UTILITIES AND IS RESPONSIBLE FOR REPLACING ANY DAMAGED UTILITIES AS A RESULT OF CONSTRUCTION ACTIVITIES **(THIS IS A NON-PAY ITEM)**.
  2. ALL AREAS DISTURBED BY CONSTRUCTION ACTIVITIES SHALL BE RESTORED IN KIND.
  3. CONTRACTOR TO REMOVE AND REINSTALL EXISTING STREET SIGNS AS REQUIRED.
  4. CONTRACTOR SHALL COORDINATE WITH THE DISTRICT FOR SHUTTING DOWN THE EXISTING 24-INCH FORCE MAIN PRIOR TO THE COMMENCEMENT OF CONSTRUCTION ACTIVITIES.
  5. CONTRACTOR SHALL MAINTAIN ACCESS TO PRIVATE PROPERTY AT ALL TIMES.
  6. PRIOR TO CONSTRUCTION AND WHEN IN THE TOWN OF JUPITER'S R/W OR PROPERTY, CONTRACTOR SHALL COORDINATE WITH THE TOWN OF JUPITER'S NATURAL RESOURCE DEPARTMENT FOR LANDSCAPE AND REMOVAL REQUIREMENTS.

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**APPENDIX B**

**2016 ALTERNATE A1A FORCE MAIN EXTENSION  
GEOTECHNICAL REPORT**

# Geotechnical Engineering Report

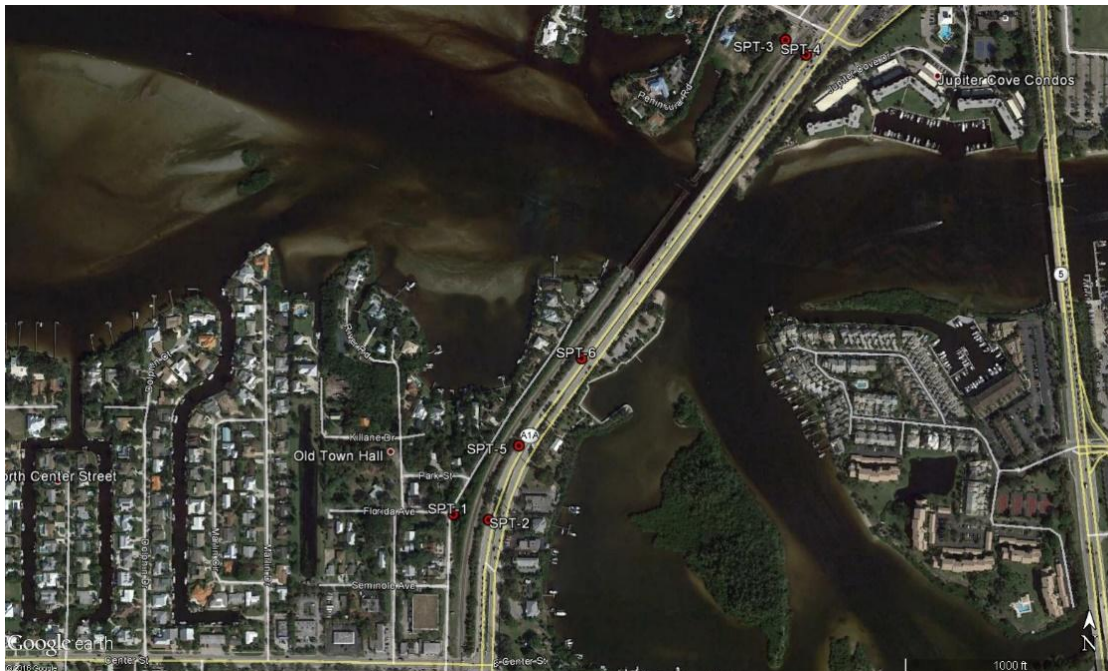
ALTERNATE A1A FORCE MAIN EXTENSION

LOXAHATCHEE RIVER DISTRICT

Town of Jupiter, Florida

November 1, 2016

Project No. HD165037



**Prepared for:**

Mathews Consulting, a Baxter and Woodman Company  
West Palm Beach, Florida

**Prepared by:**

Terracon Consultants, Inc.  
West Palm Beach, Florida

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# Terracon

Geotechnical    Environmental    Construction Materials    Facilities

November 1, 2016



Mathews Consulting, a Baxter and Woodman Company  
477 South Rosemary Avenue, Suite 330  
West Palm Beach, Florida 33401

Attn: Mr. Dave Mathews, P.E.  
P: 561.655.6175  
E: dmathews@baxterwoodman.com

Re: Geotechnical Engineering Report  
Alternate A1A Force Main Extension  
Loxahatchee River District  
Town of Jupiter, Florida  
**Terracon** Project Number: HD165037

Dear Mr. Mathews:

Terracon Consultants, Inc. (Terracon) has completed geotechnical engineering services for the above referenced project. This study was performed in general accordance with the Subconsultant Agreement dated September 19, 2016 (MC Job No. 1862).

This report presents the findings of the subsurface exploration and provides geotechnical recommendations concerning the proposed force main extension project.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning this report, or if we may be of further service, please contact us.

Sincerely,  
**Terracon Consultants, Inc.**

Daniel J. Marieni, P.E.  
Geotechnical Department Manager  
FL Registration No. 78629

Kevin E. Aubry, P.E.  
Senior Geotechnical Engineer  
FL Registration No. 38175



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Geotechnical



Environmental



Construction Materials



Facilities

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## **EXECUTIVE SUMMARY**

This Geotechnical Engineering Report was performed in accordance with the Subconsultant agreement dated September 19, 2016. The attached report includes the results of 6 Standard Penetration Test (SPT) borings drilled at the site. The borings disclosed the subsurface materials at the site to consist predominantly of very loose to medium dense sands.

The results of this study confirm that the proposed pipeline alignment is suitable for the planned construction when viewed from a geotechnical engineering perspective. The subsurface profile components beneath the planned pipeline alignment consist generally of very loose to medium dense sands. Subsurface conditions at the site are not expected to impose any severe constraints or limitations on the construction from a geotechnical engineering viewpoint. Borings drilled within the existing pavements of Alternate A1A showed relative densities in the range of dense to very dense within the upper 4 to 6 feet of the profile components. This condition is likely the result of ground preparation completed for the existing roadway construction.

Based on the groundwater depths found in the borings, groundwater will impact excavations and underground works along the project alignment. Appropriate provisions for construction dewatering should be anticipated.

The subsurface soils found are expected to provide little to moderate resistance to directional drilling. These soils found in the profiles should be easily drilled through using conventional modern directional drilling equipment. Design and construction of jacking and receiving pits used for bore and jack operations should anticipate the shallow nature of the water table in the project vicinity and tidal fluctuations associated with coastal construction. Lateral earth pressure design criteria for excavation support systems are provided in the following report.

This summary should be used in conjunction with the entire report for design purposes. It should be recognized that details were not included or fully developed in this section, and the report must be read in its entirety for a comprehensive understanding of the items contained herein. The section titled **LIMITATIONS** should be read for an understanding of the report limitations.

**GEOTECHNICAL ENGINEERING REPORT  
ALTERNATE A1A FORCE MAIN EXTENSION  
LOXAHATCHEE RIVER DISTRICT**

**Town of Jupiter, Florida**

Project No. HD165037

November 1, 2016

## **1.0 INTRODUCTION**

This geotechnical engineering report has been prepared for the proposed force main extension project in the Town of Jupiter, Florida. This report describes the methods of study and key findings from the subsurface exploration. Geotechnical engineering design criteria and recommendations for the proposed construction are also provided herein.

## **2.0 PROJECT CONSIDERATIONS**

We understand that the Loxahatchee River District wishes to extend an existing force main in the Town of Jupiter, Florida. The extension will consist of the installation of a 16 inch diameter force main along the west side of Alternate A1A, from about 700 feet north of Center Street to East Riverside Drive. The pipeline is to be constructed using directional drilling methods, with the exception of the bridge crossing and the north and south ends of the alignment. Along the Alternate A1A Bridge crossing over the Loxahatchee River the pipeline will run above grade, fixed to the bridge. The pipeline at the north and south ends of the alignment will turn west, crossing under the FEC railroad. The pipeline will be installed using the jack and bore method under the FEC railroad. Conventional cut and cover methods will be used in relatively short reaches of the project.

## **3.0 SCS SOIL SURVEY INFORMATION**

The U.S. Department of Agriculture – Soil Conservation Service (SCS) mapping of Palm Beach County Area, Florida, issued 1978, was reviewed for the project setting. The mapping indicates the project alignment from south to north to consist of the following mapping units:

- Immokalee fine sand – the SCS describes this as a nearly level, poorly drained, deep sandy soil that has a dark colored layer below a depth of 30 inches that is weakly cemented with organic matter. It is mapped near the southern terminus of the project.
- Basinger fine sand – similar to the description above for the Immokalee series. It is shown by SCS as being south of the Loxahatchee River.



- Arents-urban land - this unit is described as nearly level, poorly drained, sandy Arents soils and urban land. Arents soils generally consist of sandy soils with some shell and limestone fragments to a depth of at least 80 inches. These soils were placed to grade the site to current elevations along the south and north banks of the Loxahatchee River.
- St. Lucie—urban land – these are made up of nearly level to sloping, excessively drained sands found along coastal ridges, and have been modified by cutting, grading and shaping for urban development. These soils are found at the northern limits of the project alignment.

## **4.0 SUBSURFACE CONDITIONS**

### **4.1 Field Exploration**

The site was explored with six Standard Penetration Test (SPT) borings drilled at the locations shown on Exhibit 1. Borings located within the Alternate A1A Right-of-Way (Boring Nos. SPT-2, 4, 5 and 6) were drilled under the conditions of the General Use Permit No. 16-K-496-0116-93090, issued by the Florida Department of Transportation. Since these borings were situated within existing travel lanes, a maintenance of traffic plan was implemented as part of the permit requirements. Four (4) of the SPT borings (SPT-1, 2, 3 and 4) were each drilled to a depth of 10 feet below surface grade, while Boring Nos. SPT-5 and 6 were drilled to 25 feet deep. Locations of and depths of the borings were prescribed by Mathews Consulting, a Baxter and Woodman Company (Mathews). The borings were drilled using a truck mounted Central Mine Equipment (CME) Model 45B drilling rig and employing mud rotary techniques. Samples of the in-place materials were obtained at frequent vertical intervals using a standard split barrel driven with a 140-pound hammer freely falling 30 inches (the SPT after ASTM D 1586). A dense bentonite slurry was circulated in the boreholes as they were extended to remove drill cuttings and maintain sidewall stability. The borings drilled within the FDOT Right-of-Way were backfilled with grout upon completion. Elsewhere, the borings were backfilled with granular materials.

Samples recovered from the borings were placed in moisture-proof containers and returned to our laboratory for visual examination and classification in accordance with the Unified Soil Classification System (ASTM D 2487). Profiles of the borings, including their pavement sections, soil types, SPT data and groundwater levels are shown on Exhibit 2.

### **4.2 Pavement Section**

The existing pavement section was determined at the boring locations drilled within Alternate A1A. The pavement section generally consisted of asphalt concrete over limerock base course. The structural number of the existing pavement was estimated at each location. Materials found at these locations and their estimated structural numbers are summarized in the following table.

**Table 1 – Summary of Pavement Section Data**

Location		Thickness (inches)		Estimated Structural Number
No.	Roadway	Asphalt	Base Course	
SPT-1	Sta. 101+34, 15' RT	NA	NA	NA
SPT-2	Sta. 11+55, 7' RT	3	10	2.55
SPT-3	Sta. 38+55, 110' LT	NA	NA	NA
SPT-4	Sta. 38+58, 7' RT	2	12	2.66
SPT-5	Sta. 15+52, 8' RT	2¼	9	2.18
SPT-6	Sta. 20+67, 8' RT	11	9	4.37

Note: The estimated structural number is based on an asphalt layer coefficient of 0.25 and a base course layer coefficient of 0.18. The asphalt layer coefficient was obtained from Table 7.1 of the 2015 FDOT Flexible Pavement Design Manual for pavements in fair condition.

### 4.3 Stratigraphy

The subsurface profile components beneath the planned pipeline alignment consist generally of very loose to medium dense sands. Upper portions of the subsurface profile are comprised of sands with gravel, shell, concrete fragments and glass fragments, all indicators of man-placed fill. Borings drilled within the existing pavements of Alternate A1A showed relative densities in the range of dense to very dense within the upper 4 to 6 feet of the profile components. This condition is likely the result of ground preparation completed for the existing roadway construction.

Descriptions of the strata found in the borings are provided in the table that follows.

**Table 2 – Stratigraphy**

Stratum No.	Relative Density	Soil Description
TS	--	Dark Gray organic SAND (TOPSOIL)
1	Loose to Dense	Light brown to dark brown SAND with silt, gravel, shell, concrete fragments, glass (FILL)
2	Very Loose to Medium Dense	Light brown to dark brown SAND, trace to some silt, trace fibrous roots (SP, SP-SM)
3	Loose to Medium Dense	Light gray-brown to white SAND (SP)
4	Very Loose to Medium Dense	Gray sandy GRAVEL, sand to gravel sized shell fragments (GP)
5	Very Loose	Gray fine SAND with trace to some silt, trace to some sand to gravel sized shell fragments (SP, SP-SM)

Note: Subsurface profile is variable. Refer to Exhibit 2 for strata boundaries for each boring.

The SPT data indicate the sands range from very loose to dense in terms of relative density, with the general trend of less dense with increasing depth.

## **4.4 Groundwater**

Groundwater levels were measured in the boreholes on the date of exploration (October 14, 2016). The measured depths to the groundwater level ranged between approximately 1 and 7 feet below the ground surface at the time of drilling. Utilizing ground surface elevations obtained from the 50% Design Plans (dated August 2016), and the measured depths to the groundwater surface, we estimate the groundwater elevations ranged between about +2.3 feet and +3.2 feet with respect to the National Geodetic Vertical Datum of 1929 (NGVD). We expect that groundwater levels at the boring locations will mimic the water levels in the Loxahatchee River, which is influenced by tides, and the proximity of the site to the Jupiter Inlet.

## **5.0 DISCUSSIONS AND RECOMMENDATIONS**

### **5.1 Geotechnical Site Suitability**

The results of this study confirm that the proposed pipeline alignment is suitable for the planned construction when viewed from a geotechnical engineering perspective. The subsurface profile components beneath the planned pipeline alignment consist generally of very loose to medium dense sands. Subsurface conditions at the site are not expected to impose any severe constraints or limitations on the construction from a geotechnical engineering viewpoint. Based on the groundwater depths found in the borings, groundwater will impact excavations and underground works along the project alignment. Appropriate provisions for construction dewatering should be anticipated. Discussions related to the design and construction of the pipeline are provided in the following sections of this report.

### **5.2 Excavations**

Below grade excavations should be made in accordance with all applicable State and Federal requirements. Per OSHA 29 CFR Part 1926, Subpart P- "Excavations," the granular subsoils along the pipeline alignments fall within the Type C criteria. As such, temporary excavation slopes should be stable when adequately dewatered and constructed no steeper than 1.5:1 (horizontal: vertical). In areas of space limitation where open cut is not practical, the excavations may require sheeting or shoring.

The results of the borings indicate that excavations in the existing subsurface profile will produce sands with some gravel. Excavated materials consisting of sands or sand-gravel mixtures with particle sizes of less than 1 inch in diameter and no more than 10 percent fines (particles passing through the U.S. Number 200 Sieve) may be stockpiled and re-used for backfill. Oversized materials (i.e. particles larger than 1 inch) resulting from the excavation are unsuitable as backfill and should be wasted.

Based upon groundwater levels measured in the borings, and the anticipated depths of excavation for the force main, groundwater may be intercepted in some areas of the pipeline excavations. In areas where the pipelines will bottom below the groundwater level existing at the time of construction, the excavations should be dewatered by pumping from wells, well points or sump pumps such that the lowered groundwater level is a minimum of twelve inches below the working grade of the excavation.

### **5.3 Pipe Support & Backfill**

*Ground Support* – The pipeline will generally bottom within loose to dense sands or sand-gravel mixtures. These materials will provide adequate foundation support for the piping. The pipe bedding should be compacted to not less than 100 percent of the maximum dry density determined in accordance with Standard Proctor (AASHTO T 99).

*Pipe Backfill* - Backfill may consist of excavated materials provided they contain no particle sizes larger than 1 inch, less than 10% fines, and no more than 2% organic matter. The backfill should be placed in the dry and up to the pipe spring line, then compacted to at least 100 percent of maximum dry density (AASHTO T-99). Subsequent lifts should be compacted in 6-inch thick lifts to the same compactive effort. We recommend the use of only relatively light, hand-held compaction equipment to limit the potential for damage to the pipeline.

### **5.4 Pavement Restoration**

In areas where the proposed pipeline will be installed beneath portions of existing Alternate A1A Right-of-Way, trench repair may be required. Pavement reconstruction should consist of a flexible (asphalt surface) pavement section. Based upon the pavement sections determined at the boring locations, the pavement restoration section should consist of at least 3 inches of structural asphaltic concrete over 12 inches of aggregate base course, in order to provide an equivalent (or better) section compared with that which currently exists. The FDOT may have more stringent requirements for pavement restoration.

The base course should meet the requirements of either Sections 911 or 913A of the Florida Department of Transportation “Standard Specifications for Road and Bridge Construction.” The base materials should have a Limerock Bearing Ratio (LBR) of at least 100 and be compacted to not less than 98 percent of the AASHTO T-180 maximum dry density. Subgrade materials should be densified to not less than 98 percent of the AASHTO T-180 maximum dry density to a depth of 12 inches below the bottom of the base course.

## 5.5 Directional Drilling and Jack-and-Bore

The majority of the subsurface soils found are generally expected to provide little to moderate resistance to directional drilling and jack-and-bore installation. The majority of the soils found in the profiles should be easily drilled through using conventional modern drilling equipment. Directional drilling procedures should follow the specifications outlined in the Florida Department of Transportation Standard Specifications for Road and Bridge Construction, Section 555 – Directional Bore, latest edition.

Excavations made for jack-and-bore installations should follow the same recommendations as the previously mentioned cut and cover excavation recommendations (included in Section 5.2 of this report). Lateral earth pressure design parameters have been estimated in the event that sheet piling is used to brace the excavations. These parameters include moist and buoyant unit weights, angle of internal friction, cohesion, and active, passive and at-rest lateral earth pressure coefficients. Values for these parameters were selected based upon standard correlations available in the geotechnical literature that are dependent on SPT N-values from borings SPT-1, 2, 3 and 4. Specifically unit weights and friction angles were obtained from correlations with N-values provided by the Florida Department of Transportation (FDOT).

A summary of the geotechnical design parameters for the generalized subsurface profile condition is presented in the table that follows. Note: Depth 0 = existing prevailing site grade at the boring location.

**Table 3 - Summary of Lateral Earth Pressure Design Parameters**

Depth (feet)	Unit Weight (pcf)		f (Degrees)	C (psf)	Coefficient of Lateral Earth Pressure		
	Moist	Saturated			Ka	Ko	Kp
0 to 4	105	110	30	0	0.33	0.50	3.00
4 to 10	--	100	28	0	0.36	0.53	2.80

Notes: f indicates angle of internal friction (degrees)

C indicates cohesion (psf)

Ka indicates coefficient of active lateral earth pressure

Ko indicates coefficient of at-rest lateral earth pressure.

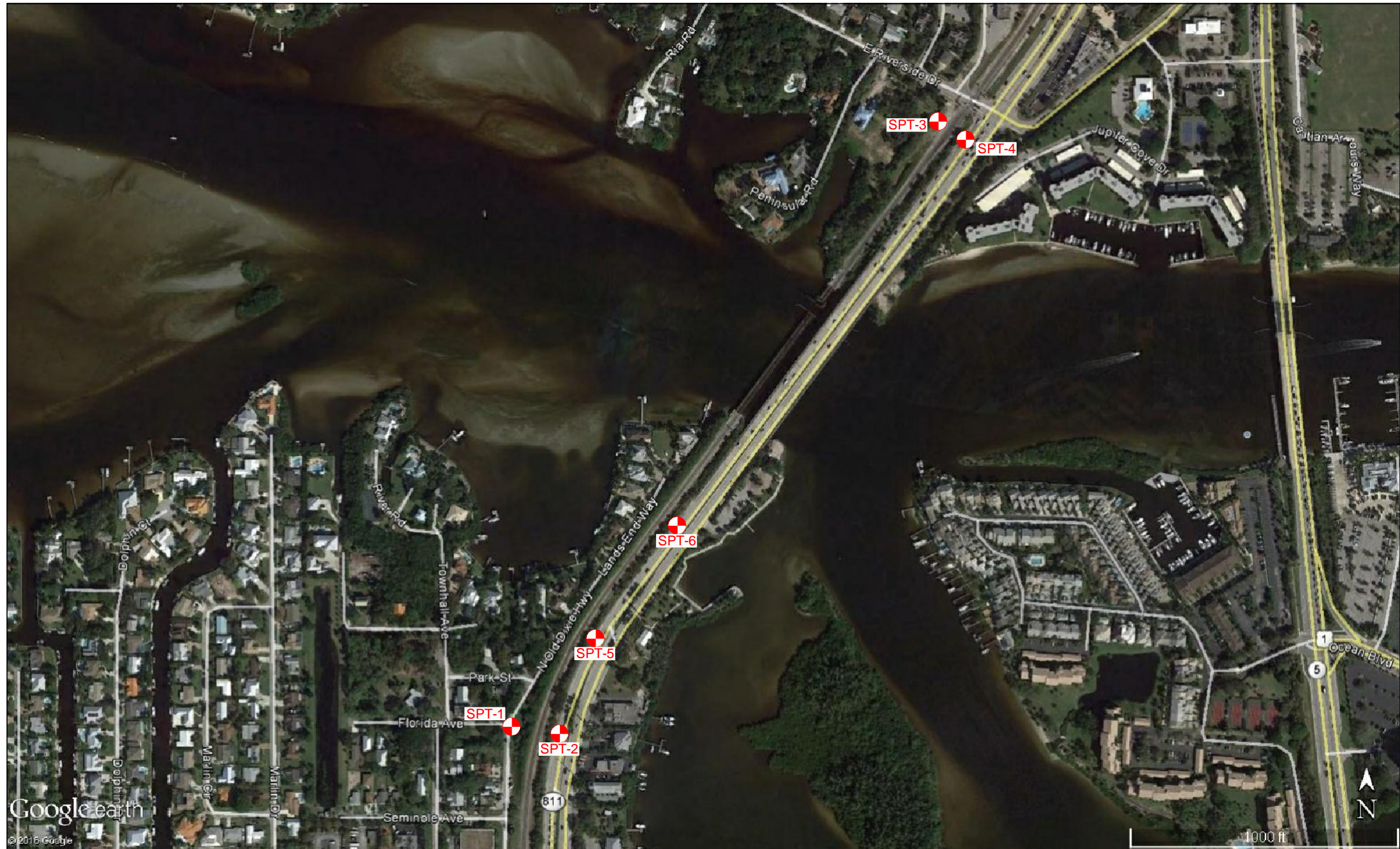
Kp indicates coefficient of passive lateral earth pressure

## **6.0 LIMITATIONS**

This geotechnical engineering report has been completed for Mathews Consulting, a Baxter and Woodman Company (Mathews) in connection with the proposed force main extension project in the Town of Jupiter, Florida. The purpose of the study was to explore the subsurface conditions of the site and provide geotechnical engineering design criteria and recommendations for the design and construction of the project. Terracon warrants that the recommendations and professional advice presented in this report were promulgated based on recognized practice in the disciplines of soil mechanics, foundation engineering and engineering geology. No other warranties are expressed or implied.

The recommendations in this report related to construction dewatering were provided for Mathews for design purposes only. We recommend that contractors bidding this project align themselves with an experienced hydrogeologist for design of the construction dewatering means and methods. Such work is beyond the scope of our contract with Mathews.

**APPENDIX A**  
**Exhibit 1 – BORING LOCATION PLAN**  
**Exhibit 2 – SUBSURFACE PROFILES**

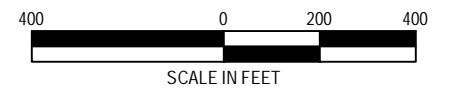


SOURCE: GOOGLE EARTH PRO

**LEGEND**



APPROXIMATE LOCATION OF STANDARD PENETRATION TEST BORING



Project Mngr:	DM	Project No.:	HD165037
Drawn By:	JJ	Scale:	AS-SHOWN
Checked By:	DM	File No.:	HD165037-1
Approved By:	KA	Date:	11-1-16

**Terracon**  
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**BORING LOCATION PLAN**  
 GEOTECHNICAL ENGINEERING REPORT  
**ALTERNATE A1A FORCE MAIN EXTENSION**  
 JUPITER, PALM BEACH COUNTY, FLORIDA

EXHIBIT  
**1**



BORING NO.  
STATION:  
OFFSET:  
ELEVATION:

SPT-1  
101+34  
15' RT.  
+3.9'

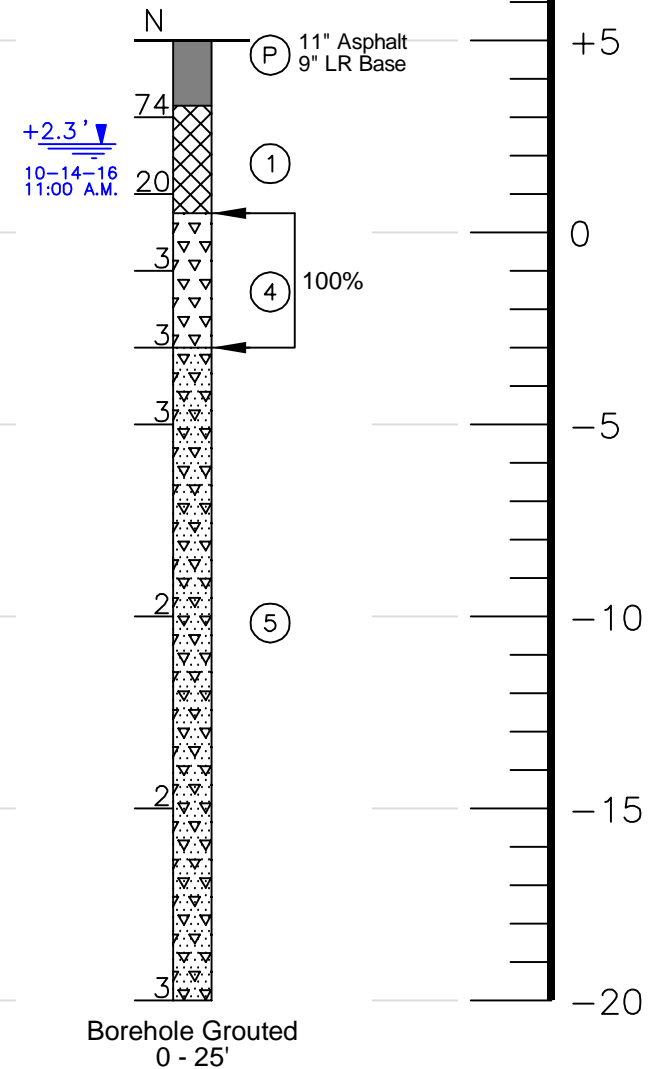
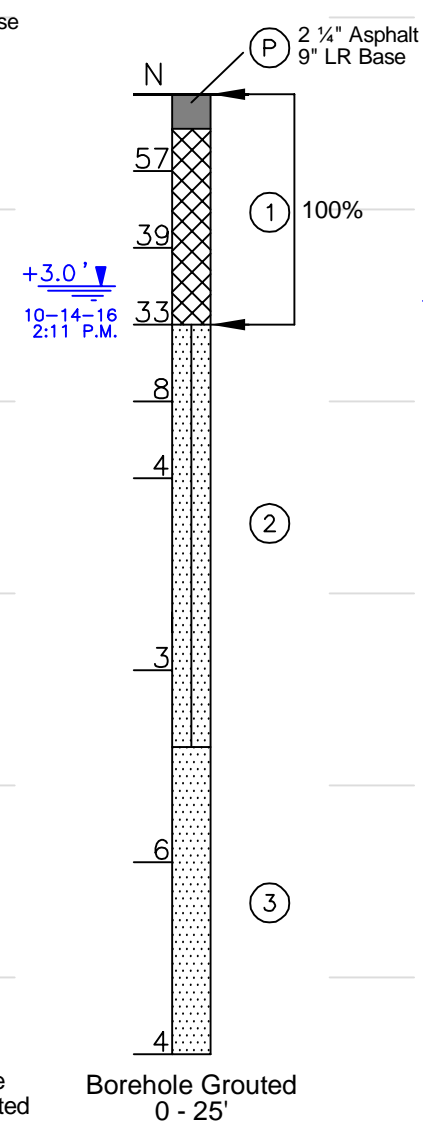
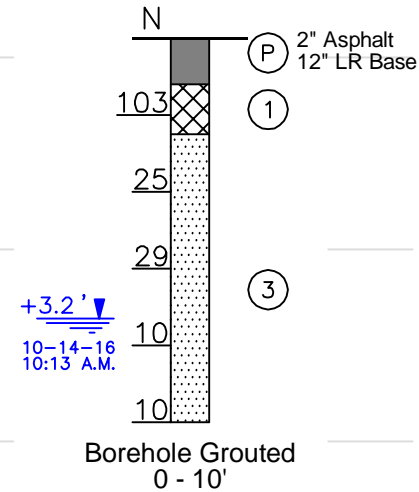
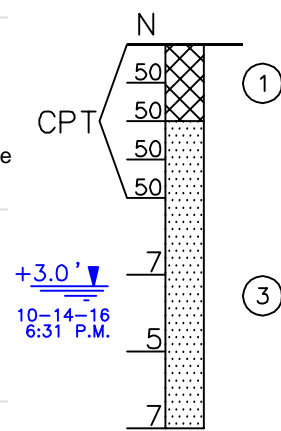
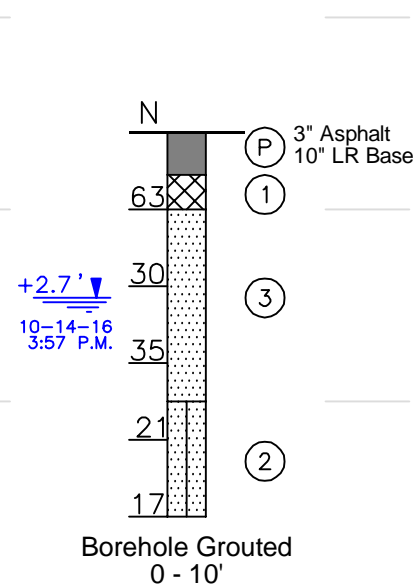
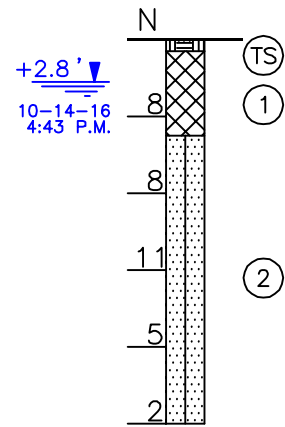
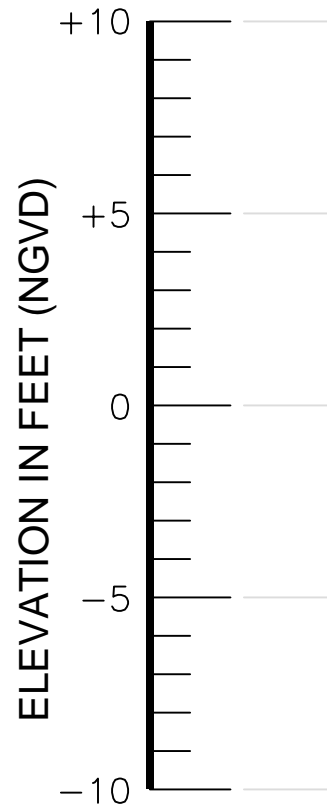
SPT-2  
11+55  
7' RT.  
+7.0'

SPT-3  
38+55  
110' LT.  
+9.3'

SPT-4  
38+58  
7' RT.  
+10.5'

SPT-5  
15+52  
8' RT.  
+8.0'

SPT-6  
20+67  
8' RT.  
+5.0'



**NOTES**

- (1) Borings were drilled on October 14, 2016 using a Central Mine Equipment Model 45B (CME 45B) drilling rig.
- (2) Strata boundaries are approximate and represent soil strata at each test hole location only. Soil transitions may be more gradual than implied.
- (3) Groundwater elevations shown on the subsurface profiles represent groundwater surfaces on the dates and times shown. Groundwater level fluctuations should be anticipated throughout the day due to tide changes and throughout the year.
- (4) Station, Offset and Elevation data are approximate and were obtained from the 50% Design Plans dated August 2016 provided by Mathews Consulting.

**LEGEND**

- (P) Asphaltic Concrete and Limerock Base Course (Flexible Pavement)
- (TS) Dark gray organic SAND (TOPSOIL)
- (1) Light brown to dark brown SAND with silt, gravel, shell, concrete fragments, and glass (FILL)
- (2) Light brown to dark brown SAND, trace to some silt, trace fibrous roots (SP, SP-SM)
- (3) Light gray-brown to white SAND (SP)
- (4) Gray sandy GRAVEL, sand to gravel sized shell fragments (GP)
- (5) Gray fine SAND with trace to some silt, trace to some sand to gravel sized shell fragments (SP, SP-SM)

- SP - Unified Soil Classification System Group Symbol (ASTM D 2487)
- N - Indicates the number of blows of a 140 pound hammer, freely falling a distance of 30 inches, required to drive a 2-inch diameter sampler 12 inches (ASTM D 1586)

- SPT-1 - Standard Penetration Test (SPT) boring and number
- +2.8' (10-14-16 4:43 P.M.) - Elevation of groundwater (feet-NGVD), date & time measured

100% - Indicates loss of drilling fluid (%) over depth interval indicated

Project Mngr:	DM	Project No.:	HD165037
Drawn By:	JJ	Scale:	AS-SHOWN
Checked By:	DM	File No.:	HD165037-2
Approved By:	KA	Date:	11-1-16

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SUBSURFACE PROFILES  
GEOTECHNICAL ENGINEERING REPORT  
ALTERNATE A1A FORCE MAIN EXTENSION  
JUPITER, PALM BEACH COUNTY, FLORIDA

**APPENDIX C**

**2016 ALTERNATE A1A FORCE MAIN EXTENSION  
TEST HOLE INVENTORY REPORT**

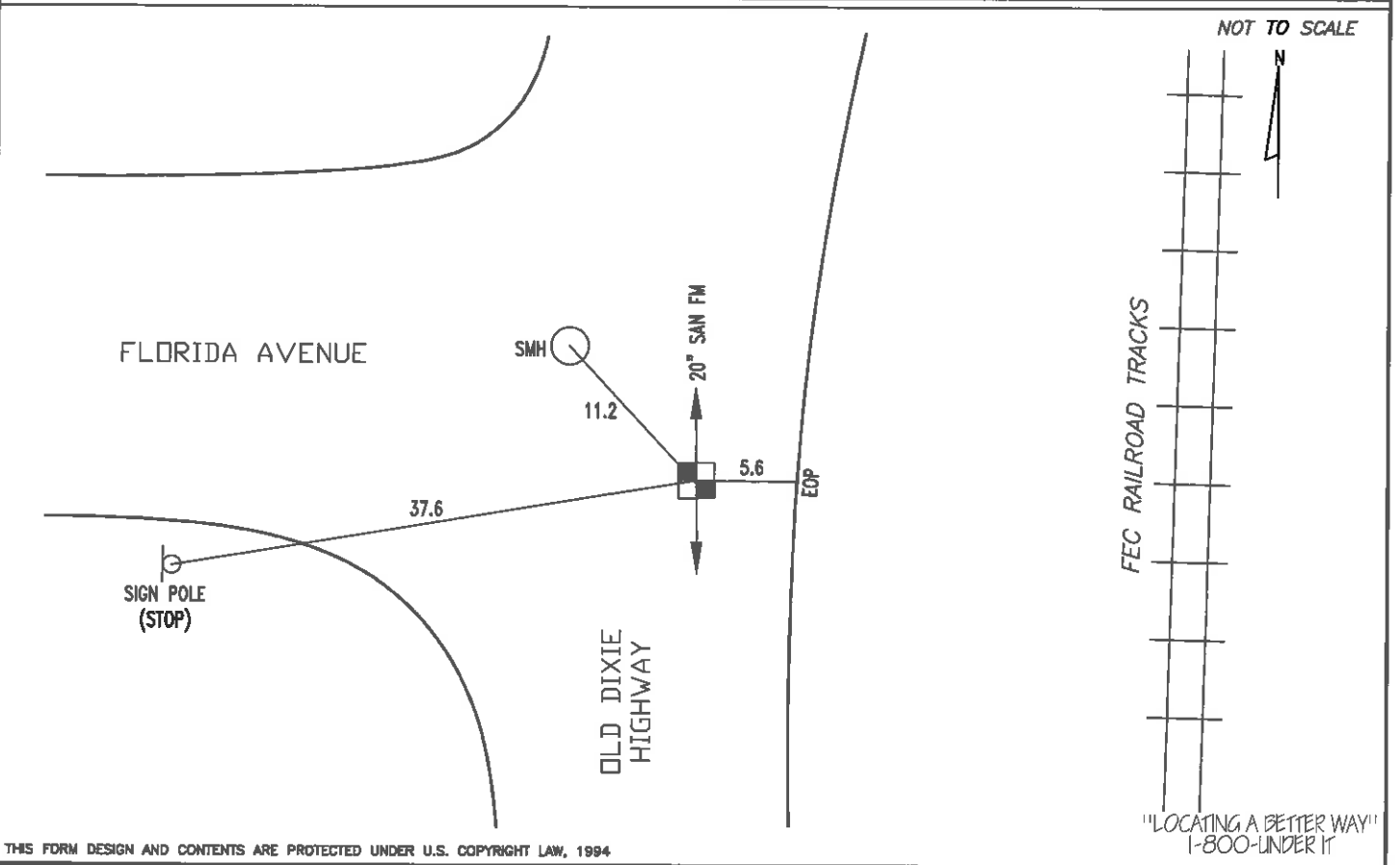


TH#	TYPE OF UTILITY/ STRUCTURE	SIZE & MATERIAL	QTY.	UTILITY DIRECTION	COVER	TOP OF UTIL ELEV	NORTHING & EASTING	SURVEY PIN ELEV	TEST HOLE MARKER
15	SANITARY FORCE MAIN	10" CAST IRON	1	E/W	4.91	0.18	951935.96 / 952997.52	5.09	SEE NOTE
16	NO UTILITY FOUND	SEE NOTE	N/A	N/A	N/A	N/A	951969.91 / 953026.55	6.63	SEE NOTE
17	STORM	SEE NOTE	1	NE/SW	7.39	-2.33	951902.26 / 952989.81	5.06	SEE NOTE
18	FIBER OPTIC	2" PLASTIC (ORANGE)	5	NE/SW	3.51	2.09	951887.92 / 953005.53	5.60	SEE NOTE
TEST HOLE NOTES									
TEST HOLE # 1	SANITARY FORCE MAIN								NOTE: 24" SANITARY FORCE MAIN REQUESTED AT THIS LOCATION. TEST HOLE REVEALED A 20" SANITARY FORCE MAIN AT THIS LOCATION. PK SET OVER CROWN OF UTILITY.
TEST HOLE # 2	WATER								NOTE: UNABLE TO OBTAIN SIZE AND MATERIAL DUE TO SOIL CONDITIONS ENCOUNTERED IN TEST HOLE. PLANS INDICATE A 12" WATER AT THIS LOCATION. HUB SET OVER TOP OF UTILITY.
TEST HOLE # 3	FIBER OPTIC								NOTE: HUB SET OVER CROWN OF WESTERN MOST 2" CONDUIT. OFFSET TO CROWN OF EASTERN MOST CONDUIT IS 0.25'.
TEST HOLE # 3A	TELEPHONE								NOTE: UNABLE TO OBTAIN SIZE (POSSIBLE 2"±) AND MATERIAL (POSSIBLE PVC) DUE TO EXCESSIVE GROUND WATER AND SOIL CONDITIONS ENCOUNTERED IN TEST HOLE. HUB SET OVER CROWN OF EASTERN MOST CONDUIT. POSSIBLE ADDITIONAL CONDUITS BELOW.
TEST HOLE # 3B	ELECTRIC								NOTE: UNABLE TO PROVIDE ADDITIONAL TIES DUE TO HEAVY SHRUBBERY AND FOLIAGE. STEEL PIN SET OVER CROWN OF 2" ELECTRIC CONDUIT.
TEST HOLE # 4	FIBER OPTIC								NOTE: THIS "X" SET OVER CROWN OF WESTERN MOST 2" CONDUIT. OFFSET TO CROWN OF EASTERN MOST CONDUIT IS 0.2'.
TEST HOLE # 5	FIBER OPTIC								NOTE: HUB SET OVER CROWN OF WESTERN MOST 2" CONDUIT. OFFSET TO CROWN OF EASTERN MOST CONDUIT IS 0.25'.
TEST HOLE # 6	WATER								NOTE: UNABLE TO OBTAIN SIZE (POSSIBLE 12"±) AND MATERIAL (POSSIBLE DUCTILE IRON) DUE TO EXCESSIVE GROUND WATER ENCOUNTERED IN TEST HOLE. STEEL PIN SET OVER TOP OF UTILITY. ALSO UNABLE TO PROVIDE ADDITIONAL TIES DUE TO HEAVY SHRUBBERY AND FOLIAGE.
TEST HOLE # 7	FIBER OPTIC								NOTE: THIS "X" SET OVER CROWN OF WESTERN MOST 2" CONDUIT. OFFSET TO CROWN OF EASTERN MOST CONDUIT IS 0.25'.
TEST HOLE # 8	WATER								NOTE: TEST HOLE ALSO REVEALED A 4" PVC (GRAY) UNKNOWN, RUNNING NORTH-SOUTH, DIRECTLY ABOVE WATER. COVER = 3.05. UNABLE TO OBTAIN ACCURATE SIZE OF WATER DUE TO UNKNOWN UTILITY ABOVE. PLANS INDICATE A 12" WATER AT THIS LOCATION. HUB SET OVER APPROXIMATE CROWN OF WATER.



PN: PF10716 VACUUM TEST HOLE REPORT NO.: 1

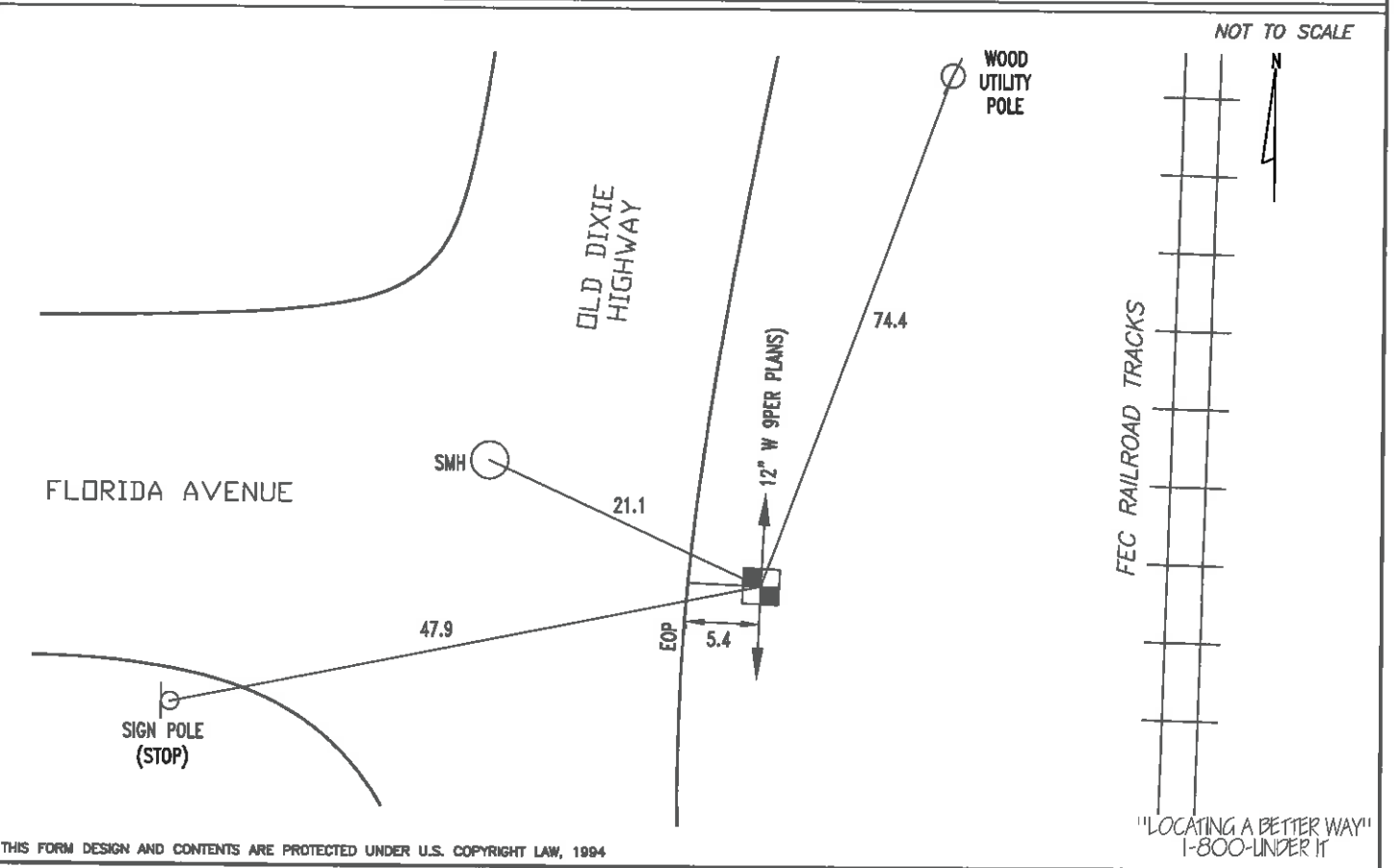
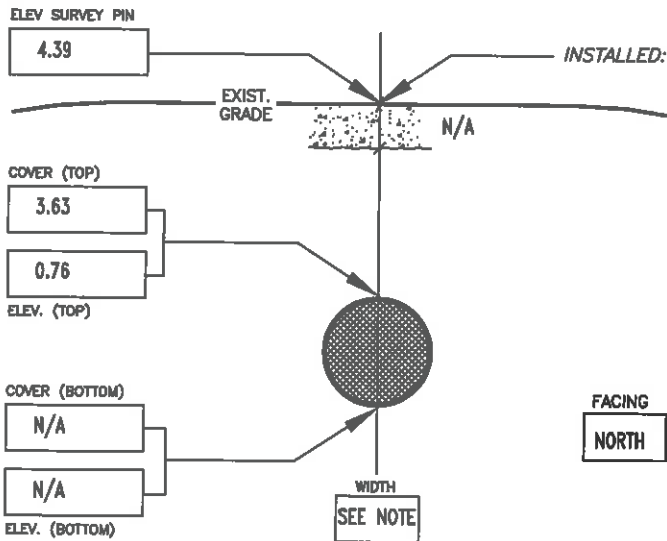
PROJECT NAME: LOXAHATCHEE RIVER ENVIRONMENTAL CONTROL	D.O.T. JOB# N/A	WORK ORDER# N/A
LOCATE REQUESTED BY: MATHEWS CONSULTING, INC.	PROJECT LOCATION: JUPITER, PALM BEACH COUNTY, FLORIDA	
UTILITY REQUESTED: 24" SANITARY FORCE MAIN	SHEET #: 4 OF N/A	PROPOSED: UTILITY WORK
UTILITY FOUND: SANITARY FORCE MAIN	FORM BY: BP	ASSISTED BY: DL MP MT # OF HOLES: 1
MATERIAL AS FOUND: CAST IRON	PAVING CONDITION: GOOD	DATE DUG: 9-26-16
SIZE AS FOUND: 20"	SOIL CONDITIONS: SOFT MOIST SAND	
UTILITY CONDITION: GOOD		
ELEV SURVEY PIN 4.77		
EXIST. GRADE 0.5 ASPHALT		
COVER (TOP) 2.58		
ELEV. (TOP) 2.19		
COVER (BOTTOM) N/A		
ELEV. (BOTTOM) N/A		
WIDTH 21"±		
FACING NORTH		
INSTALLED: PK AT: CROWN OF UTILITY. MARKING TAPE: GREEN		
SURVEY PIN LOCATED BY: MATHEWS CONSULTING, INC.		
SURVEY INFO.: ALL MEASUREMENTS ON THIS FORM ARE IN ENGLISH UNITS (FEET).		
NORTH EAST ELEV.		
949652.36 951391.45 4.77		
HORIZONTAL DATUM = NAD 1983 VERTICAL DATUM = NGVD 1929.		
NOTES: 24" SANITARY FORCE MAIN REQUESTED AT THIS LOCATION. TEST HOLE REVEALED A 20" SANITARY FORCE MAIN AT THIS LOCATION. PK SET OVER CROWN OF UTILITY.		



PN: PF10716

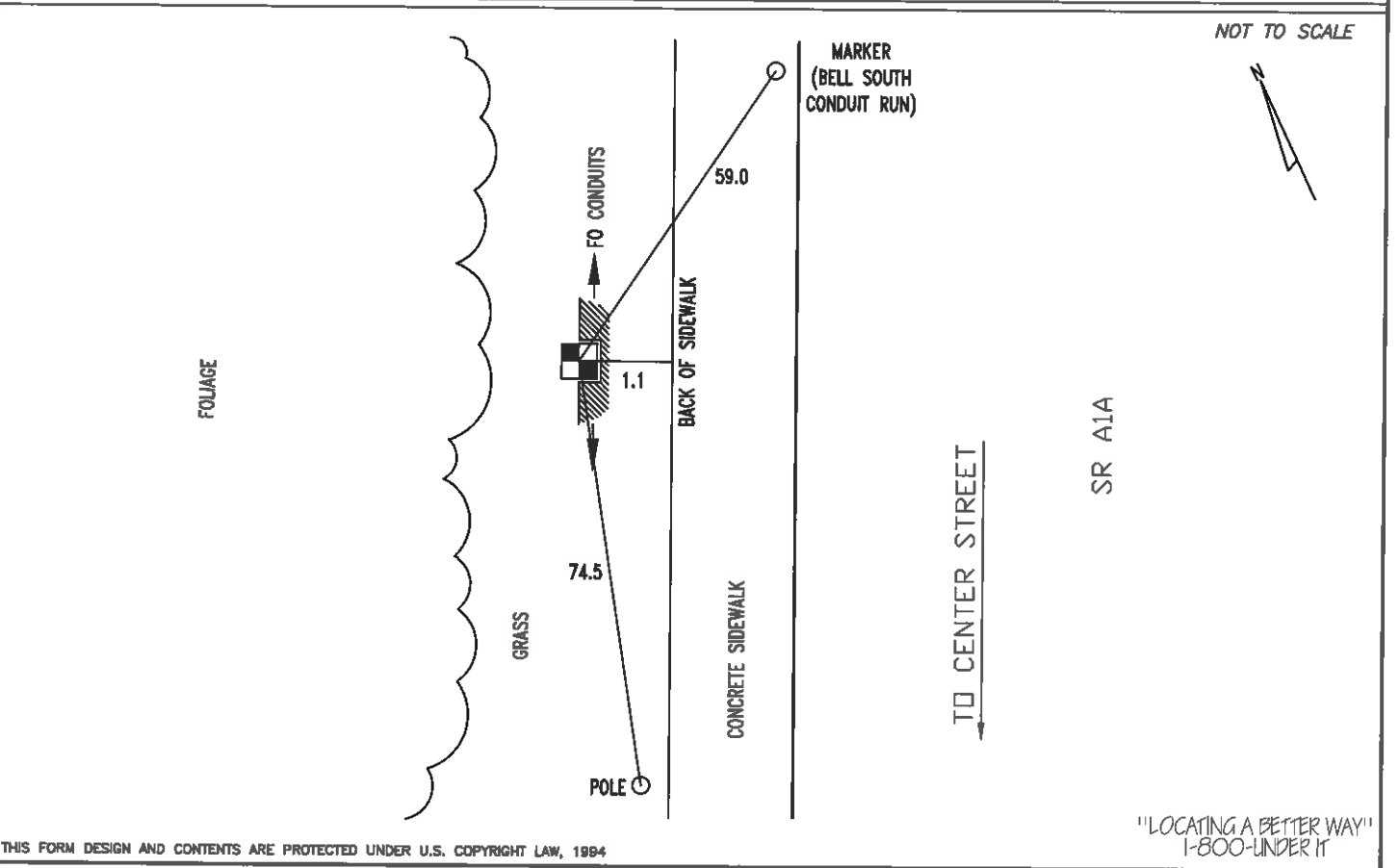
VACUUM TEST HOLE REPORT NO.: 2

<b>PROJECT NAME:</b> LOXAHATCHEE RIVER ENVIRONMENTAL CONTROL	<b>D.O.T. JOB#</b> N/A	<b>WORK ORDER#</b> N/A						
<b>LOCATE REQUESTED BY:</b> MATHEWS CONSULTING, INC.	<b>PROJECT LOCATION:</b> JUPITER, PALM BEACH COUNTY, FLORIDA							
<b>UTILITY REQUESTED:</b> 12" WATER	<b>SHEET #:</b> 4 OF N/A	<b>PROPOSED:</b> UTILITY WORK						
<b>UTILITY FOUND:</b> WATER	<b>FORM BY:</b> BP	<b>ASSISTED BY:</b> DL MP MT						
<b>MATERIAL AS FOUND:</b> SEE NOTE	<b># OF HOLES:</b> 1							
<b>SIZE AS FOUND:</b> SEE NOTE	<b>PAVING CONDITION:</b> N/A	<b>DATE DUG:</b> 9-26-16						
	<b>SOIL CONDITIONS:</b> SOFT WET SAND							
	<b>UTILITY CONDITION:</b> SEE NOTE							
	<b>HUB &amp; TACK AT:</b> TOP OF UTILITY. <b>MARKING TAPE:</b> BLUE							
	<b>SURVEY PIN LOCATED BY:</b> MATHEWS CONSULTING, INC.							
<b>SURVEY INFO.:</b> ALL MEASUREMENTS ON THIS FORM ARE IN ENGLISH UNITS (FEET). <table border="1"> <thead> <tr> <th>NORTH</th> <th>EAST</th> <th>ELEV.</th> </tr> </thead> <tbody> <tr> <td>949651.14</td> <td>951402.42</td> <td>4.39</td> </tr> </tbody> </table> <p>HORIZONTAL DATUM = NAD 1983 , VERTICAL DATUM = NGVD 1929.</p>			NORTH	EAST	ELEV.	949651.14	951402.42	4.39
NORTH	EAST	ELEV.						
949651.14	951402.42	4.39						
<b>NOTES:</b> UNABLE TO OBTAIN SIZE AND MATERIAL DUE TO SOIL CONDITIONS ENCOUNTERED IN TEST HOLE. PLANS INDICATE A 12" WATER AT THIS LOCATION. HUB SET OVER TOP OF UTILITY.								



PN: PF10716 VACUUM TEST HOLE REPORT NO.: 3

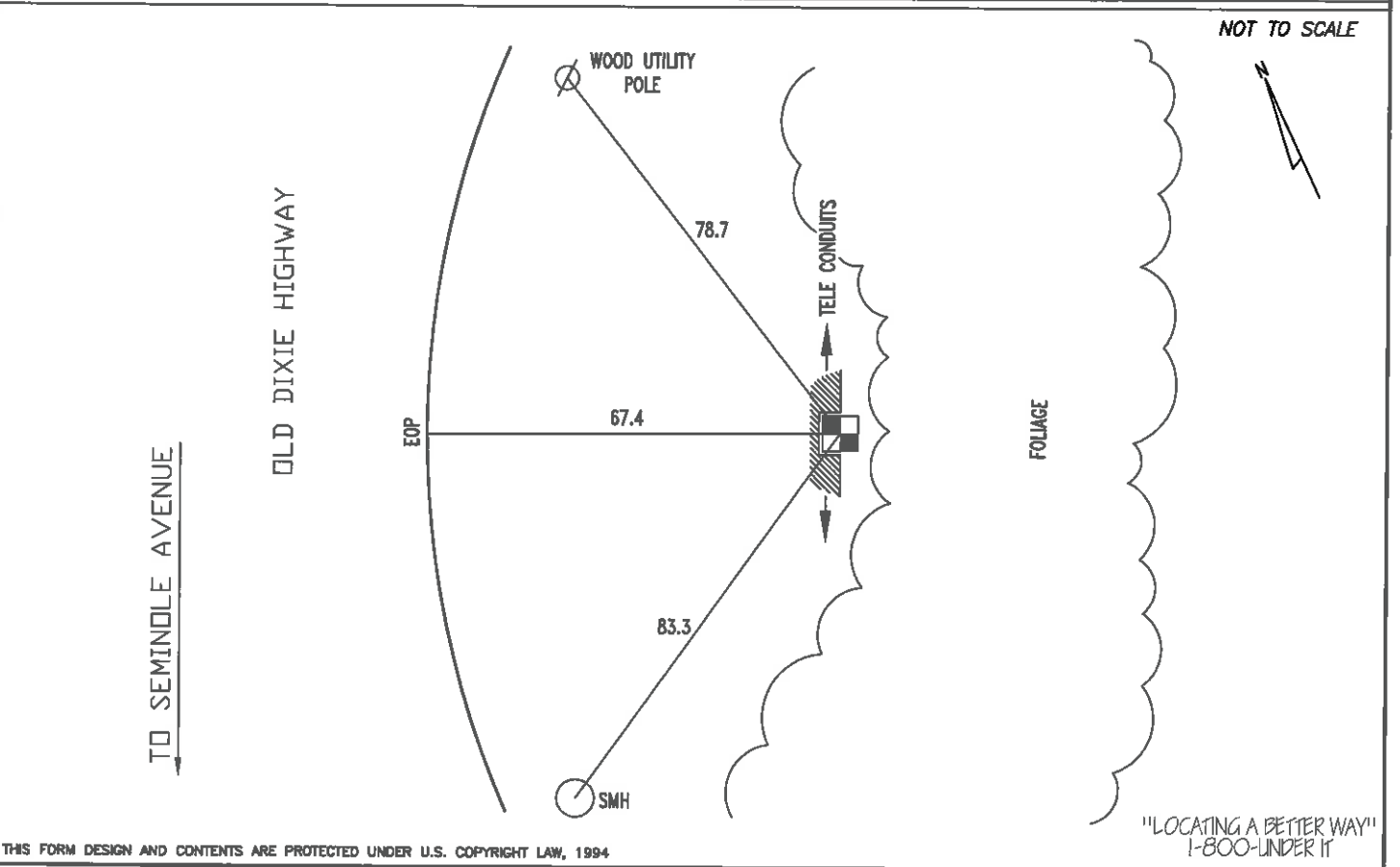
<b>PROJECT NAME:</b> LOXAHATCHEE RIVER ENVIRONMENT CONTROL	<b>D.O.T. JOB#</b> N/A	<b>WORK ORDER#</b> N/A
<b>LOCATE REQUESTED BY:</b> MATHEWS CONSULTING	<b>PROJECT LOCATION:</b> JUPITER, PALM BEACH COUNTY, FLORIDA	
<b>UTILITY REQUESTED:</b> FIBER OPTIC	<b>SHEET #:</b> 4 OF N/A	<b>PROPOSED:</b> UTILITY WORK
<b>UTILITY FOUND:</b> FIBER OPTIC	<b>FORM BY:</b> ER	<b>ASSISTED BY:</b> DL DM
<b>MATERIAL AS FOUND:</b> PVC (GRAY) CONDUITS	<b># OF HOLES:</b> 1	
<b>SIZE AS FOUND:</b> (2) 2"	<b>PAVING CONDITION:</b> N/A	<b>DATE DUG:</b> 9-28-16
	<b>SOIL CONDITIONS:</b> SOFT DRY SAND ROCKY	
	<b>UTILITY CONDITION:</b> GOOD	
<b>ELEV SURVEY PIN</b> 7.67	<b>HUB &amp; TACK AT:</b> CROWN OF UTILITY. <b>MARKING TAPE:</b> ORANGE	
<b>EXIST. GRADE</b>	<b>SURVEY PIN LOCATED BY:</b> MATHEWS CONSULTING, INC.	
<b>COVER (TOP)</b> 2.85	<b>SURVEY INFO.:</b> ALL MEASUREMENTS ON THIS FORM ARE IN ENGLISH UNITS (FEET).	
<b>COVER (BOTTOM)</b> N/A	<b>NORTH</b> 949630.45	<b>EAST</b> 951563.38
<b>ELEV. (TOP)</b> 4.82	<b>ELEV.</b> 7.67	
<b>ELEV. (BOTTOM)</b> N/A	<b>HORIZONTAL DATUM =</b> NAD 1983 , <b>VERTICAL DATUM =</b> NGVD 1929.	
<b>WIDTH</b> 2.5" ± (EACH)	<b>NOTES:</b> HUB SET OVER CROWN OF WESTERN MOST 2" CONDUIT. OFFSET TO CROWN OF EASTERN MOST CONDUIT IS 0.25'.	





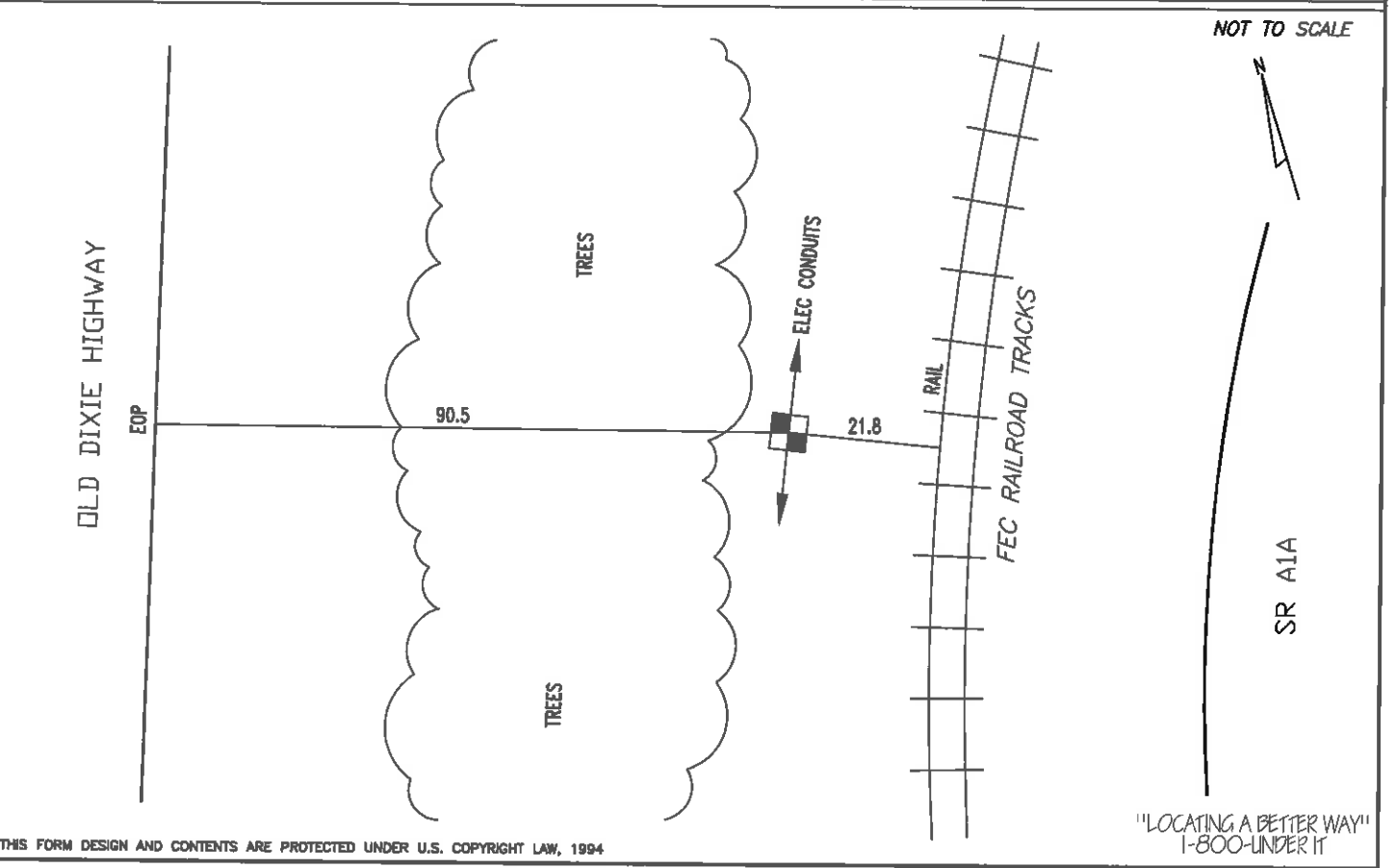
PN: PF10716 VACUUM TEST HOLE REPORT NO.: 3A

PROJECT NAME: LOXAHATCHEE RIVER ENVIRONMENT CONTROL	D.O.T. JOB# N/A	WORK ORDER# N/A
LOCATE REQUESTED BY: MATHEWS CONSULTING	PROJECT LOCATION: JUPITER, PALM BEACH COUNTY, FLORIDA	
UTILITY REQUESTED: TELEPHONE	SHEET #: 4 OF N/A	PROPOSED: UTILITY WORK
UTILITY FOUND: TELEPHONE	FORM BY: ER	ASSISTED BY: DL DM # OF HOLES: 1
MATERIAL AS FOUND: SEE NOTE	PAVING CONDITION: N/A	DATE DUG: 9-28-16
SIZE AS FOUND: SEE NOTE	SOIL CONDITIONS: SOFT WET SAND ROCKY	
ELEV SURVEY PIN 2.73	UTILITY CONDITION: SEE NOTE	
EXIST. GRADE	HUB & TACK AT: CROWN OF UTILITY. MARKING TAPE: ORANGE	
COVER (TOP) 3.89	SURVEY PIN LOCATED BY: MATHEWS CONSULTING, INC.	
-1.16	SURVEY INFO.: ALL MEASUREMENTS ON THIS FORM ARE IN ENGLISH UNITS (FEET).	
ELEV. (TOP)	NORTH 949647.18	EAST 951465.57
COVER (BOTTOM) N/A	ELEV. 2.73	
ELEV. (BOTTOM)	HORIZONTAL DATUM = NAD 1983 VERTICAL DATUM = NGVD 1929.	
WIDTH SEE NOTE	NOTES: UNABLE TO OBTAIN SIZE (POSSIBLE 2"±) AND MATERIAL (POSSIBLE PVC) DUE TO EXCESSIVE GROUND WATER AND SOIL CONDITIONS ENCOUNTERED IN TEST HOLE. HUB SET OVER CROWN OF EASTERN MOST CONDUIT. POSSIBLE ADDITIONAL CONDUITS BELOW.	
FACING NE		



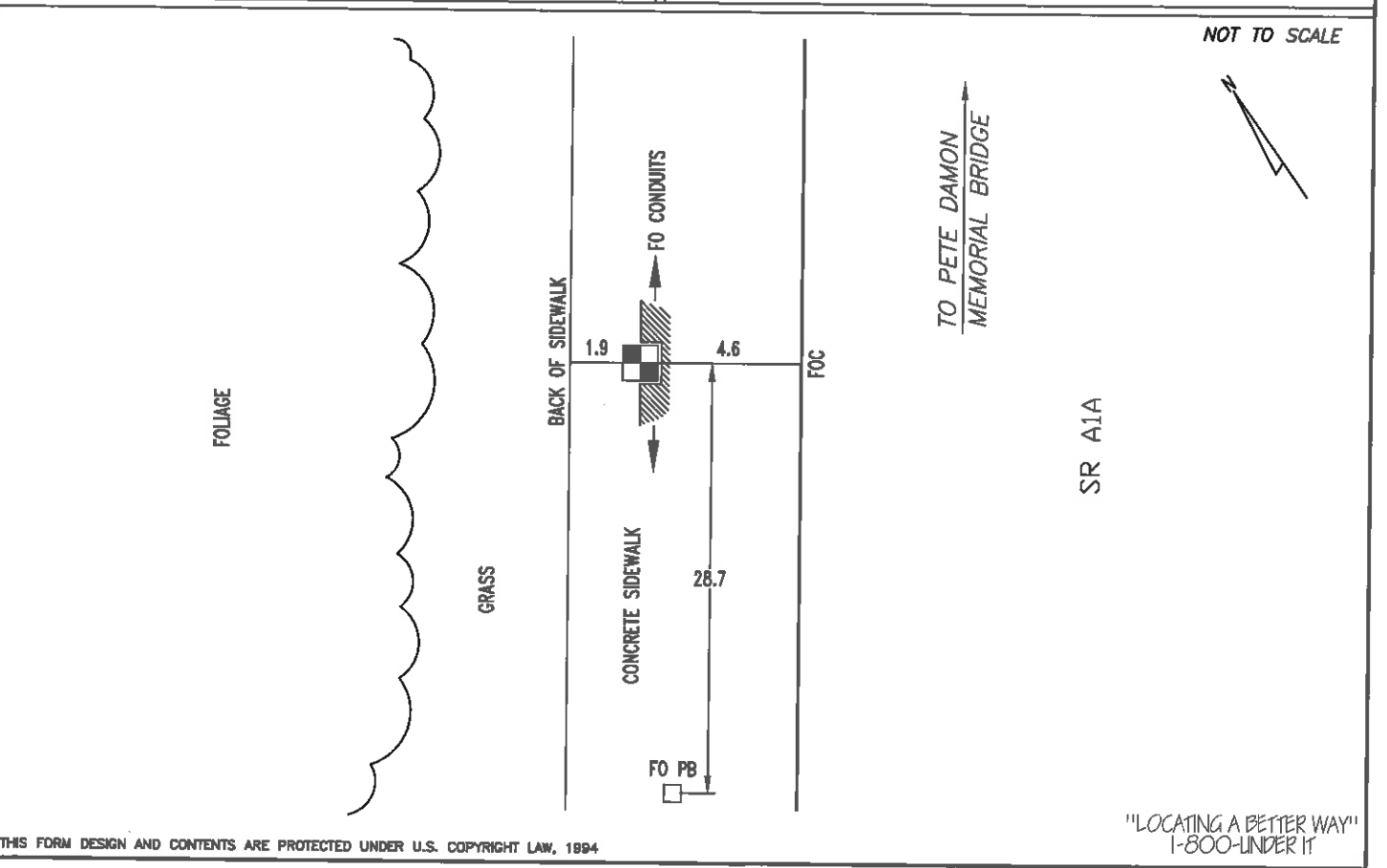
PN: PF10716 VACUUM TEST HOLE REPORT NO.: 3B

<b>PROJECT NAME:</b> LOXAHATCHEE RIVER ENVIRONMENT CONTROL	<b>D.O.T. JOB#</b> N/A	<b>WORK ORDER#</b> N/A
<b>LOCATE REQUESTED BY:</b> MATHEWS CONSULTING	<b>PROJECT LOCATION:</b> JUPITER, PALM BEACH COUNTY, FLORIDA	
<b>UTILITY REQUESTED:</b> ELECTRIC	<b>SHEET #:</b> 4 OF N/A	<b>PROPOSED:</b> UTILITY WORK
<b>UTILITY FOUND:</b> ELECTRIC	<b>FORM BY:</b> ER	<b>ASSISTED BY:</b> MP JC KF
<b>MATERIAL AS FOUND:</b> PVC (GRAY) CONDUITS	<b># OF HOLES:</b> 1	
<b>SIZE AS FOUND:</b> (5) 2"	<b>PAVING CONDITION:</b> N/A	<b>DATE DUG:</b> 9-27-16
	<b>SOIL CONDITIONS:</b> HARD MOIST SAND ROCKY	
	<b>UTILITY CONDITION:</b> GOOD	
<b>ELEV SURVEY PIN</b> 8.35	<b>STEEL PIN AT:</b> CROWN OF UTILITY. <b>MARKING TAPE:</b> RED	
<b>EXIST. GRADE</b> N/A	<b>SURVEY PIN LOCATED BY:</b> MATHEWS CONSULTING, INC.	
<b>COVER (TOP)</b> 4.21	<b>SURVEY INFO.:</b> ALL MEASUREMENTS ON THIS FORM ARE IN ENGLISH UNITS (FEET).	
<b>COVER (TOP)</b> 4.14	<b>NORTH</b> 949643.95	<b>EAST</b> 951487.09
<b>ELEV. (TOP)</b>	<b>ELEV.</b> 8.35	
<b>COVER (BOTTOM)</b> N/A	<b>HORIZONTAL DATUM =</b> NAD 1983 , <b>VERTICAL DATUM =</b> NGVD 1929.	
<b>ELEV. (BOTTOM)</b> N/A	<b>NOTES:</b> UNABLE TO PROVIDE ADDITIONAL TIES DUE TO HEAVY SHRUBBERY AND FOLIAGE. STEEL PIN SET OVER CROWN OF 2" ELECTRIC CONDUIT.	
<b>WIDTH</b> 2"± (EACH)		
<b>FACING</b> NE		



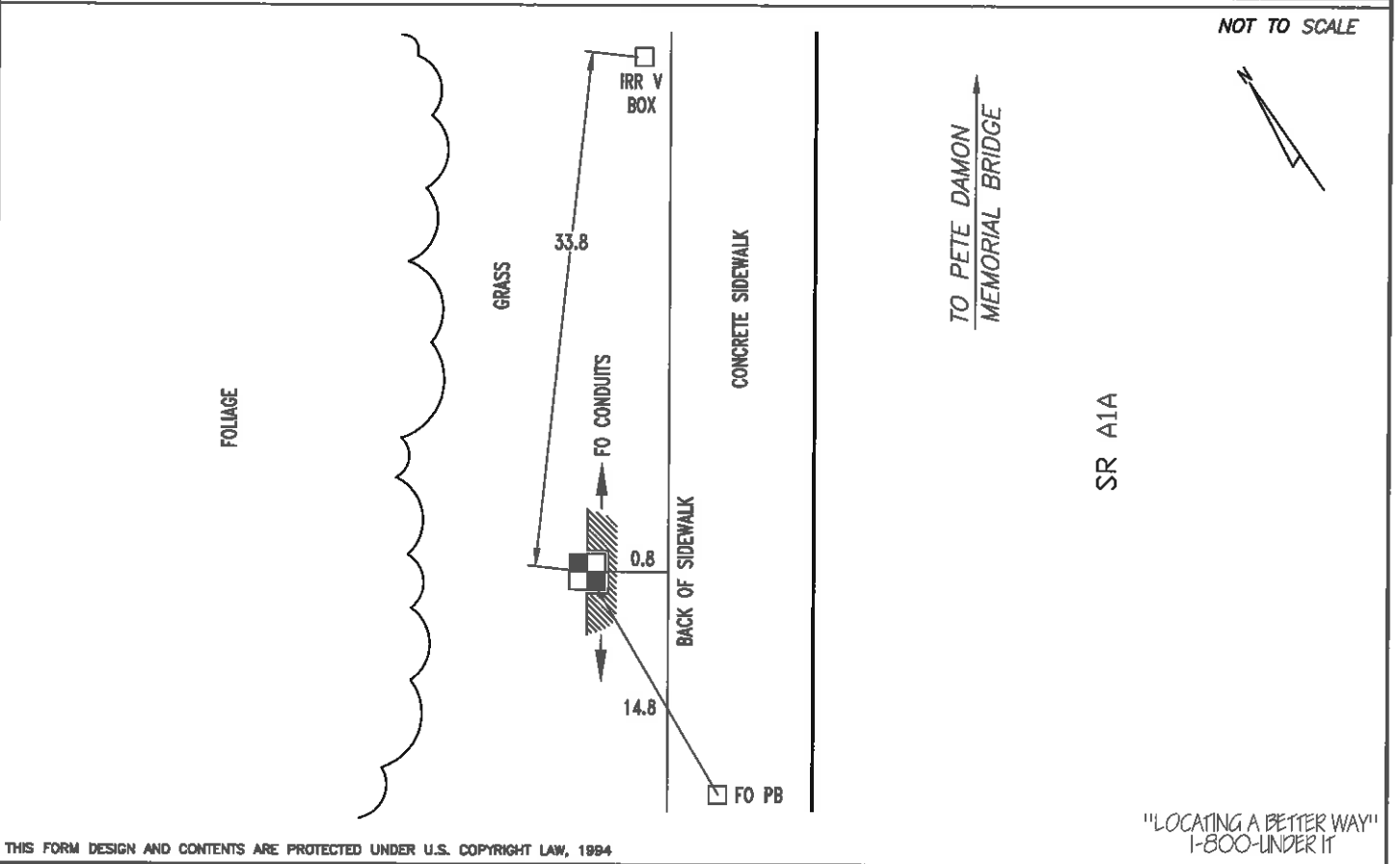
PN: PF10716 VACUUM TEST HOLE REPORT NO.: 4

PROJECT NAME: LOXAHATCHEE RIVER ENVIRONMENT CONTROL	D.O.T. JOB# N/A	WORK ORDER# N/A
LOCATE REQUESTED BY: MATHEWS CONSULTING	PROJECT LOCATION: JUPITER, PALM BEACH COUNTY, FLORIDA	
UTILITY REQUESTED: FIBER OPTIC	SHEET #: 8 OF N/A	PROPOSED: UTILITY WORK
UTILITY FOUND: FIBER OPTIC	FORM BY: ER	ASSISTED BY: DL DM # OF HOLES: 1
MATERIAL AS FOUND: PVC (GRAY) CONDUITS	PAVING CONDITION: GOOD	DATE DUG: 9-28-16
SIZE AS FOUND: (2) 2"	SOIL CONDITIONS: SOFT DRY SAND ROCKY	
ELEV SURVEY PIN 8.38	UTILITY CONDITION: GOOD	
EXIST. GRADE	CHIS "X" AT: CROWN OF UTILITY. MARKING TAPE: ORANGE	
COVER (TOP) 2.99	SURVEY PIN LOCATED BY: MATHEWS CONSULTING, INC.	
5.39	SURVEY INFO.: ALL MEASUREMENTS ON THIS FORM ARE IN ENGLISH UNITS (FEET).	
ELEV. (TOP)	NORTH 949960.68	EAST 951695.50
COVER (BOTTOM) N/A	ELEV. 8.38	
ELEV. (BOTTOM)	HORIZONTAL DATUM = NAD 1983 , VERTICAL DATUM = NGVD 1929.	
WIDTH 2.5"± (EACH)	NOTES: CHIS "X" SET OVER CROWN OF WESTERN MOST 2" CONDUIT. OFFSET TO CROWN OF EASTERN MOST CONDUIT IS 0.2'.	



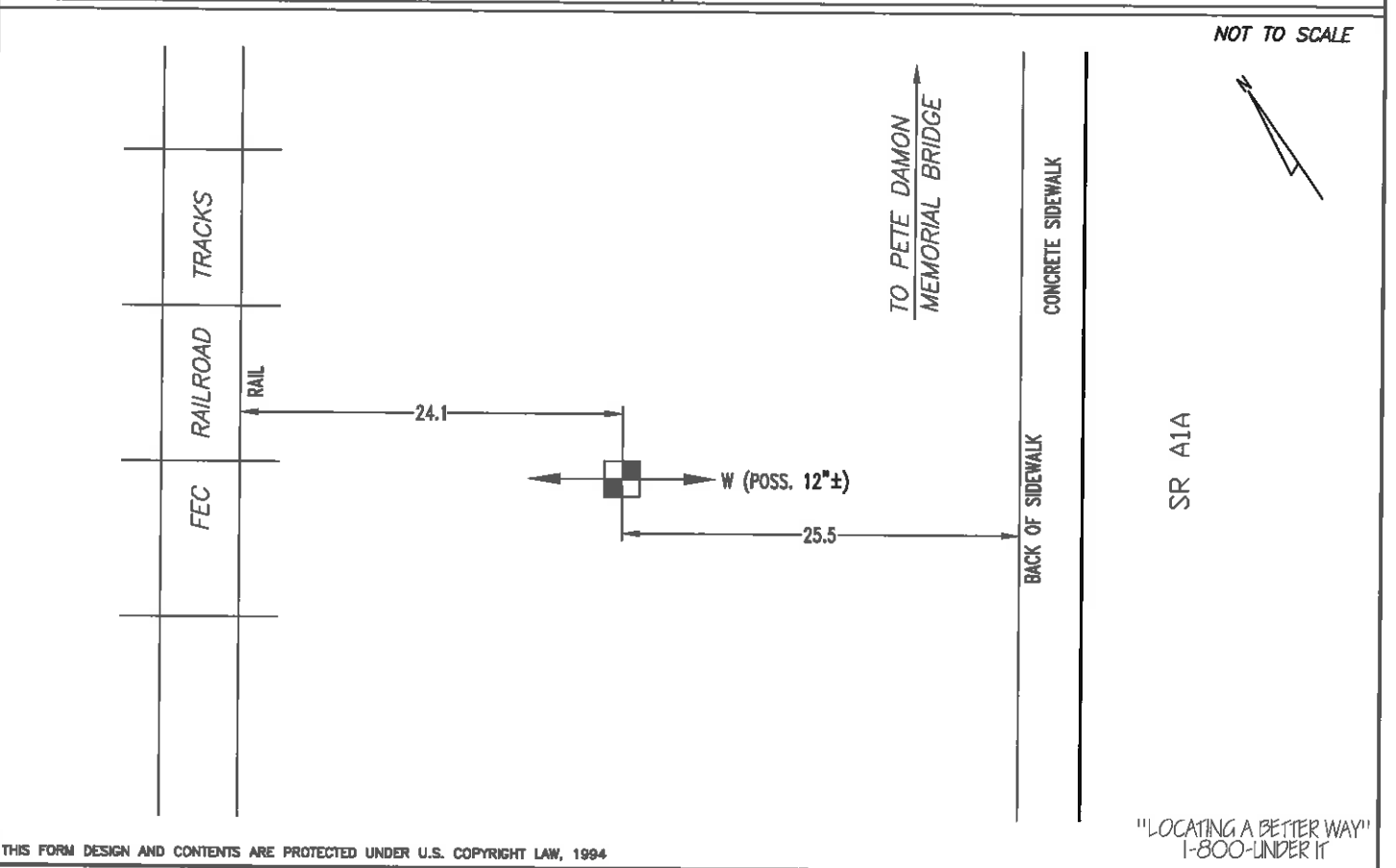
PN: PF10716 VACUUM TEST HOLE REPORT NO.: 5

PROJECT NAME: LOXAHATCHEE RIVER ENVIRONMENT CONTROL	D.O.T. JOB# N/A	WORK ORDER# N/A
LOCATE REQUESTED BY: MATHEWS CONSULTING	PROJECT LOCATION: JUPITER, PALM BEACH COUNTY, FLORIDA	
UTILITY REQUESTED: FIBER OPTIC	SHEET #: 8 OF N/A	PROPOSED: UTILITY WORK
UTILITY FOUND: FIBER OPTIC	FORM BY: ER	ASSISTED BY: DL DM # OF HOLES: 1
MATERIAL AS FOUND: PVC (GRAY) CONDUITS	PAVING CONDITION: N/A	DATE DUG: 9-28-16
SIZE AS FOUND: (2) 2"	SOIL CONDITIONS: SOFT DRY SAND ROCKY	
ELEV SURVEY PIN 6.10	UTILITY CONDITION: GOOD	
EXIST. GRADE	HUB & TACK AT: CROWN OF UTILITY. MARKING TAPE: ORANGE	
COVER (TOP) 2.19	SURVEY PIN LOCATED BY: MATHEWS CONSULTING, INC.	
3.91	SURVEY INFO.: ALL MEASUREMENTS ON THIS FORM ARE IN ENGLISH UNITS (FEET).	
ELEV. (TOP)	NORTH 950318.09	EAST 951940.91
COVER (BOTTOM) N/A	ELEV. 6.10	
ELEV. (BOTTOM)	HORIZONTAL DATUM = NAD 1983 VERTICAL DATUM = NGVD 1929.	
WIDTH 2.5"± (EACH)	NOTES: HUB SET OVER CROWN OF WESTERN MOST 2" CONDUIT. OFFSET TO CROWN OF EASTERN MOST CONDUIT IS 0.25'.	



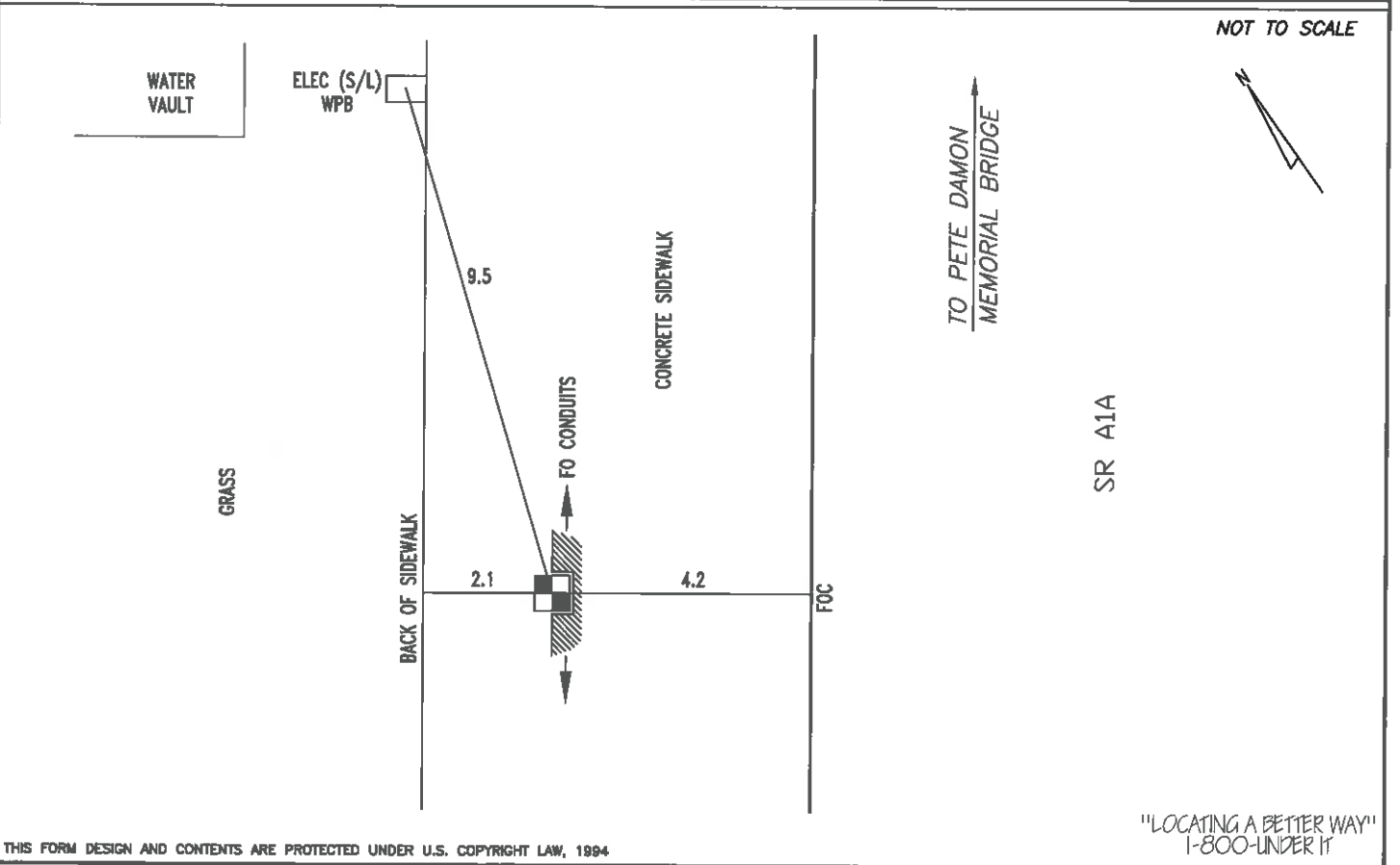
PN: PF10716 VACUUM TEST HOLE REPORT NO.: 6

<p><b>PROJECT NAME:</b> LOXAHATCHEE RIVER ENVIRONMENT CONTROL</p> <p><b>LOCATE REQUESTED BY:</b> MATHEWS CONSULTING</p> <p><b>UTILITY REQUESTED:</b> WATER</p> <p><b>UTILITY FOUND:</b> WATER</p> <p><b>MATERIAL AS FOUND:</b> SEE NOTE</p> <p><b>SIZE AS FOUND:</b> SEE NOTE</p>	<p><b>D.O.T. JOB#</b> N/A      <b>WORK ORDER#</b> N/A</p> <p><b>PROJECT LOCATION:</b> JUPITER, PALM BEACH COUNTY, FLORIDA</p> <p><b>SHEET #:</b> 10 OF N/A      <b>PROPOSED:</b> UTILITY WORK</p> <p><b>FORM BY:</b> ER      <b>ASSISTED BY:</b> MP JC KF      <b># OF HOLES:</b> 1</p> <p><b>PAVING CONDITION:</b> N/A      <b>DATE DUG:</b> 9-27-16</p> <p><b>SOIL CONDITIONS:</b> HARD WET SAND ROCKY</p> <p><b>UTILITY CONDITION:</b> SEE NOTE</p>						
<p><b>ELEV SURVEY PIN</b></p> <div style="border: 1px solid black; padding: 2px; width: 50px; display: inline-block;">5.13</div> <p style="margin-left: 100px;"><b>EXIST. GRADE</b> <span style="margin-left: 50px;">N/A</span></p> <p style="margin-left: 100px;"><b>COVER (TOP)</b></p> <div style="border: 1px solid black; padding: 2px; width: 50px; display: inline-block;">5.36</div> <div style="border: 1px solid black; padding: 2px; width: 50px; display: inline-block; margin-left: 10px;">-0.23</div> <p style="margin-left: 100px;"><b>ELEV. (TOP)</b></p> <p style="margin-left: 100px;"><b>COVER (BOTTOM)</b></p> <div style="border: 1px solid black; padding: 2px; width: 50px; display: inline-block;">N/A</div> <div style="border: 1px solid black; padding: 2px; width: 50px; display: inline-block; margin-left: 10px;">N/A</div> <p style="margin-left: 100px;"><b>ELEV. (BOTTOM)</b></p> <p style="margin-left: 100px;"><b>WIDTH</b> SEE NOTE</p> <p style="margin-left: 100px;"><b>FACING</b> SE</p>	<p><b>INSTALLLED:</b> STEEL PIN AT: CROWN OF UTILITY. <b>MARKING TAPE:</b> BLUE</p> <p><b>SURVEY PIN LOCATED BY:</b> MATHEWS CONSULTING, INC.</p> <p><b>SURVEY INFO.:</b> ALL MEASUREMENTS ON THIS FORM ARE IN ENGLISH UNITS (FEET).</p> <table style="margin-left: 40px; border-collapse: collapse;"> <tr> <td style="padding: 2px;">NORTH</td> <td style="padding: 2px;">EAST</td> <td style="padding: 2px;">ELEV.</td> </tr> <tr> <td style="padding: 2px;">950439.59</td> <td style="padding: 2px;">952000.28</td> <td style="padding: 2px;">5.13</td> </tr> </table> <p style="margin-left: 40px;"><b>HORIZONTAL DATUM = NAD 1983, VERTICAL DATUM = NGVD 1929.</b></p> <p><b>NOTES:</b> UNABLE TO OBTAIN SIZE (POSSIBLE 12"±) AND MATERIAL (POSSIBLE DUCTILE IRON) DUE TO EXCESSIVE GROUND WATER ENCOUNTERED IN TEST HOLE. STEEL PIN SET OVER TOP OF UTILITY. ALSO UNABLE TO PROVIDE ADDITIONAL TIES DUE TO HEAVY SHRUBBERY AND FOLIAGE.</p>	NORTH	EAST	ELEV.	950439.59	952000.28	5.13
NORTH	EAST	ELEV.					
950439.59	952000.28	5.13					



PN: PF10716 VACUUM TEST HOLE REPORT NO.: 7

PROJECT NAME: LOXAHATCHEE RIVER ENVIRONMENT CONTROL	D.O.T. JOB# N/A	WORK ORDER# N/A
LOCATE REQUESTED BY: MATHEWS CONSULTING	PROJECT LOCATION: JUPITER, PALM BEACH COUNTY, FLORIDA	
UTILITY REQUESTED: FIBER OPTIC	SHEET #: 10 OF N/A	PROPOSED: UTILITY WORK
UTILITY FOUND: FIBER OPTIC	FORM BY: ER	ASSISTED BY: DL DM # OF HOLES: 1
MATERIAL AS FOUND: PVC (GRAY) CONDUITS	PAVING CONDITION: GOOD	DATE DUG: 9-28-16
SIZE AS FOUND: (2) 2"	SOIL CONDITIONS: SOFT DRY SAND ROCKY	
UTILITY CONDITION: GOOD		
ELEV SURVEY PIN 5.42 EXIST. GRADE 0.3 CONCRETE INSTALLED: CHIS "X" AT: CROWN OF UTILITY. MARKING TAPE: ORANGE		
SURVEY PIN LOCATED BY: MATHEWS CONSULTING, INC.		
SURVEY INFO.: ALL MEASUREMENTS ON THIS FORM ARE IN ENGLISH UNITS (FEET).		
COVER (TOP) 0.93	NORTH 950461.77	EAST 952051.46
ELEV. (TOP) 4.49	ELEV. 5.42	
HORIZONTAL DATUM = NAD 1983 , VERTICAL DATUM = NGVD 1929.		
COVER (BOTTOM) N/A	NOTES: CHIS "X" SET OVER CROWN OF WESTERN MOST 2" CONDUIT. OFFSET TO CROWN OF EASTERN MOST CONDUIT IS 0.25'.	
ELEV. (BOTTOM) N/A		
FACING NE		
WIDTH 2.5"± (EACH)		



<p><b>PROJECT NAME:</b> LOXAHATCHEE RIVER ENVIRONMENT CONTROL</p> <p><b>LOCATE REQUESTED BY:</b> MATHEWS CONSULTING</p> <p><b>UTILITY REQUESTED:</b> 12" WATER</p> <p><b>UTILITY FOUND:</b> WATER (SEE NOTE)</p> <p><b>MATERIAL AS FOUND:</b> CAST IRON</p> <p><b>SIZE AS FOUND:</b> SEE NOTE</p>	<p><b>D.O.T. JOB#</b> N/A      <b>WORK ORDER#</b> N/A</p> <p><b>PROJECT LOCATION:</b> JUPITER, PALM BEACH COUNTY, FLORIDA</p> <p><b>SHEET #:</b> 14 OF N/A      <b>PROPOSED:</b> UTILITY WORK</p> <p><b>FORM BY:</b> BR      <b>ASSISTED BY:</b> DL MP MT      <b># OF HOLES:</b> 1</p> <p><b>PAVING CONDITION:</b> N/A      <b>DATE DUG:</b> 9-26-16</p> <p><b>SOIL CONDITIONS:</b> SOFT DRY SAND</p> <p><b>UTILITY CONDITION:</b> GOOD</p> <p><b>HUB &amp; TACK AT:</b> CROWN OF UTILITY.      <b>MARKING TAPE:</b> BLUE</p> <p><b>SURVEY PIN LOCATED BY:</b> MATHEWS CONSULTING, INC.</p> <p><b>SURVEY INFO.:</b> ALL MEASUREMENTS ON THIS FORM ARE IN ENGLISH UNITS (FEET).</p> <table style="width:100%; border: none;"> <tr> <td style="text-align: center;">NORTH</td> <td style="text-align: center;">EAST</td> <td style="text-align: center;">ELEV.</td> </tr> <tr> <td style="text-align: center;">951803.35</td> <td style="text-align: center;">953029.23</td> <td style="text-align: center;">4.45</td> </tr> </table> <p>HORIZONTAL DATUM = NAD 1983, VERTICAL DATUM = NGVD 1929.</p> <p><b>NOTES:</b> TEST HOLE ALSO REVEALED A 4" PVC (GRAY) UNKNOWN, RUNNING NORTH-SOUTH, DIRECTLY ABOVE WATER. COVER = 3.05. UNABLE TO OBTAIN ACCURATE SIZE OF WATER DUE TO UNKNOWN UTILITY ABOVE. PLANS INDICATE A 12" WATER AT THIS LOCATION. HUB SET OVER APPROXIMATE CROWN OF WATER.</p>	NORTH	EAST	ELEV.	951803.35	953029.23	4.45
NORTH	EAST	ELEV.					
951803.35	953029.23	4.45					

**ELEV SURVEY PIN**

4.45

---

**COVER (TOP)**

4.44

0.01

**ELEV. (TOP)**

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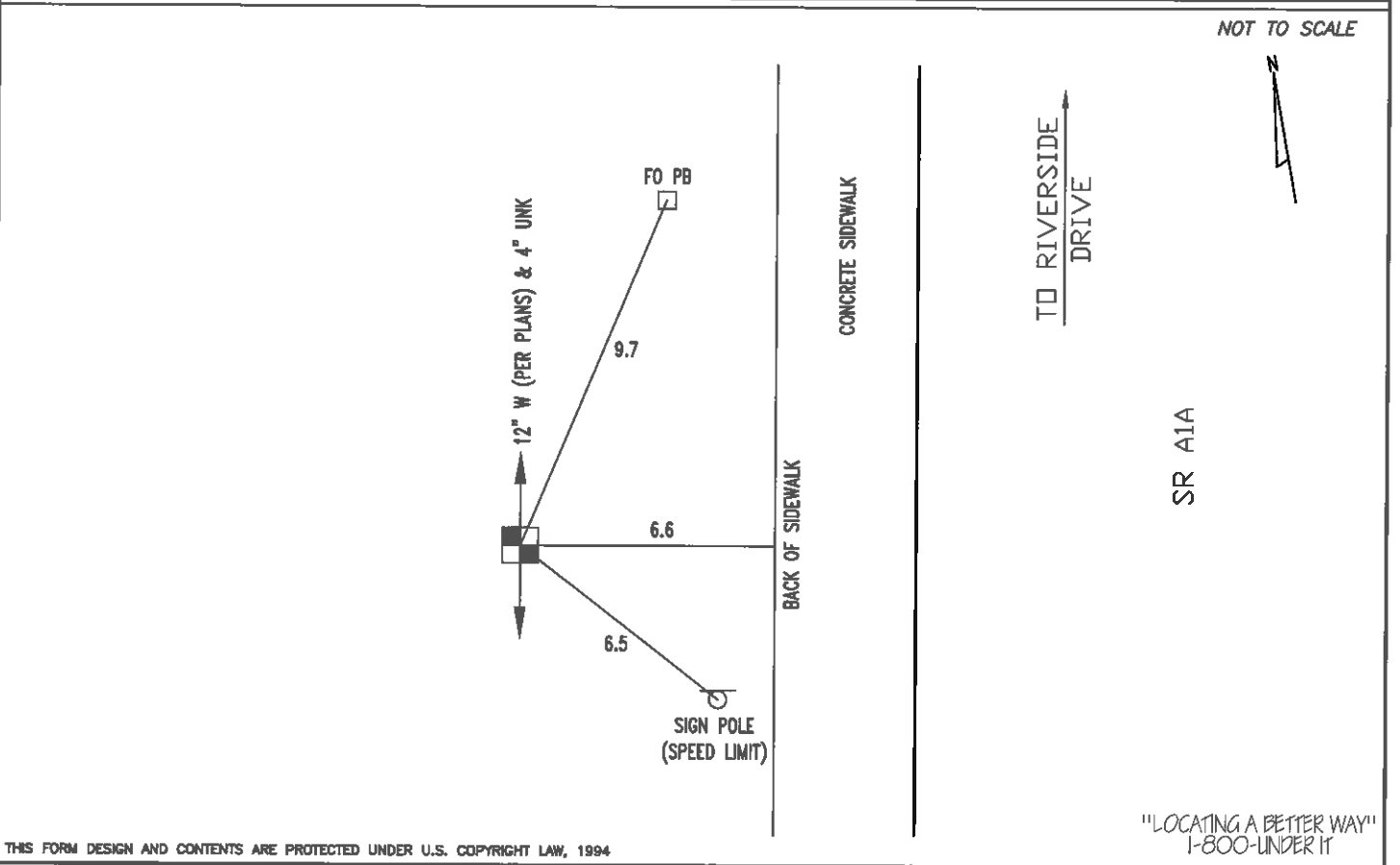
**COVER (BOTTOM)**

N/A

N/A

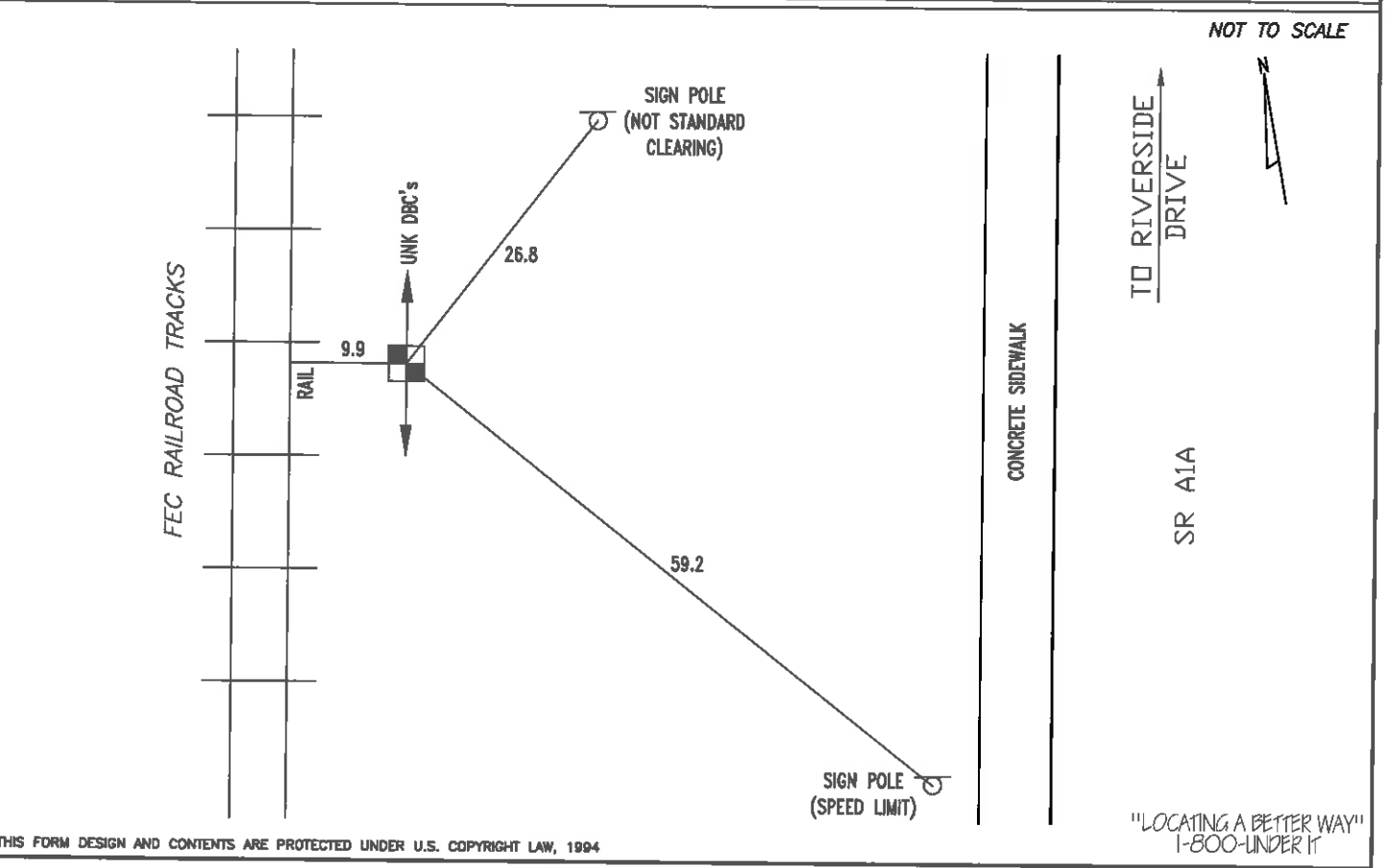
**ELEV. (BOTTOM)**

**INSTALLED:**



PN: PF10716 VACUUM TEST HOLE REPORT NO.: 9

<p><b>PROJECT NAME:</b> LOXAHATCHEE RIVER ENVIRONMENT CONTROL</p> <p><b>LOCATE REQUESTED BY:</b> MATHEWS CONSULTING</p> <p><b>UTILITY REQUESTED:</b> UNKNOWN</p> <p><b>UTILITY FOUND:</b> UNKNOWN</p> <p><b>MATERIAL AS FOUND:</b> DIRECT BURIED CABLES</p> <p><b>SIZE AS FOUND:</b> (2) 0.25"</p>	<p><b>D.O.T. JOB#</b> N/A      <b>WORK ORDER#</b> N/A</p> <p><b>PROJECT LOCATION:</b> JUPITER, PALM BEACH COUNTY, FLORIDA</p> <p><b>SHEET #:</b> 14 OF N/A      <b>PROPOSED:</b> UTILITY WORK</p> <p><b>FORM BY:</b> BR      <b>ASSISTED BY:</b> DL DM JT      <b># OF HOLES:</b> 1</p> <p><b>PAVING CONDITION:</b> N/A      <b>DATE DUG:</b> 9-27-16</p> <p><b>SOIL CONDITIONS:</b> SOFT DRY SAND</p> <p><b>UTILITY CONDITION:</b> GOOD</p>						
<p><b>ELEV SURVEY PIN</b> 5.87</p> <p><b>COVER (TOP)</b> 0.10</p> <p><b>ELEV. (TOP)</b> 5.77</p> <p><b>COVER (BOTTOM)</b> N/A</p> <p><b>ELEV. (BOTTOM)</b> N/A</p> <p><b>WIDTH</b> 0.25"± (EACH)</p> <p><b>FACING</b> NORTH</p>	<p><b>INSTALLLED:</b> SPIKE AT: CROWN OF UTILITY. <b>MARKING TAPE:</b> ORANGE</p> <p><b>SURVEY PIN LOCATED BY:</b> MATHEWS CONSULTING, INC.</p> <p><b>SURVEY INFO.:</b> ALL MEASUREMENTS ON THIS FORM ARE IN ENGLISH UNITS (FEET).</p> <table style="width:100%; border: none;"> <tr> <td style="text-align: center;">NORTH</td> <td style="text-align: center;">EAST</td> <td style="text-align: center;">ELEV.</td> </tr> <tr> <td style="text-align: center;">951855.59</td> <td style="text-align: center;">953040.28</td> <td style="text-align: center;">5.87</td> </tr> </table> <p><b>HORIZONTAL DATUM = NAD 1983 , VERTICAL DATUM = NGVD 1929.</b></p> <p><b>NOTES:</b> TEST HOLE EXCAVATED WHERE PLANS INDICATED ORANGE PAINT MARKS. TEST HOLE REVEALED (2) 0.25" CABLES DIRECTLY BELOW EXISTING GRADE LEVEL.</p>	NORTH	EAST	ELEV.	951855.59	953040.28	5.87
NORTH	EAST	ELEV.					
951855.59	953040.28	5.87					





PN: PF10716 VACUUM TEST HOLE REPORT NO.: 10

<p><b>PROJECT NAME:</b> LOXAHATCHEE RIVER ENVIRONMENT CONTROL</p> <p><b>LOCATE REQUESTED BY:</b> MATHEWS CONSULTING</p> <p><b>UTILITY REQUESTED:</b> FIBER OPTIC</p> <p><b>UTILITY FOUND:</b> FIBER OPTIC</p> <p><b>MATERIAL AS FOUND:</b> PVC (GRAY) CONDUIT</p> <p><b>SIZE AS FOUND:</b> 2"</p>	<p><b>D.O.T. JOB#</b> N/A      <b>WORK ORDER#</b> N/A</p> <p><b>PROJECT LOCATION:</b> JUPITER, PALM BEACH COUNTY, FLORIDA</p> <p><b>SHEET #:</b> 14 OF N/A      <b>PROPOSED:</b> UTILITY WORK</p> <p><b>FORM BY:</b> BR      <b>ASSISTED BY:</b> DL MP MT      <b># OF HOLES:</b> 1</p> <p><b>PAVING CONDITION:</b> N/A      <b>DATE DUG:</b> 9-26-16</p> <p><b>SOIL CONDITIONS:</b> SOFT DRY SAND</p> <p><b>UTILITY CONDITION:</b> GOOD</p> <p><b>HUB &amp; TACK AT:</b> CROWN OF UTILITY.      <b>MARKING TAPE:</b> ORANGE</p> <p><b>SURVEY PIN LOCATED BY:</b> MATHEWS CONSULTING, INC.</p> <p><b>SURVEY INFO.:</b> ALL MEASUREMENTS ON THIS FORM ARE IN ENGLISH UNITS (FEET).</p> <table style="width:100%; border: none;"> <tr> <td style="text-align: center;">NORTH</td> <td style="text-align: center;">EAST</td> <td style="text-align: center;">ELEV.</td> </tr> <tr> <td style="text-align: center;">951828.38</td> <td style="text-align: center;">953055.65</td> <td style="text-align: center;">5.68</td> </tr> </table> <p style="text-align: center;"><b>HORIZONTAL DATUM = NAD 1983 , VERTICAL DATUM = NGVD 1929.</b></p> <p><b>NOTES:</b></p>	NORTH	EAST	ELEV.	951828.38	953055.65	5.68
NORTH	EAST	ELEV.					
951828.38	953055.65	5.68					

**ELEV SURVEY PIN**  
5.68

**EXIST. GRADE**      **INSTALLLED:** N/A

**COVER (TOP)**  
1.85

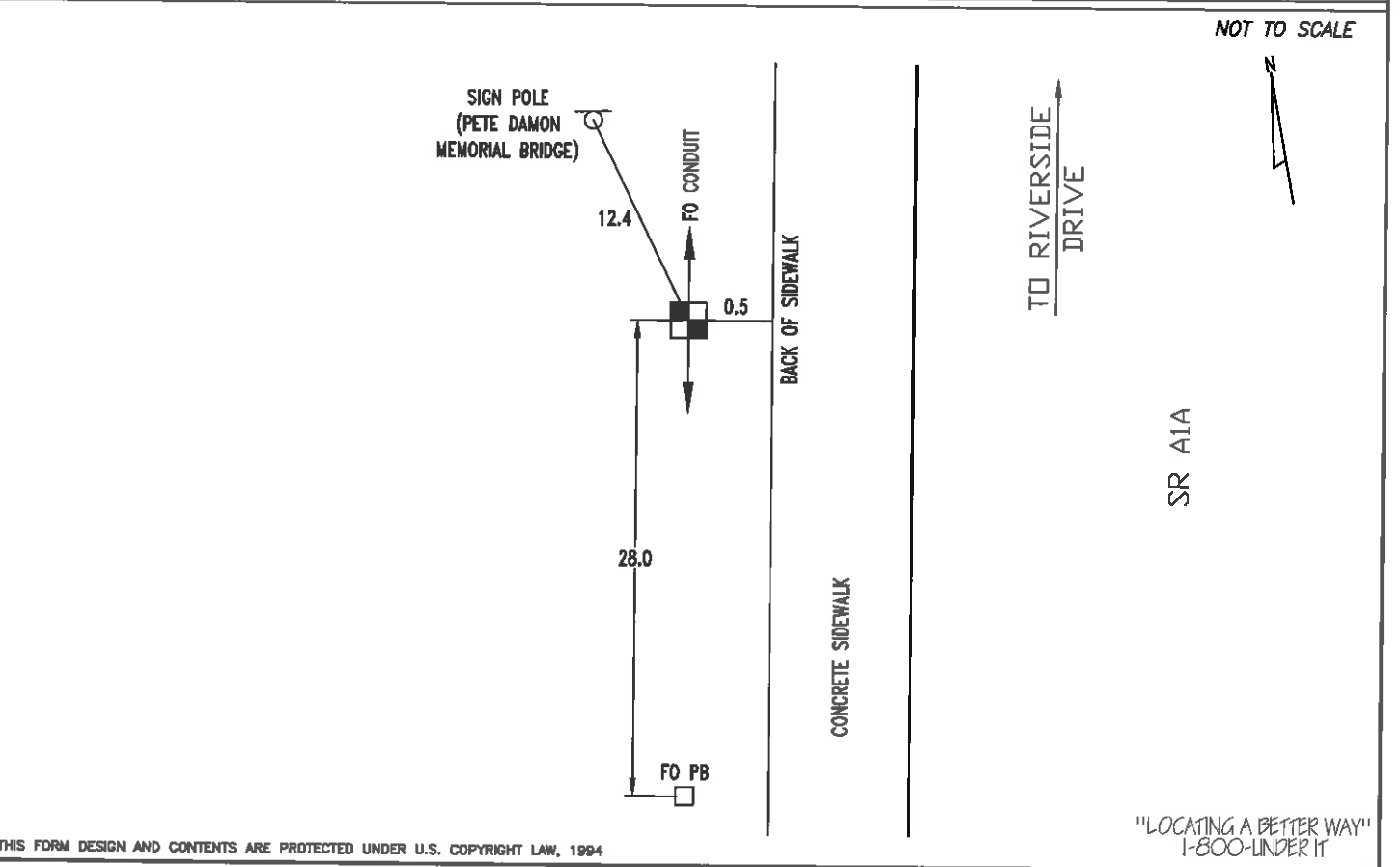
**ELEV. (TOP)**  
3.83

**COVER (BOTTOM)**  
N/A

**ELEV. (BOTTOM)**  
N/A

**WIDTH**  
2.5"±

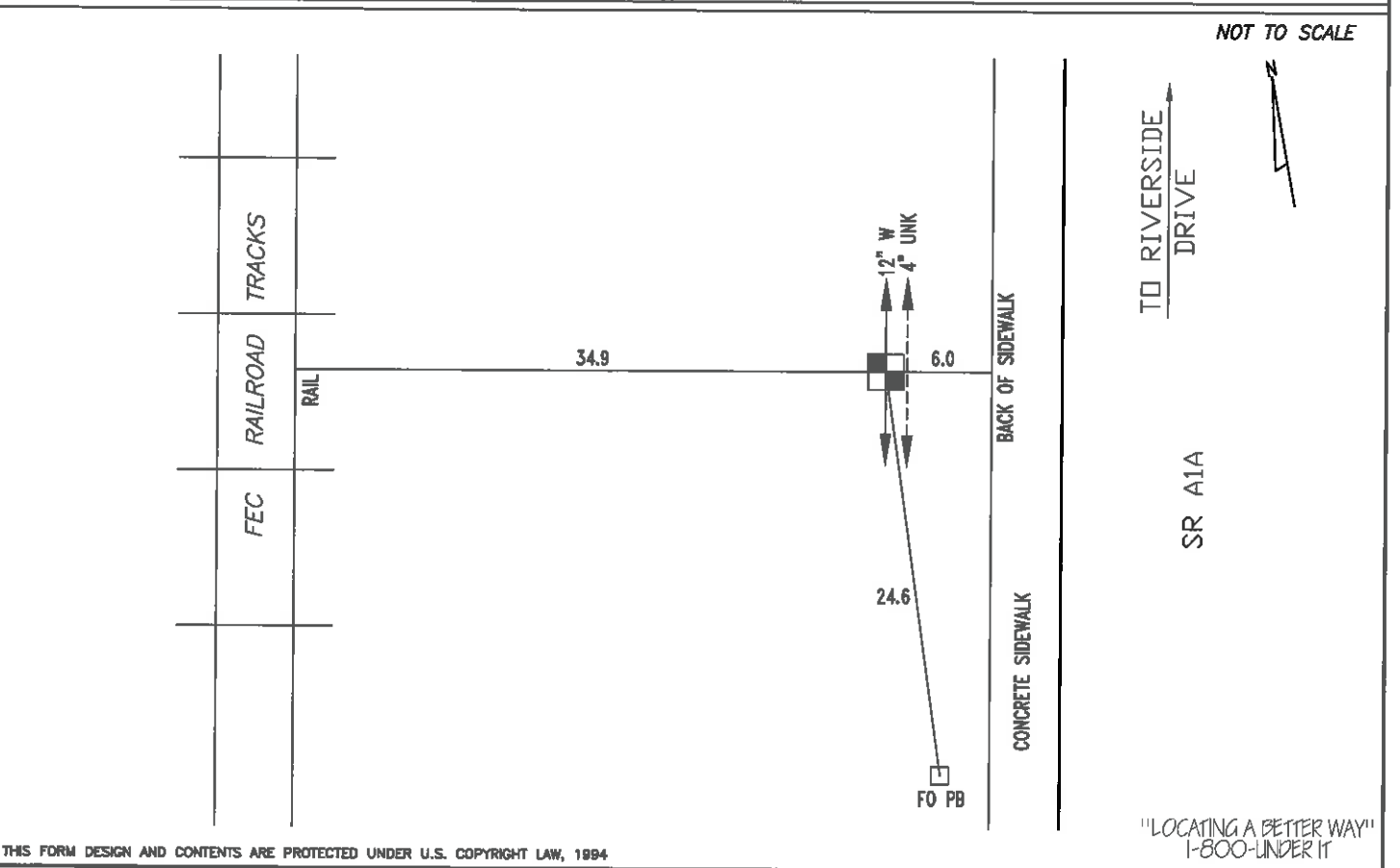
**FACING**  
NORTH



PN: PF10716

VACUUM TEST HOLE REPORT NO.: 11

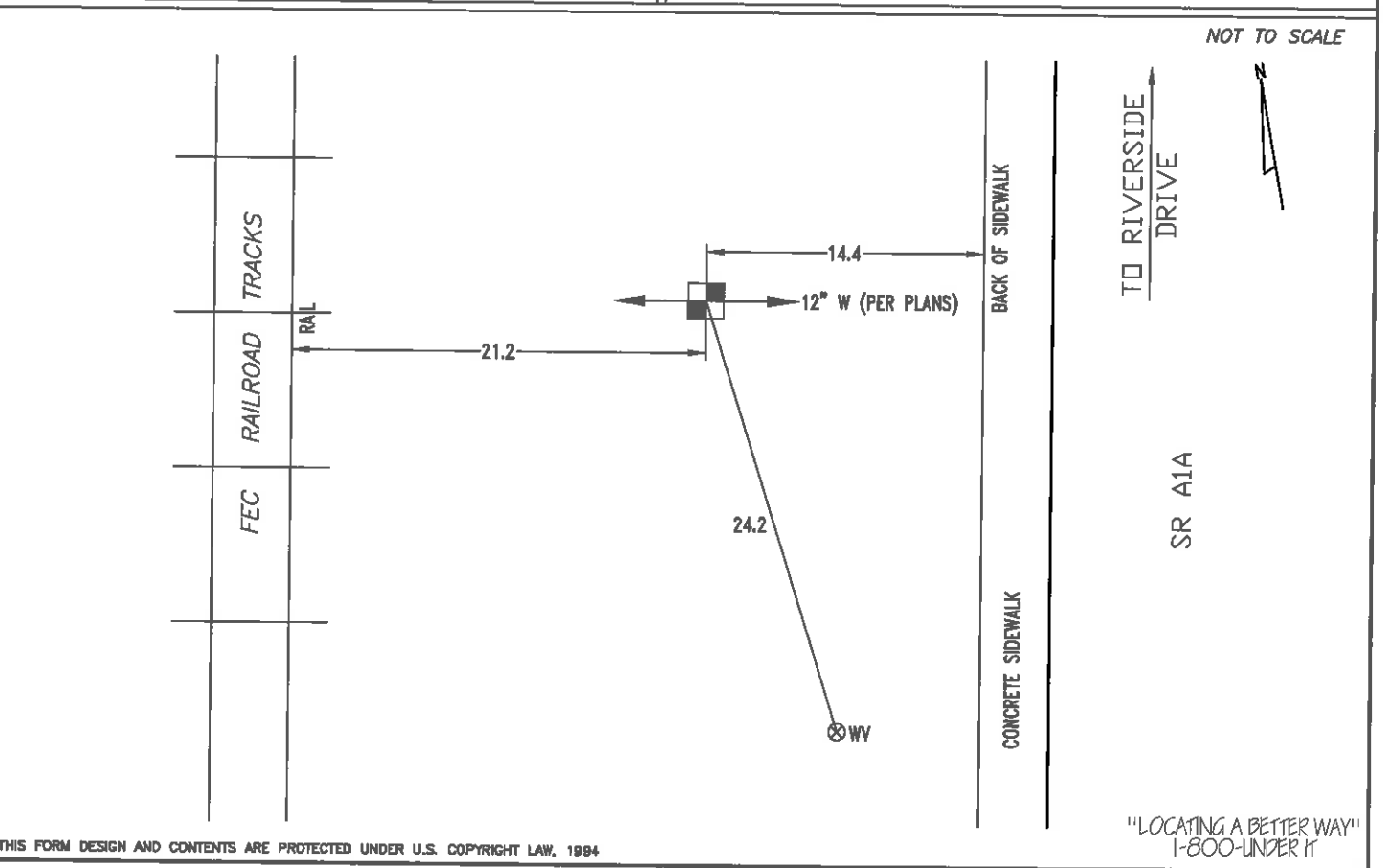
<b>PROJECT NAME:</b> LOXAHATCHEE RIVER ENVIRONMENT CONTROL	<b>D.O.T. JOB#</b> N/A	<b>WORK ORDER#</b> N/A						
<b>LOCATE REQUESTED BY:</b> MATHEWS CONSULTING	<b>PROJECT LOCATION:</b> JUPITER, PALM BEACH COUNTY, FLORIDA							
<b>UTILITY REQUESTED:</b> 12" WATER	<b>SHEET #:</b> 14 OF N/A	<b>PROPOSED:</b> UTILITY WORK						
<b>UTILITY FOUND:</b> WATER (SEE NOTE)	<b>FORM BY:</b> BR	<b>ASSISTED BY:</b> MP DL MT						
<b>MATERIAL AS FOUND:</b> CAST IRON	<b># OF HOLES:</b> 1							
<b>SIZE AS FOUND:</b> 12"	<b>PAVING CONDITION:</b> N/A	<b>DATE DUG:</b> 9-26-16						
<b>ELEV SURVEY PIN</b> 4.96	<b>SOIL CONDITIONS:</b> SOFT DRY SAND							
<b>EXIST. GRADE</b> N/A	<b>UTILITY CONDITION:</b> GOOD							
<b>COVER (TOP)</b> 5.41	<b>HUB &amp; TACK AT:</b> CROWN OF UTILITY. <b>MARKING TAPE:</b> BLUE							
<b>ELEV. (TOP)</b> -0.45	<b>SURVEY PIN LOCATED BY:</b> MATHEWS CONSULTING, INC.							
<b>COVER (BOTTOM)</b> N/A	<b>SURVEY INFO.:</b> ALL MEASUREMENTS ON THIS FORM ARE IN ENGLISH UNITS (FEET).							
<b>ELEV. (BOTTOM)</b> N/A	<table border="0"> <tr> <td><b>NORTH</b></td> <td><b>EAST</b></td> <td><b>ELEV.</b></td> </tr> <tr> <td>951828.55</td> <td>953048.73</td> <td>4.96</td> </tr> </table>		<b>NORTH</b>	<b>EAST</b>	<b>ELEV.</b>	951828.55	953048.73	4.96
<b>NORTH</b>	<b>EAST</b>	<b>ELEV.</b>						
951828.55	953048.73	4.96						
<b>WIDTH</b> 13"±	<b>HORIZONTAL DATUM =</b> NAD 1983 , <b>VERTICAL DATUM =</b> NGVD 1929.							
<b>FACING</b> NORTH	<b>NOTES:</b> TEST HOLE ALSO REVEALED A 4" PVC (GRAY) UNKNOWN, RUNNING NORTH-SOUTH, 1.20' EAST OF HUB. COVER = 3.61. HUB SET OVER CROWN OF 12" WATER.							



PN: PF10716

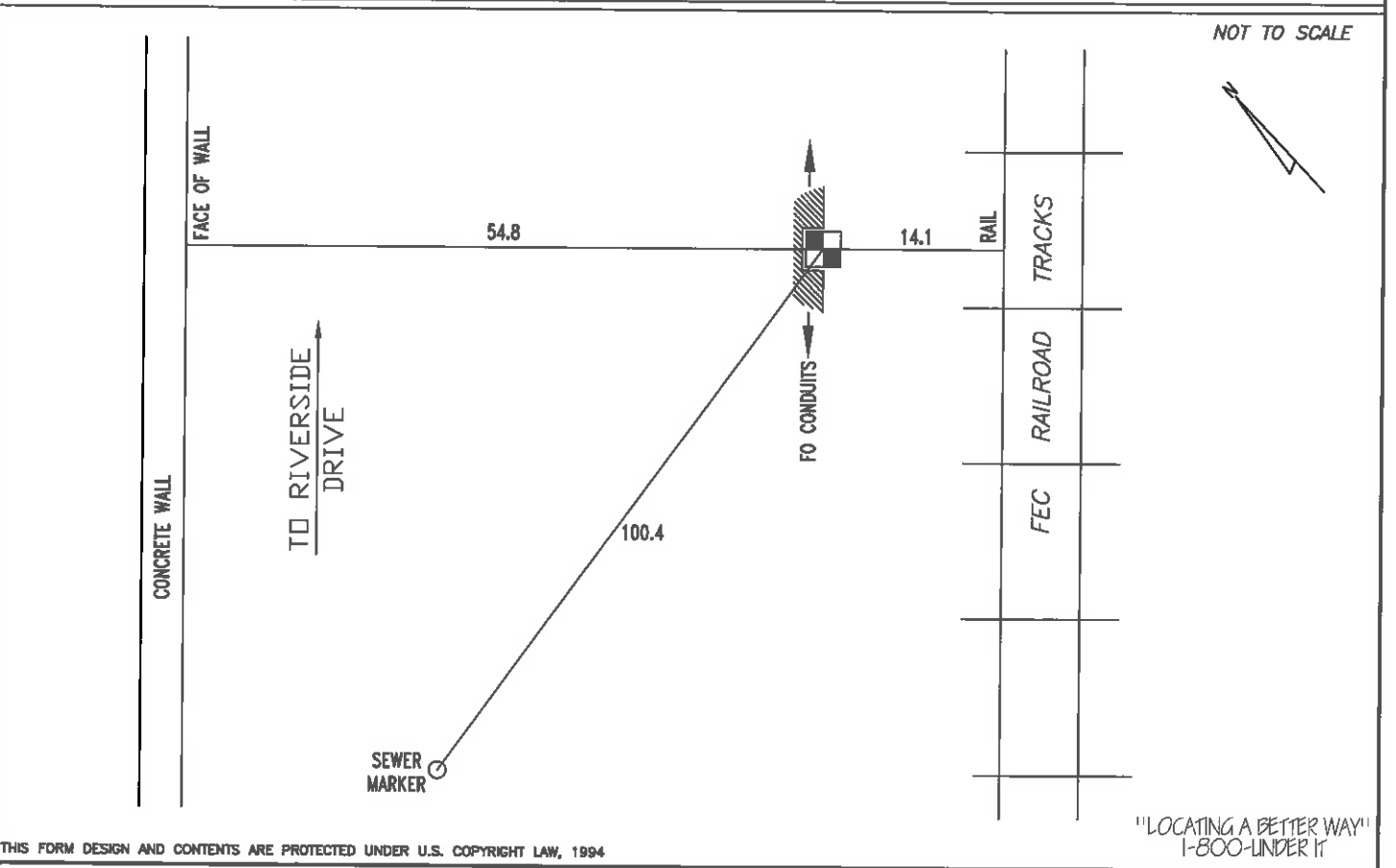
VACUUM TEST HOLE REPORT NO.: 12

PROJECT NAME: LOXAHATCHEE RIVER ENVIRONMENT CONTROL	D.O.T. JOB# N/A	WORK ORDER# N/A
LOCATE REQUESTED BY: MATHEWS CONSULTING	PROJECT LOCATION: JUPITER, PALM BEACH COUNTY, FLORIDA	
UTILITY REQUESTED: 12" WATER	SHEET #: 14 OF N/A	PROPOSED: UTILITY WORK
UTILITY FOUND: WATER	FORM BY: BR	ASSISTED BY: DL DM JT # OF HOLES: 1
MATERIAL AS FOUND: SEE NOTE	PAVING CONDITION: N/A	DATE DUG: 9-27-16
SIZE AS FOUND: SEE NOTE	SOIL CONDITIONS: SOFT DRY SAND ROCKY	UTILITY CONDITION: SEE NOTE
ELEV SURVEY PIN 5.84	HUB & TACK AT: TOP OF UTILITY. MARKING TAPE: BLUE	
EXIST. GRADE	SURVEY PIN LOCATED BY: MATHEWS CONSULTING, INC.	
COVER (TOP) 10.88	SURVEY INFO.: ALL MEASUREMENTS ON THIS FORM ARE IN ENGLISH UNITS (FEET).	
-5.04	NORTH	EAST
ELEV. (TOP)	951891.58	953084.92
COVER (BOTTOM) N/A	HORIZONTAL DATUM = NAD 1983 VERTICAL DATUM = NGVD 1929.	
ELEV. (BOTTOM) N/A	NOTES: UNABLE TO OBTAIN SIZE AND MATERIAL DUE TO DEPTH OF UTILITY AND SOIL CONDITIONS ENCOUNTERED IN TEST HOLE. PLANS INDICATE A 12" WATER AT THIS LOCATION. HUB SET OVER TOP OF UTILITY.	



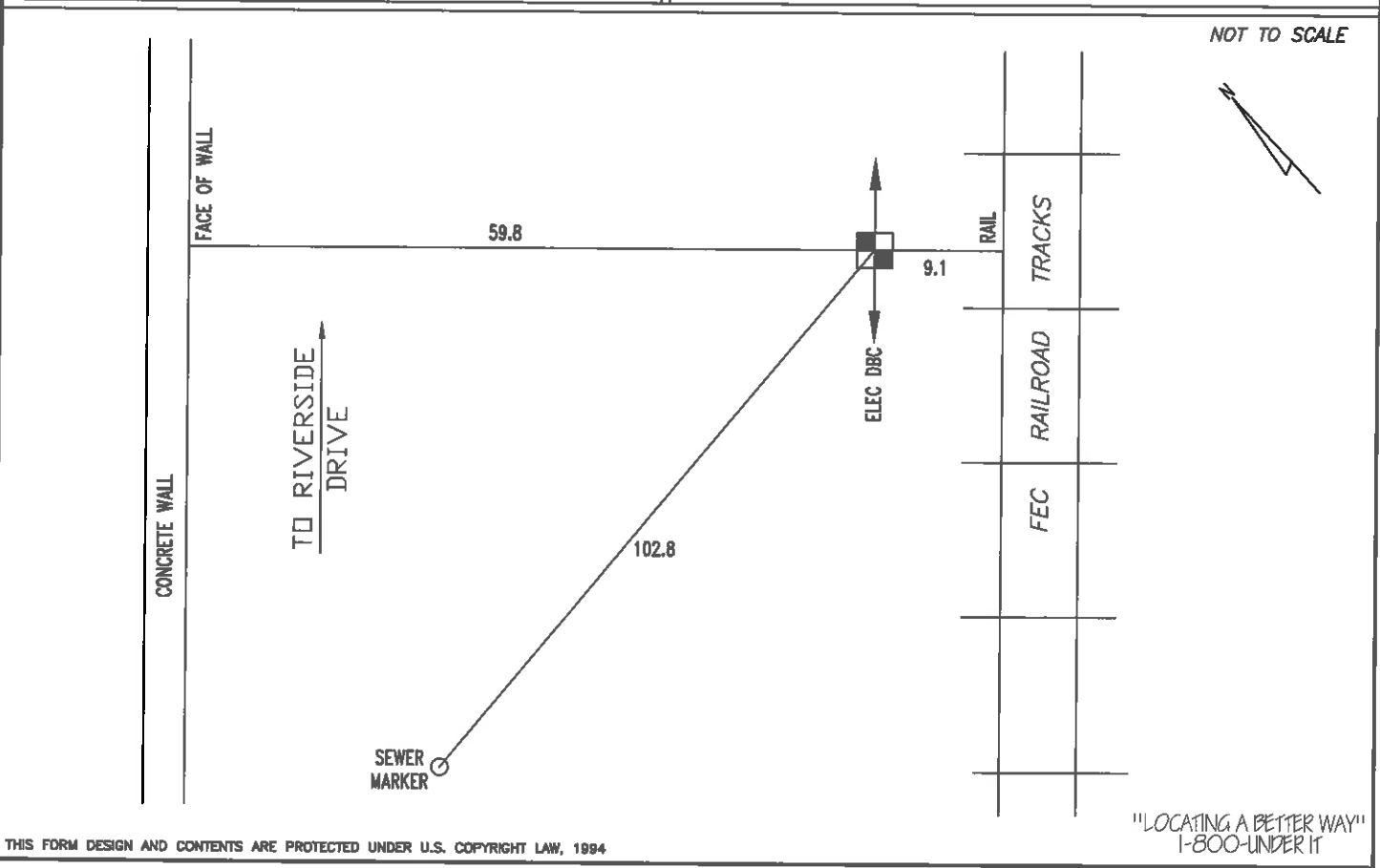
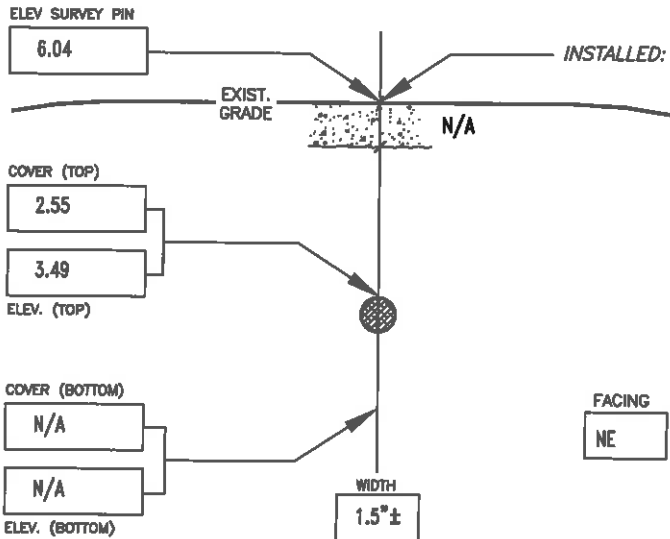
PN: PF10716 VACUUM TEST HOLE REPORT NO.: 13

PROJECT NAME: LOXAHATCHEE RIVER ENVIRONMENT CONTROL	D.O.T. JOB# N/A	WORK ORDER# N/A
LOCATE REQUESTED BY: MATHEWS CONSULTING	PROJECT LOCATION: JUPITER, PALM BEACH COUNTY, FLORIDA	
UTILITY REQUESTED: FIBER OPTIC	SHEET #: 14 OF N/A	PROPOSED: UTILITY WORK
UTILITY FOUND: FIBER OPTIC	FORM BY: ER	ASSISTED BY: MP JC # OF HOLES: 1
MATERIAL AS FOUND: PLASTIC (MULTICOLOR) CONDUITS	PAVING CONDITION: N/A	DATE DUG: 9-27-16
SIZE AS FOUND: (5) 2"	SOIL CONDITIONS: SOFT DRY SAND ROCKY	UTILITY CONDITION: GOOD
ELEV SURVEY PIN 5.82	STEEL PIN AT: CROWN OF UTILITY. MARKING TAPE: ORANGE	
EXIST. GRADE	SURVEY PIN LOCATED BY: MATHEWS CONSULTING, INC.	
COVER (TOP) 4.55	SURVEY INFO.: ALL MEASUREMENTS ON THIS FORM ARE IN ENGLISH UNITS (FEET).	
1.27	NORTH	EAST
ELEV. (TOP)	951883.32	953012.50
GRAY	ELEV. 5.82	
ORANGE	HORIZONTAL DATUM = NAD 1983 , VERTICAL DATUM = NGVD 1929.	
BLACK	NOTES: STEEL PIN SET OVER CROWN OF EASTERN MOST ORANGE 2" CONDUIT.	
BLUE	OFFSET TO CROWN OF WESTERN MOST GRAY CONDUIT IS 1.4'.	
COVER (BOTTOM) N/A	FACING NE	
N/A	WIDTH 2.5"± (EACH)	
ELEV. (BOTTOM)		



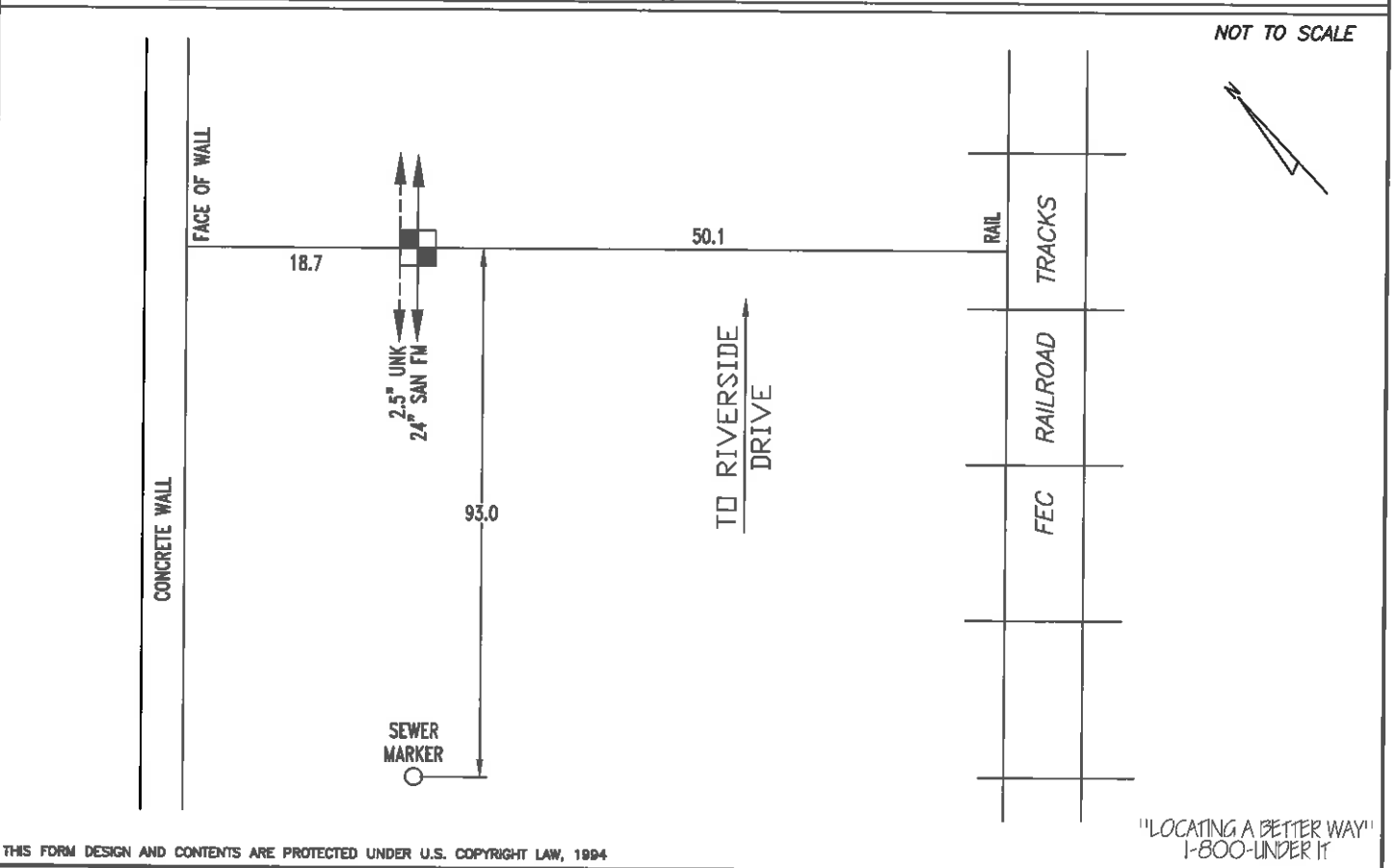
PN: PF10716 VACUUM TEST HOLE REPORT NO.: 13A

<b>PROJECT NAME:</b> LOXAHATCHEE RIVER ENVIRONMENT CONTROL	<b>D.O.T. JOB#</b> N/A	<b>WORK ORDER#</b> N/A
<b>LOCATE REQUESTED BY:</b> MATHEWS CONSULTING	<b>PROJECT LOCATION:</b> JUPITER, PALM BEACH COUNTY, FLORIDA	
<b>UTILITY REQUESTED:</b> ELECTRIC	<b>SHEET #:</b> 14 OF N/A	<b>PROPOSED:</b> UTILITY WORK
<b>UTILITY FOUND:</b> ELECTRIC	<b>FORM BY:</b> ER	<b>ASSISTED BY:</b> MP JC
<b>MATERIAL AS FOUND:</b> DIRECT BURIED CABLE	<b># OF HOLES:</b> 1	
<b>SIZE AS FOUND:</b> 1.5"	<b>PAVING CONDITION:</b> N/A	<b>DATE DUG:</b> 9-27-16
	<b>SOIL CONDITIONS:</b> SOFT DRY SAND ROCKY	
	<b>UTILITY CONDITION:</b> GOOD	
<b>INSTALLLED:</b> STEEL PIN AT: CROWN OF UTILITY. MARKING TAPE: RED		
<b>SURVEY PIN LOCATED BY:</b> MATHEWS CONSULTING, INC.		
<b>SURVEY INFO.:</b> ALL MEASUREMENTS ON THIS FORM ARE IN ENGLISH UNITS (FEET).		
	<b>NORTH</b>	<b>EAST</b>
	951880.48	953016.66
	<b>ELEV.</b>	
	6.04	
<b>HORIZONTAL DATUM = NAD 1983 , VERTICAL DATUM = NGVD 1929.</b>		
<b>NOTES:</b>		



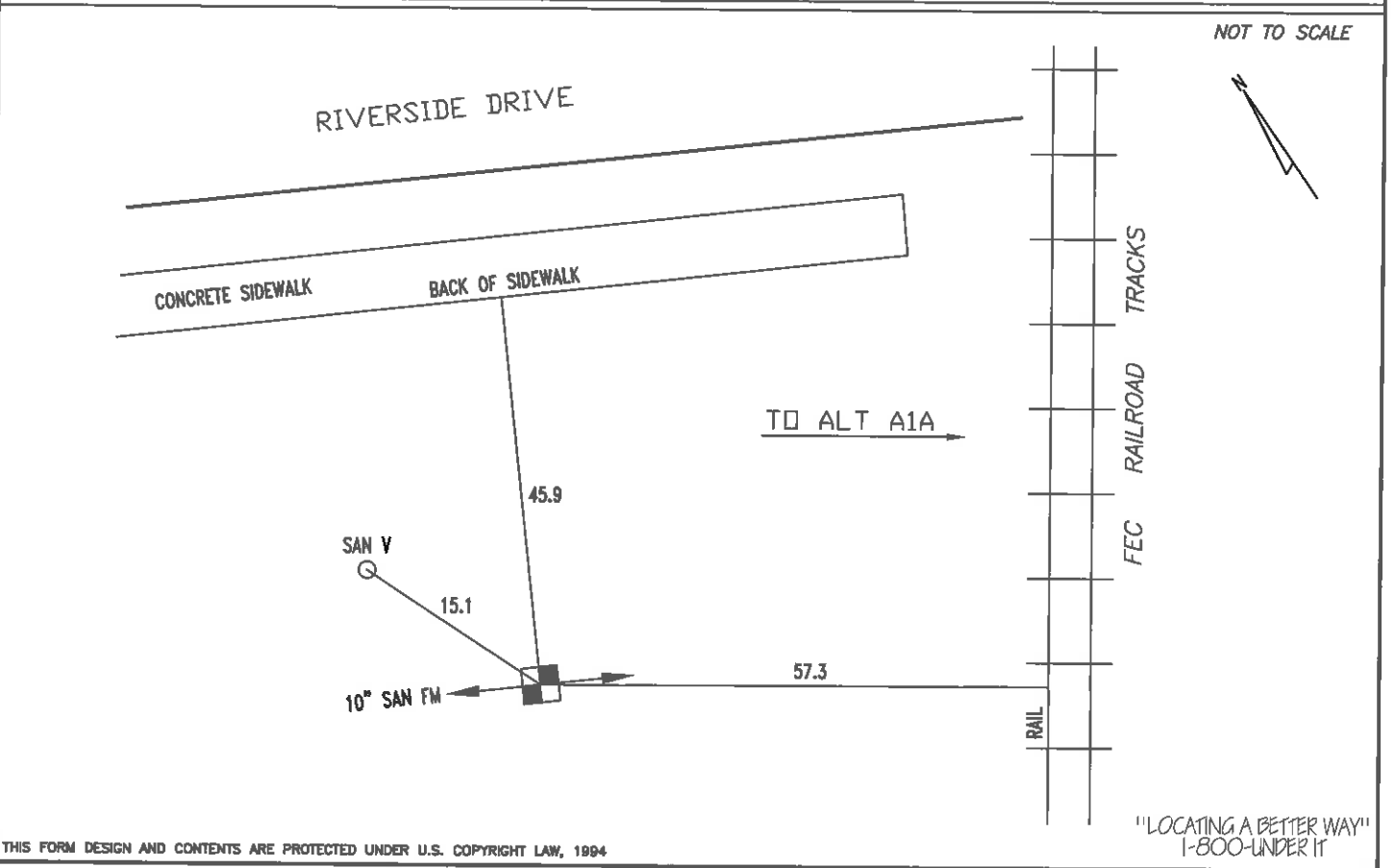
PN: PF10716 VACUUM TEST HOLE REPORT NO.: 14

<p><b>PROJECT NAME:</b> LOXAHATCHEE RIVER ENVIRONMENT CONTROL</p> <p><b>LOCATE REQUESTED BY:</b> MATHEWS CONSULTING</p> <p><b>UTILITY REQUESTED:</b> SANITARY FORCE MAIN</p> <p><b>UTILITY FOUND:</b> SANITARY FORCE MAIN (SEE NOTE)</p> <p><b>MATERIAL AS FOUND:</b> DUCTILE IRON</p> <p><b>SIZE AS FOUND:</b> 24"</p>	<p><b>D.O.T. JOB#</b> N/A      <b>WORK ORDER#</b> N/A</p> <p><b>PROJECT LOCATION:</b> JUPITER, PALM BEACH COUNTY, FLORIDA</p> <p><b>SHEET #:</b> 14 OF N/A      <b>PROPOSED:</b> UTILITY WORK</p> <p><b>FORM BY:</b> ER      <b>ASSISTED BY:</b> MP JC      <b># OF HOLES:</b> 1</p> <p><b>PAVING CONDITION:</b> N/A      <b>DATE DUG:</b> 9-27-16</p> <p><b>SOIL CONDITIONS:</b> SOFT DRY SAND ROCKY</p> <p><b>UTILITY CONDITION:</b> GOOD</p>						
<p><b>ELEV SURVEY PIN</b> 5.15</p> <p><b>EXIST. GRADE</b> N/A</p> <p><b>COVER (TOP)</b> 3.97</p> <p><b>ELEV. (TOP)</b> 1.18</p> <p><b>COVER (BOTTOM)</b> N/A</p> <p><b>ELEV. (BOTTOM)</b> N/A</p> <p><b>WIDTH</b> 26"±</p> <p><b>FACING</b> NE</p> <p><b>INSTALLLED:</b> HUB &amp; TACK AT: CROWN OF UTILITY.      <b>MARKING TAPE:</b> GREEN</p>							
<p><b>SURVEY PIN LOCATED BY:</b> MATHEWS CONSULTING, INC.</p> <p><b>SURVEY INFO.:</b> ALL MEASUREMENTS ON THIS FORM ARE IN ENGLISH UNITS (FEET).</p> <table style="width:100%; border: none;"> <tr> <td style="text-align: center;">NORTH</td> <td style="text-align: center;">EAST</td> <td style="text-align: center;">ELEV.</td> </tr> <tr> <td style="text-align: center;">951904.52</td> <td style="text-align: center;">952983.15</td> <td style="text-align: center;">5.15</td> </tr> </table> <p><b>HORIZONTAL DATUM = NAD 1983      VERTICAL DATUM = NGVD 1929.</b></p>		NORTH	EAST	ELEV.	951904.52	952983.15	5.15
NORTH	EAST	ELEV.					
951904.52	952983.15	5.15					
<p><b>NOTES:</b> TEST HOLE ALSO REVEALED A 2.5" PVC (WHITE) UNKNOWN, RUNNING NORTH-SOUTH, 0.4' WEST OF HUB. COVER = 3.11. HUB SET OVER CROWN OF 24" SANITARY FORCE MAIN.</p>							



PN: PF10716 VACUUM TEST HOLE REPORT NO.: 15

PROJECT NAME: LOXAHATCHEE RIVER ENVIRONMENT CONTROL	D.O.T. JOB# N/A	WORK ORDER# N/A
LOCATE REQUESTED BY: MATHEWS CONSULTING	PROJECT LOCATION: JUPITER, PALM BEACH COUNTY, FLORIDA	
UTILITY REQUESTED: 6" SANITARY FORCE MAIN	SHEET #: 14 OF N/A	PROPOSED: UTILITY WORK
UTILITY FOUND: SANITARY FORCE MAIN	FORM BY: BP	ASSISTED BY: DL DM JT # OF HOLES: 1
MATERIAL AS FOUND: CAST IRON	PAVING CONDITION: N/A	DATE DUG: 9-27-16
SIZE AS FOUND: 10"	SOIL CONDITIONS: SOFT DRY SAND ROCKY	UTILITY CONDITION: POOR
ELEV SURVEY PIN 5.09	HUB & TACK AT: CROWN OF UTILITY. MARKING TAPE: GREEN	
EXIST. GRADE	SURVEY PIN LOCATED BY: MATHEWS CONSULTING, INC.	
COVER (TOP) 4.91	SURVEY INFO.: ALL MEASUREMENTS ON THIS FORM ARE IN ENGLISH UNITS (FEET).	
0.18	NORTH	EAST
ELEV. (TOP)	951935.96	952997.52
COVER (BOTTOM) N/A	HORIZONTAL DATUM = NAD 1983, VERTICAL DATUM = NGVD 1929.	
ELEV. (BOTTOM) N/A	NOTES: 6" SANITARY FORCE MAIN REQUESTED AT THIS LOCATION. TEST HOLE REVEALED A 10" SANITARY FORCE MAIN AT THIS LOCATION. HUB SET OVER CROWN OF UTILITY.	
WIDTH 11"±		
FACING EAST		



PN: PF10716 VACUUM TEST HOLE REPORT NO.: 16

<p><b>PROJECT NAME:</b> LOXHATCHEE RIVER ENVIRONMENT CONTROL</p> <p><b>LOCATE REQUESTED BY:</b> MATHEWS CONSULTING</p> <p><b>UTILITY REQUESTED:</b> CATV</p> <p><b>UTILITY FOUND:</b> SEE NOTE</p> <p><b>MATERIAL AS FOUND:</b> SEE NOTE</p> <p><b>SIZE AS FOUND:</b> SEE NOTE</p>	<p><b>D.O.T. JOB#</b> N/A      <b>WORK ORDER#</b> N/A</p> <p><b>PROJECT LOCATION:</b> JUPITER, PALM BEACH COUNTY, FLORIDA</p> <p><b>SHEET #:</b> 14 OF N/A      <b>PROPOSED:</b> UTILITY WORK</p> <p><b>FORM BY:</b> BP      <b>ASSISTED BY:</b> DL DM JT      <b># OF HOLES:</b> 1</p> <p><b>PAVING CONDITION:</b> N/A      <b>DATE DUG:</b> 9-27-16</p> <p><b>SOIL CONDITIONS:</b> SOFT DRY SAND</p> <p><b>UTILITY CONDITION:</b> N/A</p> <p><b>HUB &amp; TACK AT:</b> SEE NOTE OF UTILITY.      <b>MARKING TAPE:</b> WHITE</p> <p><b>SURVEY PIN LOCATED BY:</b> MATHEWS CONSULTING, INC.</p> <p><b>SURVEY INFO.:</b> ALL MEASUREMENTS ON THIS FORM ARE IN ENGLISH UNITS (FEET).</p> <table style="width:100%; border: none;"> <tr> <td style="text-align: center;">NORTH</td> <td style="text-align: center;">EAST</td> <td style="text-align: center;">ELEV.</td> </tr> <tr> <td style="text-align: center;">951969.91</td> <td style="text-align: center;">953026.55</td> <td style="text-align: center;">6.63</td> </tr> </table> <p style="text-align: center;">HORIZONTAL DATUM = NAD 1983      VERTICAL DATUM = NGVD 1929.</p> <p><b>NOTES:</b> TEST HOLE EXCAVATED FOR CATV ON CATV LOCATOR MARKS TO A DEPTH OF 6'. REQUESTED UTILITY NOT FOUND AT THIS LOCATION. HUB SET OVER TOP OF TEST HOLE ATTEMPT.</p>	NORTH	EAST	ELEV.	951969.91	953026.55	6.63
NORTH	EAST	ELEV.					
951969.91	953026.55	6.63					

**ELEV SURVEY PIN**

6.63

**EXIST. GRADE**

**COVER (TOP)**

N/A

**ELEV. (TOP)**

N/A

**COVER (BOTTOM)**

N/A

**ELEV. (BOTTOM)**

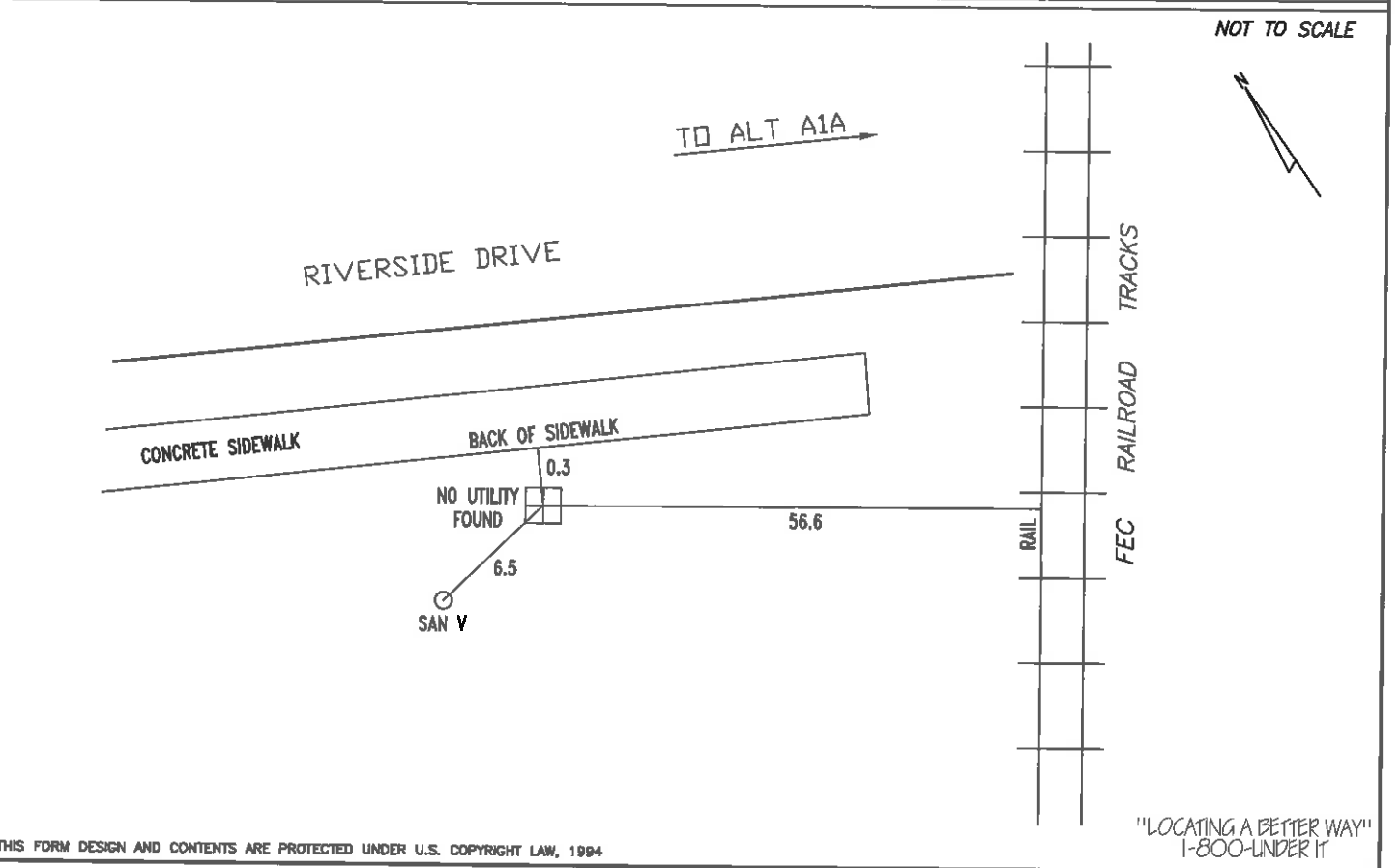
**WIDTH**

N/A

**FACING**

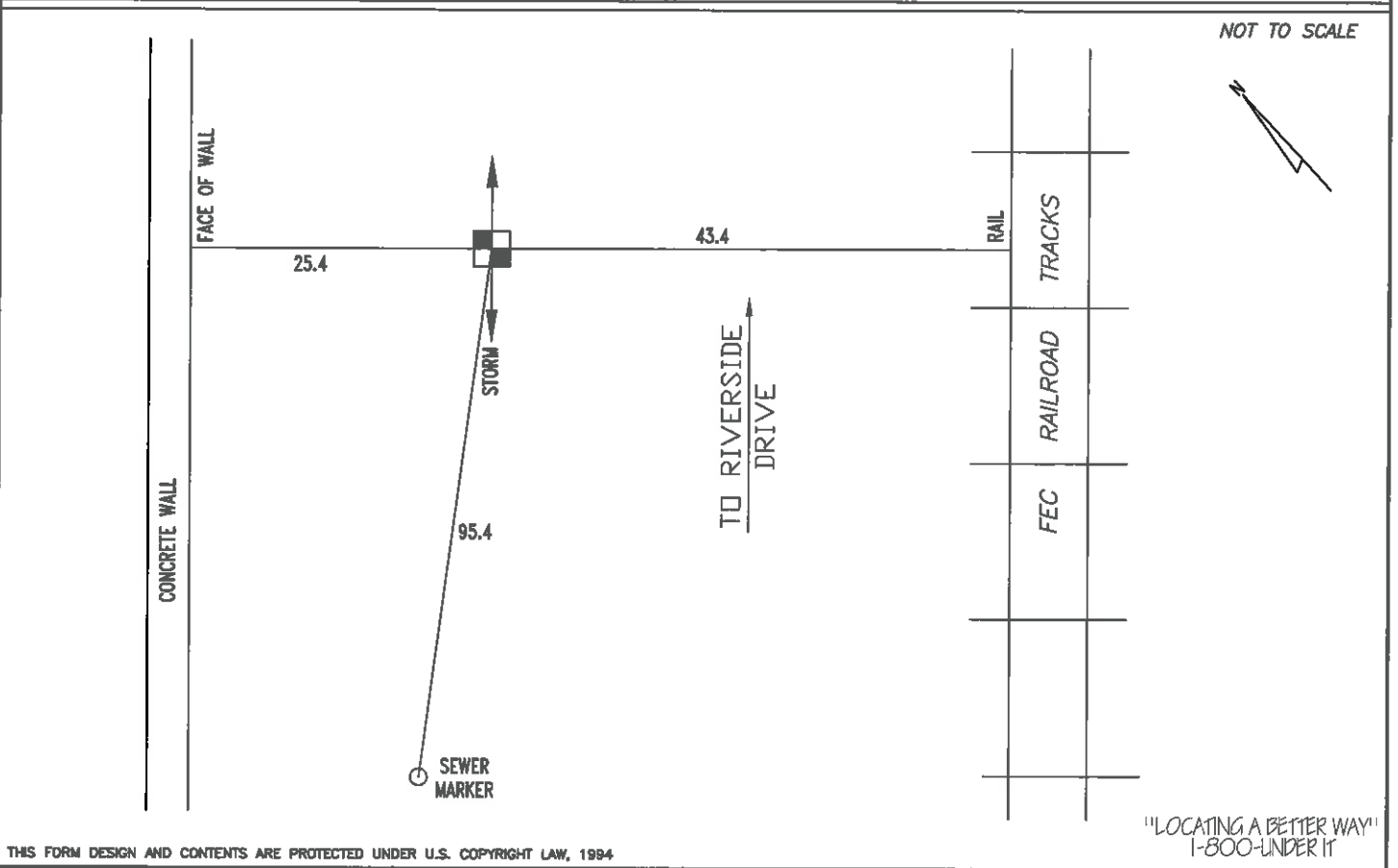
N/A

**INSTALLLED:**



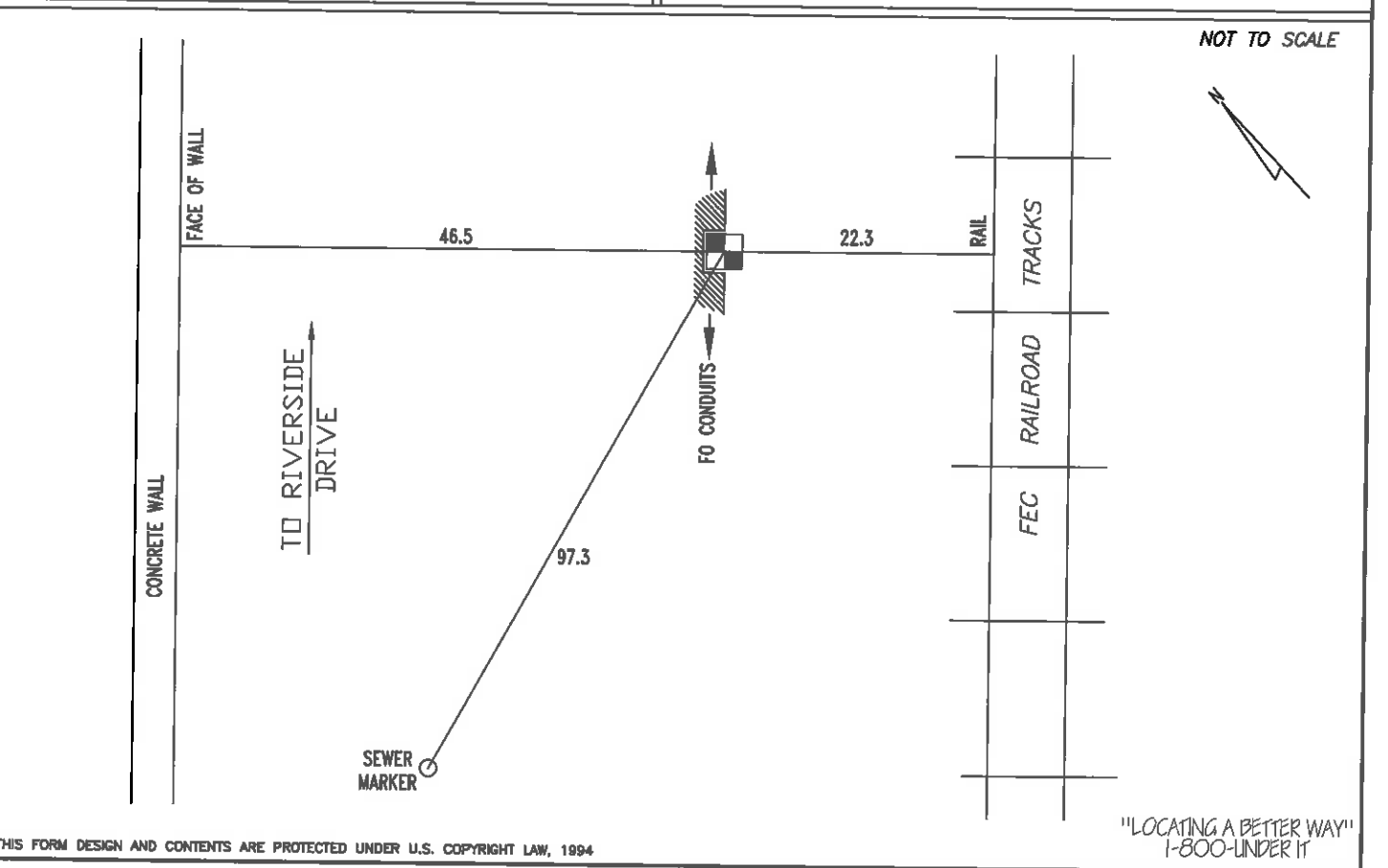


<b>PROJECT NAME:</b> LOXAHATCHEE RIVER ENVIRONMENT CONTROL	<b>D.O.T. JOB#</b> N/A	<b>WORK ORDER#</b> N/A
<b>LOCATE REQUESTED BY:</b> MATHEWS CONSULTING	<b>PROJECT LOCATION:</b> JUPITER, PALM BEACH COUNTY, FLORIDA	
<b>UTILITY REQUESTED:</b> STORM	<b>SHEET #:</b> 14 OF N/A	<b>PROPOSED:</b> UTILITY WORK
<b>UTILITY FOUND:</b> STORM	<b>FORM BY:</b> ER	<b>ASSISTED BY:</b> MP JC
<b>MATERIAL AS FOUND:</b> SEE NOTE	<b># OF HOLES:</b> 1	
<b>SIZE AS FOUND:</b> SEE NOTE	<b>PAVING CONDITION:</b> N/A	<b>DATE DUG:</b> 9-27-16
	<b>SOIL CONDITIONS:</b> SOFT MOIST SAND ROCKY	
	<b>UTILITY CONDITION:</b> SEE NOTE	
<b>ELEV SURVEY PIN</b> 5.06	<b>INSTALLED:</b> STEEL PIN AT: TOP OF UTILITY. MARKING TAPE: GREEN	
<b>EXIST. GRADE</b> N/A	<b>SURVEY PIN LOCATED BY:</b> MATHEWS CONSULTING, INC.	
<b>COVER (TOP)</b> 7.39	<b>SURVEY INFO.:</b> ALL MEASUREMENTS ON THIS FORM ARE IN ENGLISH UNITS (FEET).	
<b>-2.33</b>	<b>NORTH</b> 951902.26	<b>EAST</b> 952989.81
<b>ELEV. (TOP)</b>	<b>ELEV.</b> 5.06	
<b>COVER (BOTTOM)</b> N/A	<b>HORIZONTAL DATUM =</b> NAD 1983 , <b>VERTICAL DATUM =</b> NGVD 1929.	
<b>ELEV. (BOTTOM)</b> N/A	<b>NOTES:</b> UNABLE TO OBTAIN SIZE AND MATERIAL DUE TO EXCESSIVE GROUND WATER AND SOIL CONDITIONS ENCOUNTERED IN TEST HOLE. STEEL PIN SET OVER TOP OF STORM PIPE.	
<b>FACING</b> NE		
<b>WIDTH</b> SEE NOTE		



PN: PF10716 VACUUM TEST HOLE REPORT NO.: 18

PROJECT NAME: LOXAHATCHEE RIVER ENVIRONMENT CONTROL	D.O.T. JOB# N/A	WORK ORDER# N/A
LOCATE REQUESTED BY: MATHEWS CONSULTING	PROJECT LOCATION: JUPITER, PALM BEACH COUNTY, FLORIDA	
UTILITY REQUESTED: FIBER OPTIC	SHEET #: 14 OF N/A	PROPOSED: UTILITY WORK
UTILITY FOUND: FIBER OPTIC	FORM BY: ER	ASSISTED BY: MP JC # OF HOLES: 1
MATERIAL AS FOUND: PLASTIC (ORANGE) CONDUITS	PAVING CONDITION: N/A	DATE DUG: 9-27-16
SIZE AS FOUND: (5) 2"	SOIL CONDITIONS: SOFT DRY SAND ROCKY	UTILITY CONDITION: GOOD
ELEV SURVEY PIN 5.60	STEEL PIN AT: CROWN OF UTILITY. MARKING TAPE: ORANGE	
EXIST. GRADE	SURVEY PIN LOCATED BY: MATHEWS CONSULTING, INC.	
COVER (TOP) 3.51	SURVEY INFO.: ALL MEASUREMENTS ON THIS FORM ARE IN ENGLISH UNITS (FEET).	
2.09	NORTH 951887.92	EAST 953005.53
ELEV. (TOP)	ELEV. 5.60	
COVER (BOTTOM) N/A	HORIZONTAL DATUM = NAD 1983 , VERTICAL DATUM = NGVD 1929.	
ELEV. (BOTTOM)	NOTES: STEEL PIN SET OVER CROWN OF EASTERN MOST 2" CONDUIT. OFFSET TO CROWN OF WESTERN MOST CONDUIT IS 1.1'.	
WIDTH 2.5"± (EACH)	FACING NE	



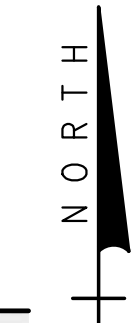
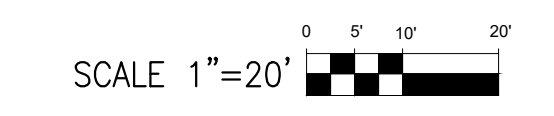
161862\_LRECD\_TESTHOLES

100,951935.963,952997.516,5.088,IMC15 TOP OF HUB  
101,951902.257,952989.813,5.062,IMC17 TOP OF HUB  
102,951904.518,952983.146,5.153,IMC14 TOP OF HUB  
103,951887.923,953005.531,5.596,IMC18 TOP OF IRON ROD  
104,951883.323,953012.504,5.822,IMC13 TOP OF IRON ROD  
105,951880.479,953016.658,6.043,IMC13A TOP OF IRON ROD  
106,951891.582,953084.916,5.836,IMC12 TOP OF HUB  
107,951855.585,953040.280,5.867,IMC9 TOP OF IRON ROD  
108,951828.553,953048.730,4.959,IMC11 TOP OF HUB  
109,951803.347,953029.234,4.452,IMC8 TOP OF HUB  
110,951828.380,953055.648,5.684,IMC10 TOP OF HUB  
111,951969.906,953026.546,6.626,IMC16 TOP OF GROUND IMC UNABLE TO LOCATE  
112,950318.090,951940.911,6.100,IMC5 TOP OF HUB  
113,950461.773,952051.460,5.420,IMC7 CHIS X  
114,950439.592,952000.277,5.134,IMC6 TOP OF IRON ROD  
115,949960.675,951695.499,8.384,IMC4 CHIS X  
116,949630.452,951563.378,7.665,IMC3 TOP OF HUB  
117,949652.362,951391.454,4.771,IMC1 PK NAIL  
118,949651.135,951402.421,4.389,IMC2 TOP OF HUB  
119,949647.181,951465.571,2.730,IMC3A TOP OF HUB  
120,949643.953,951487.088,8.354,IMC3B TOP OF IRON ROD

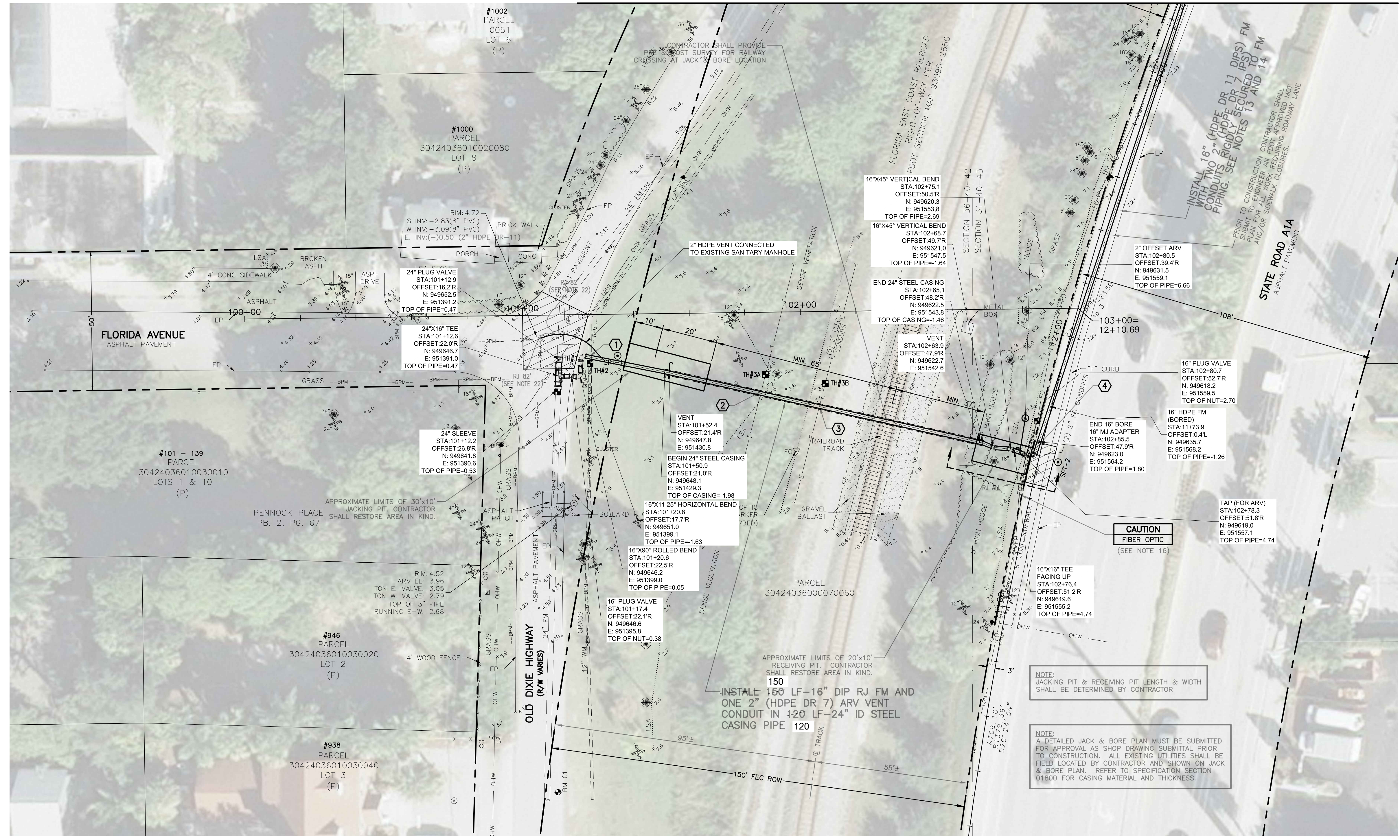
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100	951935.963	952997.516	5.088	IMC 15 TOP OF HUB
101	951902.257	952989.813	5.062	IMC 17 TOP OF HUB
102	951904.518	952983.146	5.153	IMC 14 TOP OF HUB
103	951887.923	953005.531	5.595	IMC 18 TOP OF IRON ROD
104	951883.323	953012.504	5.822	IMC 13 TOP OF IRON ROD
105	951880.479	953016.658	6.043	IMC 13A TOP OF IRON ROD
106	951891.582	953084.915	5.836	IMC 12 TOP OF HUB
107	951855.584	953040.28	5.867	IMC 9 TOP OF IRON ROD
108	951828.553	953048.73	4.96	IMC 11 TOP OF HUB
109	951803.347	953029.234	4.452	IMC 8 TOP OF HUB
110	951828.379	953055.648	5.684	IMC 10 TOP OF HUB
111	951969.906	953026.546	6.626	IMC 16 TOP OF GROUND IMC UNABLE TO LOCATE
112	950318.09	951940.911	6.1	IMC 5 TOP OF HUB
113	950461.773	952051.459	5.42	IMC 7 CHIS X
114	950439.592	952000.277	5.134	IMC 6 TOP OF IRON ROD
115	949960.675	951695.499	8.384	IMC 4 CHIS X
116	949630.451	951563.378	7.665	IMC 3 TOP OF HUB
117	949652.362	951391.454	4.771	IMC 1 PK NAIL
118	949651.135	951402.42	4.389	IMC 2 TOP OF HUB
119	949647.181	951465.571	2.73	IMC 3A TOP OF HUB
120	949643.953	951487.088	8.354	IMC 3B TOP OF IRON ROD

**APPENDIX D**

**ALTERNATE A1A FORCE MAIN EXTENSION AS-BUILTS**



(SEE DRAWING C-2)  
FOR CONTINUATION



- NOTES:**
- CONTRACTOR SHALL FIELD VERIFY LOCATION OF ALL UTILITY CROSSINGS, INCLUDING PARALLELING OF UTILITIES, PRIOR TO CONSTRUCTION OF PROPOSED FORCE MAINS.
  - IRRIGATION SYSTEMS NOT SHOWN, BUT DO EXIST THROUGHOUT PROJECT AREA. CONTRACTOR SHALL REPLACE ALL DAMAGED IRRIGATION PIPING, HEADS AND CONTROL LINES IN KIND, SO THAT SYSTEM PROVIDES ORIGINAL COVERAGE. ZONES TO BE CAPPED OFF AT CONSTRUCTION LINE. BALANCE OF IRRIGATION ZONES TO REMAIN ACTIVE AND MAINTAINED. CONTRACTOR TO COORDINATE WITH TOWN OF JUPITER PUBLIC WORKS (HECTOR CHANZA AT 561-262-4677).
  - ALL FORCE MAIN FITTINGS SHALL HAVE RESTRAINED JOINTS. SEE STANDARD DETAIL DRAWING D-2 FOR MECHANICAL THRUST RESTRAINT - MINIMUM PIPE LENGTHS DETAIL.
  - CONTRACTOR SHALL REFER TO DETAILS ON DRAWINGS D-1 THROUGH D-4 FOR STANDARD DETAIL CONSTRUCTION INFORMATION.
  - ALL AREAS DISTURBED BY CONSTRUCTION ACTIVITIES SHALL BE RESTORED IN KIND.
  - IN AREAS OF UNDERGROUND UTILITIES CONTRACTOR SHALL HAND-DIG AS NECESSARY TO AVOID DAMAGING EXISTING UTILITIES. CONTRACTOR IS RESPONSIBLE FOR REPLACING ANY DAMAGED UTILITIES AS A RESULT OF CONSTRUCTION ACTIVITIES (THIS IS A NON-PAY ITEM).
  - POTABLE WATER SERVICE LINES NOT SHOWN, BUT DO EXIST THROUGHOUT PROJECT AREA. IF SHOWN, THEY ARE APPROXIMATE LOCATIONS ONLY. CONTRACTOR SHALL LOCATE ALL WATER SERVICE LINES PRIOR TO DIGGING. CONTRACTOR SHALL REPAIR ANY WATER SERVICE LINES DAMAGED DURING CONSTRUCTION IMMEDIATELY (THIS IS A NON-PAY ITEM).
  - CONTRACTOR SHALL COORDINATE WITH FPL FOR SERVICES TO TEMPORARILY SECURE/HOLD EXISTING POWER POLES WHICH ARE IN CLOSE PROXIMITY TO THE CONSTRUCTION TRENCH EXCAVATION.
  - CONTRACTOR TO REMOVE AND REINSTALL EXISTING STREET SIGNS AS REQUIRED.
  - CONTRACTOR SHALL REMOVE OR TRIM EXISTING VEGETATION AS NECESSARY TO INSTALL THE PROPOSED PIPING AS SHOWN. VEGETATION REMOVAL AND TRIMMING SHALL BE LIMITED TO THE PROPOSED PIPING ROUTE(S) AND AS REQUIRED TO PROVIDE REASONABLE ACCESS/CLEARANCE TO COMPLETE THE WORK. VEGETATION SHALL BE RESTORED IN KIND WHERE INDICATED.
  - A DETAILED DRILL PLAN MUST BE SUBMITTED FOR APPROVAL PRIOR TO CONSTRUCTION. ALL UTILITIES MUST BE POT-HOLED AND THE UTILITY INFORMATION (HORIZONTAL & VERTICAL DATA) MUST BE SHOWN ON THE DRILL PLAN.
  - UPON COMPLETION OF THE BORING ACTIVITIES, A SURFACE DRILL PATH AND PROFILE MUST BE SUBMITTED FOR EACH BORE PRIOR TO FINAL ACCEPTANCE OF THE PROJECT. THIS WILL INCLUDE ELECTRONIC READINGS FROM THE TRACER WIRE TO BE INSTALLED WITHIN THE NEWLY INSTALLED 2" HDPE DR 7 CONDUIT.
  - CONTRACTOR SHALL SUPPLY AND INSTALL A 2-INCH HDPE (DR 7-IPS) "TRACER WIRE" PIPE ALONG THE ENTIRE LENGTH OF THE NEW 16" FM INSTALLED VIA HOD METHOD. PIPING SHALL BE SECURED TO THE FM PIPING AND SHALL BE CONTINUOUS. PRIOR TO PROJECT COMPLETION THE CONTRACTOR SHALL INSTALL AN APPROPRIATELY SIZED (MIN. 14 GA COPPER) TRACER CONDUCTOR AND CONFIRM CONTINUITY IN THE PRESENCE OF AN ENGINEER.
  - CONTRACTOR SHALL SUPPLY AND INSTALL 2-INCH HDPE (DR 7-IPS) ARV VENT PIPING ALONG THE ENTIRE LENGTH OF THE NEW 16" FM SOUTH OF THE AERIAL FM CROSSING. PIPING SHALL EXTEND FROM THE POINT OF CONNECTION TO THE 2" 316SS ARV VENT PIPE (INSTALLED BY OTHERS) AT SOUTH SIDE OF BRIDGE (SEE DWG. C-4) TO THE POINT OF DISCHARGE AT THE GRAVITY SEWER MANHOLE AT THE INTERSECTION OF FLORIDA AVENUE AND OLD DIXIE HIGHWAY.
  - MINIMUM BORING DEPTH SHALL BE 16'-FT AT ALL LOCATIONS BENEATH ASPHALT ROADWAY SURFACES. MINIMUM FORCE MAIN DEPTH AT ALL OTHER LOCATIONS SHALL BE 36"-INCHES, UNLESS OTHERWISE INDICATED.
  - CONTRACTOR IS SPECIFICALLY ADVISED THAT THERE IS EXISTING FIBER OPTIC SIGNAL CABLE (PBC-TRAFFIC) RUNNING PARALLEL TO THE PROPOSED ALIGNMENT OF THE NEW 16" FM FORCE MAIN. CONTRACTOR SHALL HAND DIG AND PHYSICALLY LOCATE THE FIBER OPTIC CABLE PRIOR TO PREPARATION OF THE DRILL PLAN.
  - DRAWING ELEVATIONS ARE BASED ON NGVD 29 DATUM.
  - CONTRACTOR IS REQUIRED TO PERFORM ALL SHEETING AND SHORING ACTIVITIES AS REQUIRED TO PROTECT ALL EXISTING UTILITIES, POWER POLES, ETC. DURING THE COURSE OF CONSTRUCTION.
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  - CONTRACTOR SHALL COORDINATE WITH THE DISTRICT FOR SHUTTING DOWN THE EXISTING FORCE MAIN PRIOR TO CONNECTION WORK. CONTRACTOR SHALL USE VAC TRUCK TO COLLECT ALL SEWAGE THAT NEEDS TO BE DISPOSED OF FROM CUTTING EXISTING FORCE MAIN.
  - ALL REPLACEMENT SIDEWALK SHALL BE CONSTRUCTED IN ACCORDANCE WITH FDOT INDEX NO. 310 AND STANDARD SPECIFICATION No. 552 EXCEPT FOR CURB CUT RAMP RUNS WHICH SHALL BE FINISHED IN ACCORDANCE WITH INDEX NO. 304. ALL REPLACEMENT TYPE 7 CURBING SHALL BE CONSTRUCTED IN ACCORDANCE WITH FDOT INDEX NO. 300 AND STANDARD SPECIFICATION No. 520.
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  - PRIOR TO CONSTRUCTION, CONTRACTOR SHALL COORDINATE WITH TOWN OF JUPITER NATURAL RESOURCES DEPT. (BARRET CRUCE AT 561-741-2523) FOR LANDSCAPE AND REMOVAL REQUIREMENTS.

**LEGEND**

- SPT-1 (O) SOIL BORING LOCATION
- TH#1 (S) SOFT DIG LOCATION
- (S) LINESTOP
- PROPOSED 1" ASPHALT MILLING & PAVEMENT RESTORATION (1" TYPE S-3)
- PROPOSED ASPHALT SIDEWALK RESTORATION
- PROPOSED SWALE REGRADING
- OPEN CUT PAVEMENT REPAIR
- PAVEMENT REMOVAL
- FLOWABLE FILL
- (1) CONFLICT DATA

- |  |   |  |   |
|--|---|--|---|
| <p>1 CONFLICT<br/>16" (PVC) FM CROSSES UNDER 12" WM<br/>12" WM BOP EL. = (-)0.24± -1.80<br/>16" FM TOP EL. = (-)2.82± -3.08<br/>CLEARANCE = 2.58- FEET 1.25'</p> | <p>2 CONFLICT<br/>24" (STEEL) FM CASING CROSSES UNDER 2" TELE<br/>2" TELE BOP EL. = (-)1.33± -0.75<br/>24" CASING TOP EL. = (-)2.49± -1.80<br/>CLEARANCE = 1.16- FEET 1.05'</p> | <p>3 CONFLICT<br/>24" (STEEL) FM CASING CROSSES UNDER 2" ELEC.<br/>2" ELEC BOP EL. = 3.97± 3.90<br/>24" CASING TOP EL. = (-)2.49± -1.70<br/>CLEARANCE = 6.46- FEET 5.60'</p> | <p>4 CAUTION<br/>16" (HDPE) FM CROSSES UNDER 2" FO<br/>2" FO BOP EL. = 4.65± 4.60<br/>16" FM TOP EL. = 4.15± 2.70<br/>CLEARANCE = 6- INCHES 1.90'</p> |
|--|---|--|---|

REFER TO DRAWING C-1A FOR PROFILE

TH #1 24" (O) SAN FM COVER=2.58± T.O.P.=2.19±	TH #2 12" WM COVER=3.63± T.O.P.=0.76±	TH #3 (2) 2" (PVC) FO COVER=4.82± T.O.P.=4.82±	TH #3A TELE COVER=3.89± T.O.P.=(-)1.16±	TH #3B (5) 2" (PVC) ELEC COVER=4.21± T.O.P.=4.14±
--	--	---	--	--

**RECORD DRAWING**

DAVID P. LINDLEY, P.L.S.  
REG. LAND SURVEYOR, #5005  
STATE OF FLORIDA, LB #3591

**MATHEWS CONSULTING**  
a BAXTER & WOODMAN company  
477 S. Rosemary Avenue, Suite 330, West Palm Beach, Florida 33401  
Phone: 561-655-6175 • Fax: 561-655-6179  
www.baxterwoodman.com EB-31795

VERIFY SCALE  
1" = 10'  
BAR IS ONE INCH ON FULL SIZE (22x34) ORIGINAL DRAWING. ADJUST SCALES AS NECESSARY.

ENGINEER NO.: 1862  
CLIENT PROJECT NO.:  
CAD REF.: 1862P&P

LOXAHATCHEE RIVER  
ENVIRONMENTAL CONTROL DISTRICT  
ALTERNATE A1A 16-INCH FORCE MAIN EXTENSION  
FLORIDA AVENUE  
PLAN - SHEET 1  
STATION 100+00 TO STATION 103+00

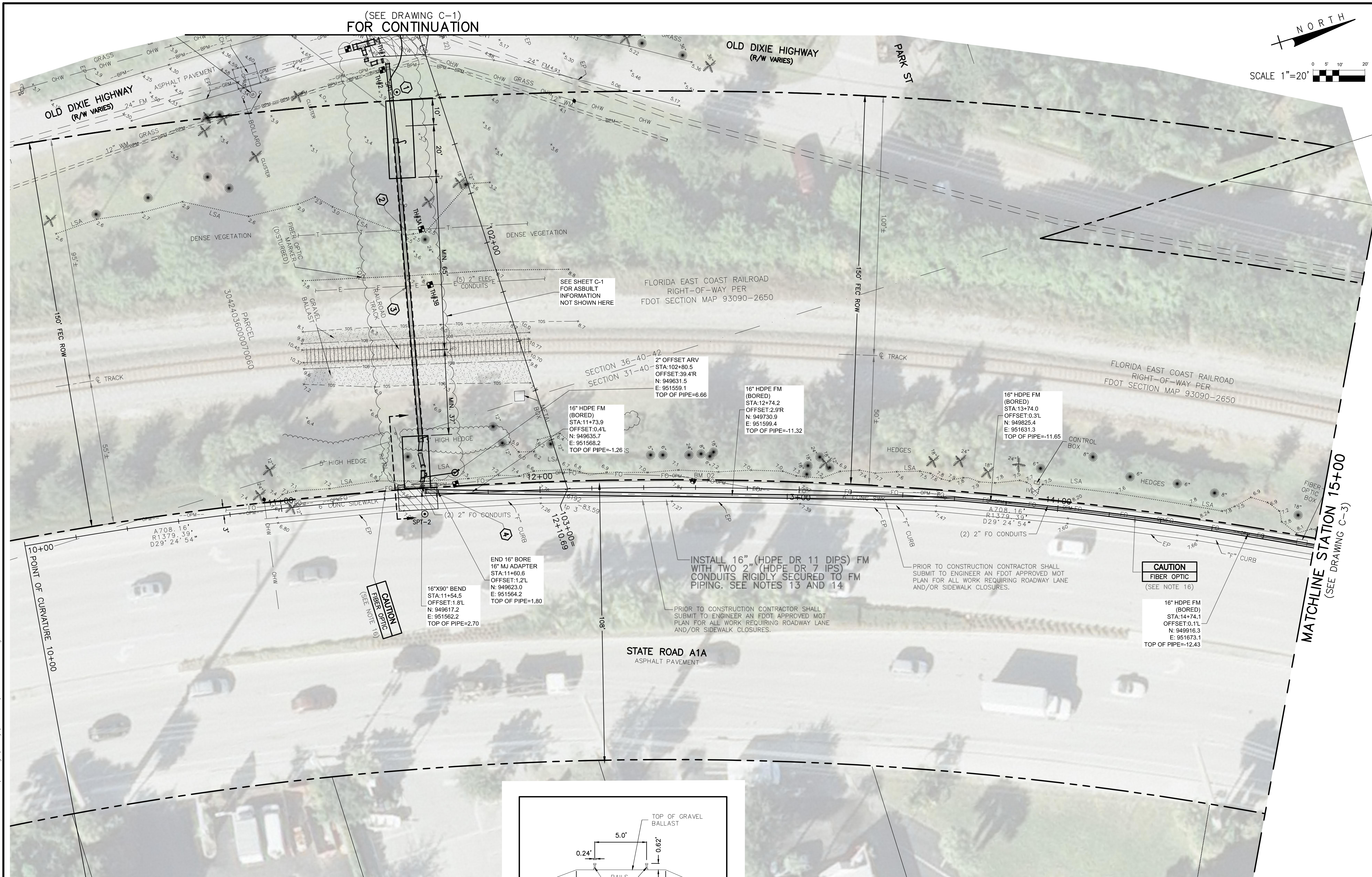
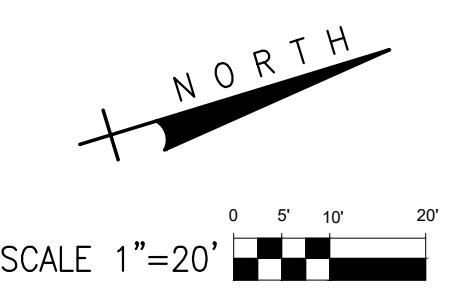
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SHEET: 4 of 21  
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CONSTRUCTION



(SEE DRAWING C-1)  
FOR CONTINUATION

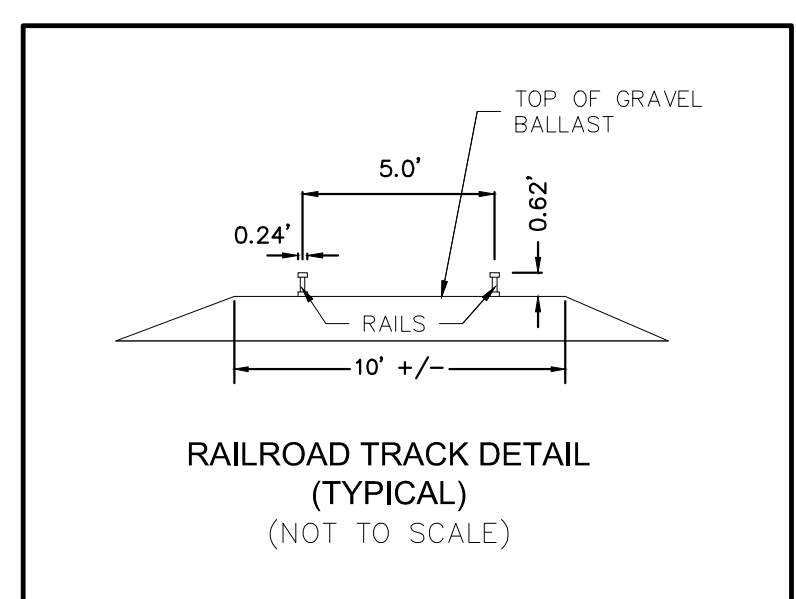


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  - CONTRACTOR IS SPECIFICALLY ADVISED THAT THERE IS EXISTING FIBER OPTIC SIGNAL CABLE (PBC-TRAFFIC) RUNNING PARALLEL TO THE PROPOSED ALIGNMENT OF THE NEW 16" HDPE FM. CONTRACTOR SHALL HAND DIG AND PHYSICALLY LOCATE THE FIBER OPTIC CABLE PRIOR TO PREPARATION OF THE DRILL PLAN.
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  - ALL REPLACEMENT SIDEWALK SHALL BE CONSTRUCTED IN ACCORDANCE WITH FDOT INDEX No. 310 AND STANDARD SPECIFICATION No. 552 EXCEPT FOR CURB CUT RAMP RUNS WHICH SHALL BE FINISHED IN ACCORDANCE WITH INDEX No. 304. ALL REPLACEMENT TYPE 7" CURBING SHALL BE CONSTRUCTED IN ACCORDANCE WITH FDOT INDEX No. 300 AND STANDARD SPECIFICATION No. 520.
  - CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING, EXPOSING AND INSTALLING MECHANICAL RESTRAINT DEVICES ON ALL EXISTING PIPE JOINTS AS REQUIRED TO COMPLY WITH THE MINIMUM RESTRAINT LENGTHS INDICATED ON THE "FORCE MAIN THRUST RESTRAINT CHART" SHOWN ON DRAWING D-2. ALL COSTS TO PERFORM THIS WORK INCLUDING SURFACE/PAVEMENT RESTORATION SHALL BE INCLUDED WITHIN BID ITEM No's 20 (24" DIA.) AND 21 (10" DIA.) AS APPLICABLE.
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**LEGEND**

SPT-1	SOIL BORING LOCATION	PROPOSED 1" ASPHALT MILLING & PAVEMENT RESTORATION (1" TYPE S-3)
TH#1	SOFT DIG LOCATION	PROPOSED ASPHALT SIDEWALK RESTORATION
□	LINESTOP	PROPOSED SWALE REGRADING
		OPEN CUT PAVEMENT REPAIR
		PAVEMENT REMOVAL
		FLOWABLE FILL
		CONFLICT DATA

KEY MAP



- |   |  |  |   |
|---|--|--|---|
| ① CONFLICT<br>16" FM CROSSES UNDER 12" WM<br>12" WM BOP EL. = (-)0.24± -1.80<br>16" FM TOP EL. = (-)2.82± -3.05<br>CLEARANCE = 2.58'-FEET 1.25' | ② CONFLICT<br>24" (STEEL) FM CASING CROSSES UNDER 2" TELE<br>2" TELE BOP EL. = (-)1.33± -0.75<br>24" CASING TOP EL. = (-)2.49± -1.80<br>CLEARANCE = 1.16'-FEET 1.02' | ③ CONFLICT<br>24" (STEEL) FM CASING CROSSES UNDER 2" ELEC.<br>2" ELEC BOP EL. = -3.97± 3.90<br>24" CASING TOP EL. = (-)2.49± -1.70<br>CLEARANCE = 6.46'-FEET 5.00' | ④ CAUTION<br>16" (HDPE) FM CROSSES UNDER 2" FO<br>2" FO BOP EL. = -4.65± 4.60<br>16" FM TOP EL. = -4.15± 2.70<br>CLEARANCE = 6-INCHES 1.90' |
|---|--|--|---|

REFER TO DRAWING C-2A FOR PROFILE

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User Name : jenny

NO.	DATE	ISSUED FOR	APRVD BY

DESIGNED:	J.A.P.
DRAWN:	D.D.P.
CHECKED:	A.C.
APPROVED:	D.L.M.

**MATHEWS CONSULTING**  
a BAXTER & WOODMAN company

777 S. Rosemary Avenue, Suite 330, West Palm Beach, Florida 33401  
Phone: 561-655-6175 • Fax: 561-655-6179  
www.baxterwoodman.com EB-31795

VERIFY SCALE	ENGINEER NO.: 1862
1" = 1'	CLIENT
BAR IS ONE INCH ON FULL SIZE (22x34) ORIGINAL DRAWING. ADJUST SCALES AS NECESSARY.	PROJECT NO.:
	CAD REF.: 1862P&P

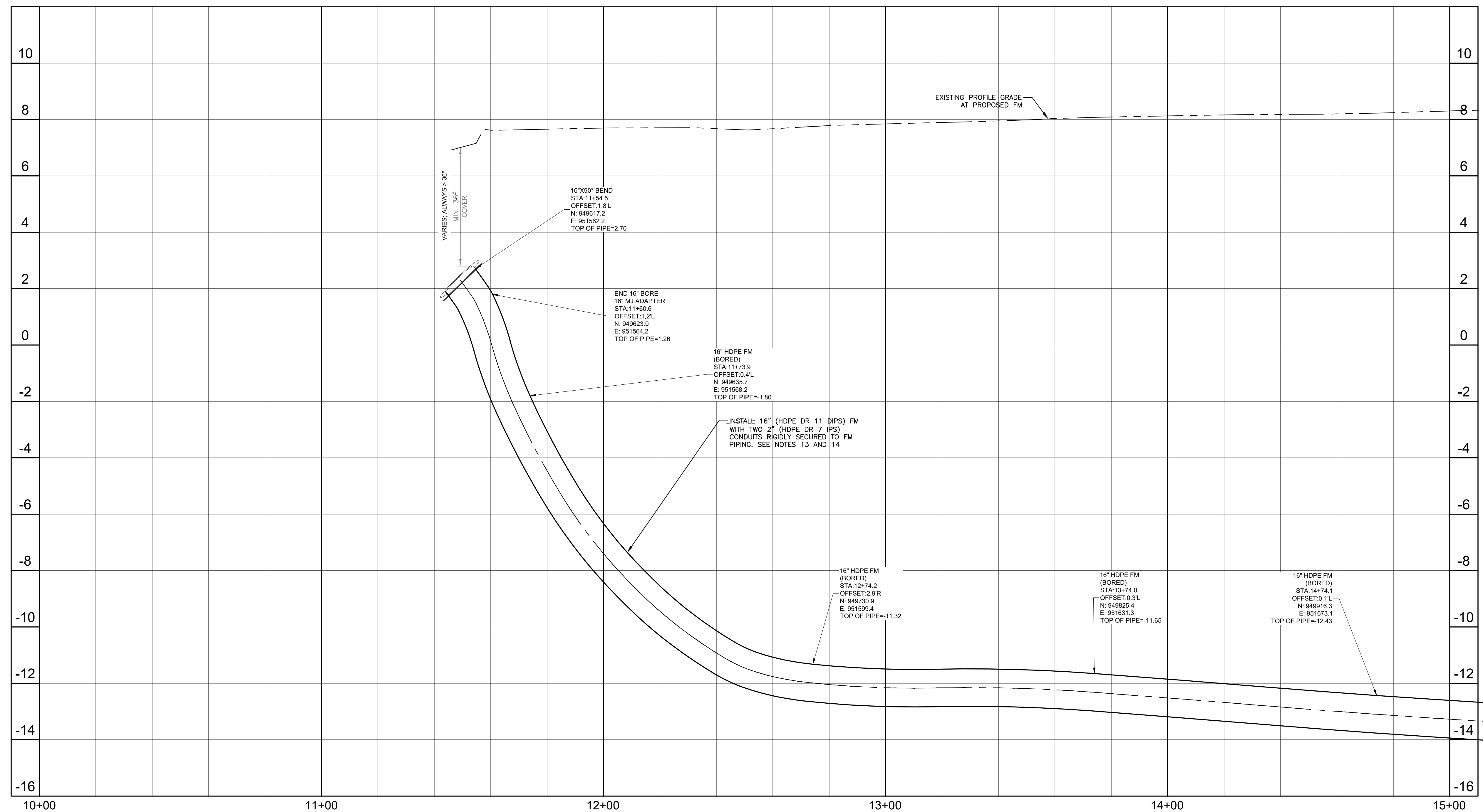
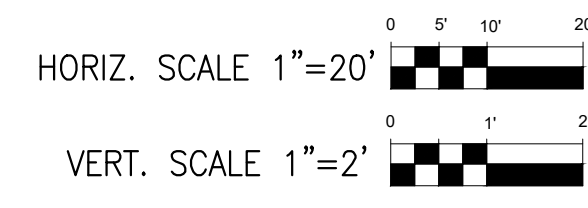
LOXAHATCHEE RIVER ENVIRONMENTAL CONTROL DISTRICT  
ALTERNATE A1A 16-INCH FORCE MAIN EXTENSION

STATE ROAD A1A  
PLAN - SHEET 2  
STATION 10+00 TO STATION 15+00

DATE:	NOVEMBER 2018
SHEET:	6 of 21
DRAWING:	C-2

CONSTRUCTION





REFER TO DRAWING C-2 FOR PLAN

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  - CONTRACTOR SHALL SUPPLY AND INSTALL A 2-INCH HDPE (DR 7-IPS) "TRACER WIRE" PIPE ALONG THE ENTIRE LENGTH OF THE NEW 16" HDPE FM INSTALLED VIA HDD METHOD. PIPING SHALL BE SECURED TO THE FM PIPING AND SHALL BE CONTINUOUS. PRIOR TO PROJECT COMPLETION, THE CONTRACTOR SHALL INSTALL AN APPROPRIATELY SIZED (MIN. 14 GA COPPER) TRACER CONDUCTOR AND CONFIRM CONTINUITY IN THE PRESENCE OF AN ENGINEER.
  - CONTRACTOR SHALL SUPPLY AND INSTALL 2-INCH HDPE (DR 7-IPS) ARV VENT PIPING ALONG THE ENTIRE LENGTH OF THE NEW 16" FM SOUTH OF THE AERIAL FM CROSSING. PIPING SHALL EXTEND FROM THE POINT OF CONNECTION TO THE 2" 316SS ARV VENT PIPE (INSTALLED BY OTHERS) AT SOUTH SIDE OF BRIDGE (SEE DWG. C-4) TO THE POINT OF DISCHARGE AT THE GRAVITY SEWER MANHOLE AT THE INTERSECTION OF FLORIDA AVENUE AND OLD DIXIE HIGHWAY.
  - MINIMUM BORING DEPTH SHALL BE 16'-FT AT ALL LOCATIONS BENEATH ASPHALT ROADWAY SURFACES. MINIMUM FORCE MAIN DEPTH AT ALL OTHER LOCATIONS SHALL BE 36"-INCHES, UNLESS OTHERWISE INDICATED.
  - CONTRACTOR IS SPECIFICALLY ADVISED THAT THERE IS EXISTING FIBER OPTIC SIGNAL CABLE (PBC-TRAFFIC) RUNNING PARALLEL TO THE PROPOSED ALIGNMENT OF THE NEW 16" HDPE FM. CONTRACTOR SHALL HAND DIG AND PHYSICALLY LOCATE THE FIBER OPTIC CABLE PRIOR TO PREPARATION OF THE DRILL PLAN.
  - DRAWING ELEVATIONS ARE BASED ON NGVD 29 DATUM.
  - CONTRACTOR IS REQUIRED TO PERFORM ALL SHEETING AND SHORING ACTIVITIES AS REQUIRED TO PROTECT ALL EXISTING UTILITIES, POWER POLES, ETC. DURING THE COURSE OF CONSTRUCTION.
  - CONTRACTOR TO PROVIDE DETAILED PLAN(S) FOR PLACING THE PROPOSED FORCE MAIN INTO SERVICE. THE PLAN SHALL INCLUDE SPECIAL PROCEDURES FOR MAKING CONNECTION TO THE EXISTING FORCE MAIN.
  - CONTRACTOR SHALL COORDINATE WITH THE DISTRICT FOR SHUTTING DOWN THE EXISTING FORCE MAIN PRIOR TO CONNECTION WORK. CONTRACTOR SHALL USE VAC TRUCK TO COLLECT ALL SEWAGE THAT NEEDS TO BE DISPOSED OF FROM CUTTING EXISTING FORCE MAIN.
  - ALL REPLACEMENT SIDEWALK SHALL BE CONSTRUCTED IN ACCORDANCE WITH FDOT INDEX No. 310 AND STANDARD SPECIFICATION No. 552 EXCEPT FOR CURB CUT RAMP RUNS WHICH SHALL BE FINISHED IN ACCORDANCE WITH INDEX No. 304. ALL REPLACEMENT TYPE "F" CURBING SHALL BE CONSTRUCTED IN ACCORDANCE WITH FDOT INDEX No. 300 AND STANDARD SPECIFICATION No. 520.
  - CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING, EXPOSING AND INSTALLING MECHANICAL RESTRAINT DEVICES ON ALL EXISTING PIPE JOINTS AS REQUIRED TO COMPLY WITH THE MINIMUM RESTRAINT LENGTHS INDICATED ON THE "FORCE MAIN THRUST RESTRAINT CHART" SHOWN ON DRAWING D-2. ALL COSTS TO PERFORM THIS WORK INCLUDING SURFACE/PAVEMENT RESTORATION SHALL BE INCLUDED WITHIN BID ITEM No's 20 (24" DIA.) AND 21 (10" DIA.) AS APPLICABLE.
  - PRIOR TO CONSTRUCTION, CONTRACTOR SHALL COORDINATE WITH TOWN OF JUPITER NATURAL RESOURCES DEPT. (BARRET CRUCE AT 561-741-2523) FOR LANDSCAPE AND REMOVAL REQUIREMENTS.

**LEGEND**

SPT-1 SOIL BORING LOCATION  
 TH#1 SOFT DIG LOCATION  
 LINESTOP

PROPOSED 1" ASPHALT MILLING & PAVEMENT RESTORATION (1" TYPE 5-3)  
 PROPOSED ASPHALT SIDEWALK RESTORATION  
 PROPOSED SWALE REGRADE  
 OPEN CUT PAVEMENT REPAIR  
 PAVEMENT REMOVAL  
 FLOWABLE FILL  
 CONFLICT DATA

KEY MAP

.lbp\_bw.jpg

RECORD DRAWING

DAVID P. LINDLEY, P.L.S.  
 REG. LAND SURVEYOR, #5005  
 STATE OF FLORIDA, LB #3591



477 S. Rosemary Avenue, Suite 330, West Palm Beach, Florida 33401  
 Phone: 561-655-6175 • Fax: 561-655-6179  
 www.baxterwoodman.com EB-31795

VERIFY SCALE  
  
 BAR IS ONE INCH ON FULL SIZE (22x34) ORIGINAL DRAWING. ADJUST SCALES AS NECESSARY.

ENGINEER NO.: 1862  
 CLIENT PROJECT NO.: \_\_\_\_\_  
 CAD REF.: 1862P&P

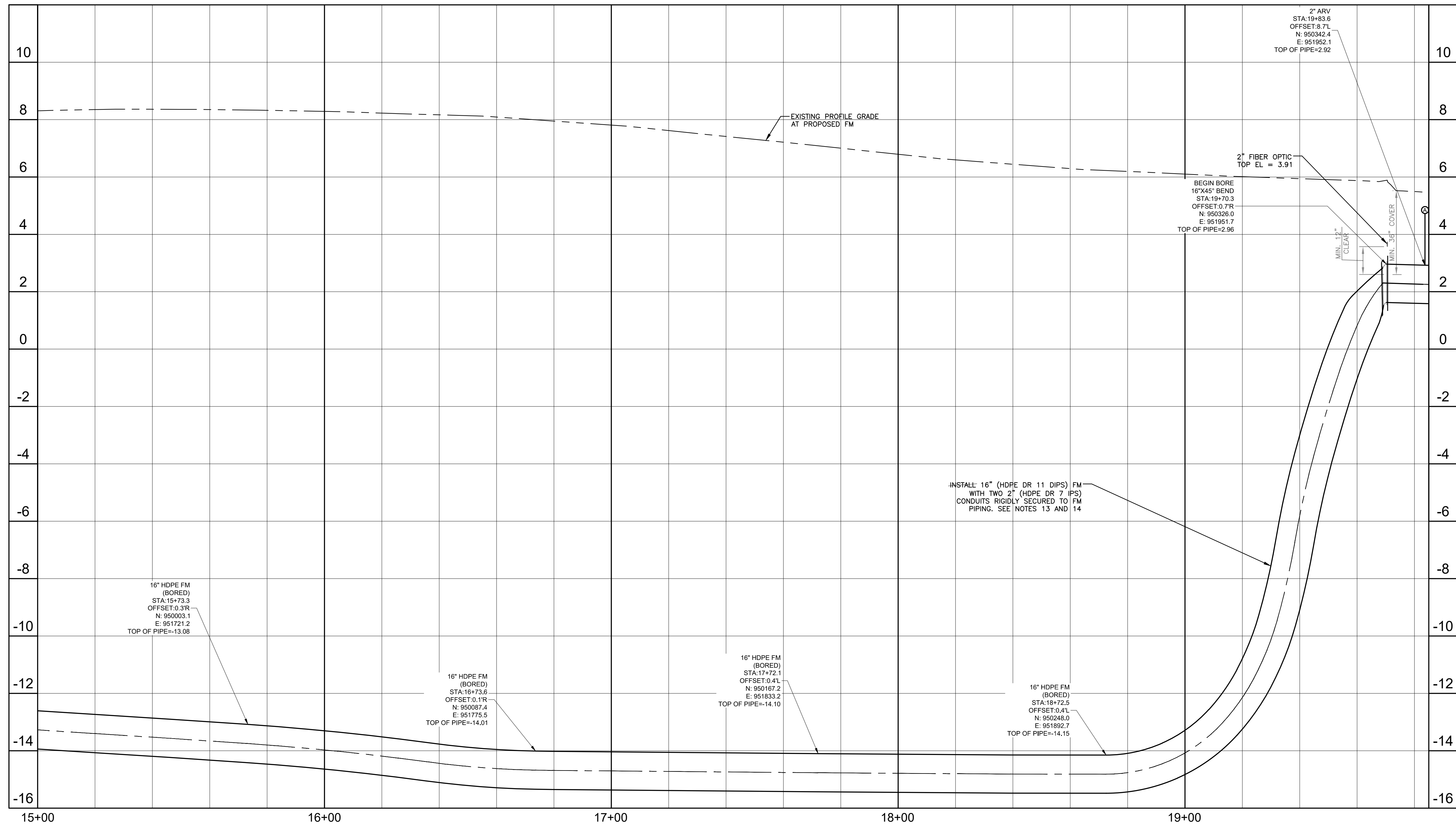
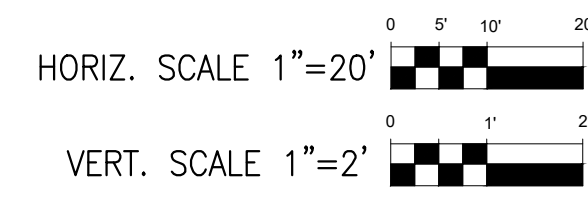
LOXAHATCHEE RIVER  
 ENVIRONMENTAL CONTROL DISTRICT  
 ALTERNATE A1A 16-INCH FORCE MAIN EXTENSION  
 STATE ROAD A1A  
 PROFILE - SHEET 2A  
 STATION 10+00 TO STATION 15+00

DATE: NOVEMBER 2018  
 SHEET: 7 of 21  
 DRAWING: C-2A

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 Acad Version : R22.0s (LMS Tech)  
 User Name : Jemmy



REFER TO DRAWING C-3 FOR PLAN

- NOTES:**
- CONTRACTOR SHALL FIELD VERIFY LOCATION OF ALL UTILITY CROSSINGS, INCLUDING PARALLELING OF UTILITIES, PRIOR TO CONSTRUCTION OF PROPOSED FORCE MAINS.
  - IRRIGATION SYSTEMS NOT SHOWN, BUT DO EXIST THROUGHOUT PROJECT AREA. CONTRACTOR SHALL REPLACE ALL DAMAGED IRRIGATION PIPING, HEADS AND CONTROL LINES IN KIND, SO THAT SYSTEM PROVIDES ORIGINAL COVERAGE. ZONES TO BE CAPPED OFF AT CONSTRUCTION LINE. BALANCE OF IRRIGATION ZONES TO REMAIN ACTIVE AND MAINTAINED. CONTRACTOR TO COORDINATE WITH TOWN OF JUPITER PUBLIC WORKS (HECTOR CHANZA AT 561-262-4677).
  - ALL FORCE MAIN FITTINGS SHALL HAVE RESTRAINED JOINTS. SEE STANDARD DETAIL DRAWING D-2 FOR MECHANICAL THRUST RESTRAINT - MINIMUM PIPE LENGTHS DETAIL.
  - CONTRACTOR SHALL REFER TO DETAILS ON DRAWINGS D-1 THROUGH D-4 FOR STANDARD DETAIL CONSTRUCTION INFORMATION.
  - ALL AREAS DISTURBED BY CONSTRUCTION ACTIVITIES SHALL BE RESTORED IN KIND.
  - IN AREAS OF UNDERGROUND UTILITIES CONTRACTOR SHALL HAND-DIG AS NECESSARY TO AVOID DAMAGING EXISTING UTILITIES. CONTRACTOR IS RESPONSIBLE FOR REPLACING ANY DAMAGED UTILITIES AS A RESULT OF CONSTRUCTION ACTIVITIES (THIS IS A NON-PAY ITEM).
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  - CONTRACTOR SHALL COORDINATE WITH FPL FOR SERVICES TO TEMPORARILY SECURE/HOLD EXISTING POWER POLES WHICH ARE IN CLOSE PROXIMITY TO THE CONSTRUCTION TRENCH EXCAVATION.
  - CONTRACTOR TO REMOVE AND REINSTALL EXISTING STREET SIGNS AS REQUIRED.
  - CONTRACTOR SHALL REMOVE OR TRIM EXISTING VEGETATION AS NECESSARY TO INSTALL THE PROPOSED PIPING AS SHOWN. VEGETATION REMOVAL AND TRIMMING SHALL BE LIMITED TO THE PROPOSED PIPING ROUTE(S) AND AS REQUIRED TO PROVIDE REASONABLE ACCESS/CLEARANCE TO COMPLETE THE WORK. VEGETATION SHALL BE RESTORED IN KIND WHERE INDICATED.
  - A DETAILED DRILL PLAN MUST BE SUBMITTED FOR APPROVAL PRIOR TO CONSTRUCTION. ALL UTILITIES MUST BE POT-HOLED AND THE UTILITY INFORMATION (HORIZONTAL & VERTICAL DATA) MUST BE SHOWN ON THE DRILL PLAN.
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  - CONTRACTOR SHALL SUPPLY AND INSTALL A 2-INCH HDPE (DR 7-IPS) "TRACER WIRE" PIPE ALONG THE ENTIRE LENGTH OF THE NEW 16" HDPE FM INSTALLED VIA HDD METHOD. PIPING SHALL BE SECURED TO THE FM PIPING AND SHALL BE CONTINUOUS. PRIOR TO PROJECT COMPLETION THE CONTRACTOR SHALL INSTALL AN APPROPRIATELY SIZED (MIN. 14 GA COPPER) TRACER CONDUCTOR AND CONFIRM CONTINUITY IN THE PRESENCE OF ENGINEER.
  - CONTRACTOR SHALL SUPPLY AND INSTALL 2-INCH HDPE (DR 7-IPS) ARV VENT PIPING ALONG THE ENTIRE LENGTH OF THE NEW 16" FM SOUTH OF THE AERIAL FM CROSSING. PIPING SHALL EXTEND FROM THE POINT OF CONNECTION TO THE 2" 316SS ARV VENT PIPE (INSTALLED BY OTHERS) AT SOUTH SIDE OF BRIDGE (SEE DWG. C-4) TO THE POINT OF DISCHARGE AT THE GRAVITY SEWER MANHOLE AT THE INTERSECTION OF FLORIDA AVENUE AND OLD DIXIE HIGHWAY.
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**LEGEND**

SPT-1	SOIL BORING LOCATION	PROPOSED 1" ASPHALT MILLING & PAVEMENT RESTORATION (1" TYPE S-3)
TH#1	SOFT DIG LOCATION	PROPOSED ASPHALT SIDEWALK RESTORATION
□	LINESTOP	PROPOSED SWALE REGRAVING
		OPEN CUT PAVEMENT REPAIR
		PAVEMENT REMOVAL
		FLOWABLE FILL
		CONFLICT DATA

.lbp\_bw.jpg

**CONSTRUCTION**

**RECORD DRAWING**

DAVID P. LINDLEY, P.L.S.  
 REG. LAND SURVEYOR, #5005  
 STATE OF FLORIDA, LB #3591

**MATHEWS CONSULTING**  
 a BAXTER & WOODMAN company  
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VERIFY SCALE  
 1"  
 BAR IS ONE INCH ON FULL SIZE (22x34) ORIGINAL DRAWING. ADJUST SCALES AS NECESSARY.

ENGINEER NO.: 1862  
 CLIENT PROJECT NO.:  
 CAD REF.: 1862P&P

LOXAHATCHEE RIVER  
 ENVIRONMENTAL CONTROL DISTRICT  
 ALTERNATE A1A 16-INCH FORCE MAIN EXTENSION  
 STATE ROAD A1A  
 PROFILE - SHEET 3A  
 STATION 15+00 TO STATION 19+85

DATE: NOVEMBER 2018  
 SHEET: 9 of 21  
 DRAWING: C-3A

NO.	DATE	ISSUED FOR	APRVD BY
Δ	11/20/19	REVISE PROPOSED 16" FM LAYOUT FROM STA 19+80 TO 24+40	JAP

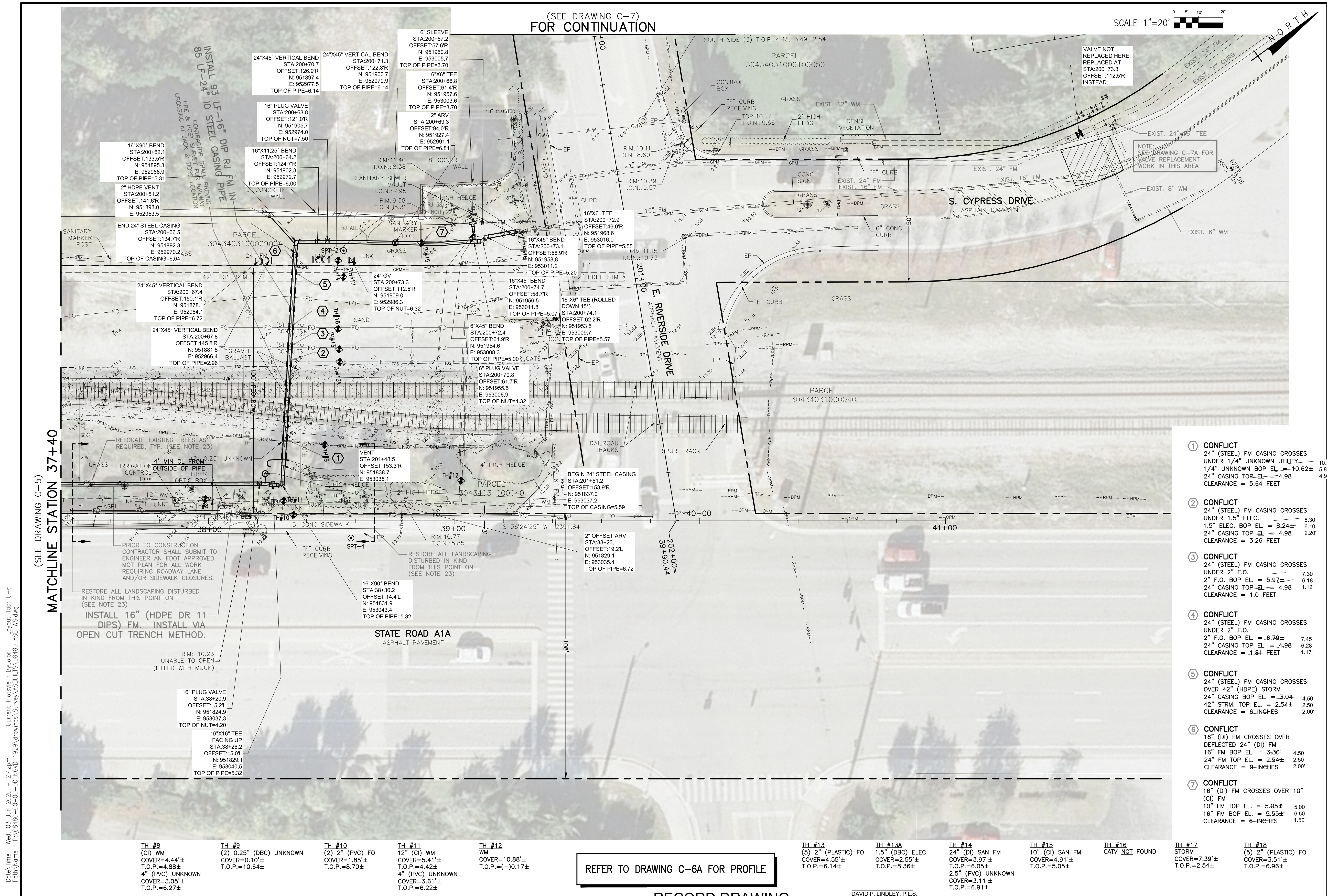
DESIGNED: J.A.P.  
 DRAWN: D.D.P.  
 CHECKED: A.C.  
 APPROVED: D.L.M.  
 JASON A. PUGSLEY, P.E.  
 No. 67426











**NOTES:**

- CONTRACTOR SHALL FIELD VERIFY LOCATION OF ALL UTILITY CROSSINGS, INCLUDING PARALLELING OF UTILITIES, PRIOR TO CONSTRUCTION OF PROPOSED FORCE MAINS.
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**LEGEND**

SPT-1 (S) SOIL BORING LOCATION  
 TH#1 (S) SOFT DIG LOCATION  
 (D) PROPOSED 16" (DI) FM CROSSING OVER DEFLECTED 24" (DI) FM  
 (C) 16" FM BOP EL. = 3.30± 4.50  
 24" FM TOP EL. = 2.54± 2.50  
 CLEARANCE = 9-INCHES 2.00'  
 (C) 10" FM TOP EL. = 5.05± 5.00  
 16" FM BOP EL. = 5.55± 6.50  
 CLEARANCE = 6-INCHES 1.50'

PROPOSED 1" ASPHALT MILLING & PAVEMENT RESTORATION (1" TYPE S-3)  
 PROPOSED ASPHALT SIDEWALK RESTORATION  
 PROPOSED SWALE REGRADE  
 OPEN CUT PAVEMENT REPAIR  
 PAVEMENT REMOVAL  
 FLOWABLE FILL  
 (1) CONFLICT

DATE: NOVEMBER 2018  
 SHEET: 14 of 21  
 DRAWING: C-6

(SEE DRAWING C-5)  
 MATCHLINE STATION 37+40

(SEE DRAWING C-7)  
 FOR CONTINUATION

SCALE 1"=20'  
 NORTH

TH #8 (C) 16" FM COVER=4.44± T.O.P.=4.88± 4" (PVC) UNKNOWN COVER=3.05± T.O.P.=6.27±	TH #9 (2) 0.25" (DBC) UNKNOWN COVER=0.10± T.O.P.=10.64±	TH #10 (2) 2" (PVC) FO COVER=1.85± T.O.P.=8.70±	TH #11 12" (C) WM COVER=5.41± T.O.P.=(-)0.17± 4" (PVC) UNKNOWN COVER=3.61± T.O.P.=6.22±	TH #12 WM COVER=10.88± T.O.P.=(-)0.17±	TH #13 (5) 2" (PLASTIC) FO COVER=4.55± T.O.P.=6.14±	TH #13A 1.5" (DBC) ELEC COVER=2.55± T.O.P.=8.36±	TH #14 24" (DI) SAN FM COVER=3.97± T.O.P.=6.05± 2.5" (PVC) UNKNOWN COVER=3.11± T.O.P.=6.91±	TH #15 10" (C) SAN FM COVER=4.91± T.O.P.=5.05±	TH #16 CATV NOT FOUND	TH #17 STORM COVER=7.39± T.O.P.=2.54±	TH #18 (5) 2" (PLASTIC) FO COVER=3.51± T.O.P.=6.96±
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REFER TO DRAWING C-6A FOR PROFILE

RECORD DRAWING

DAVID P. LINDLEY, P.L.S.  
 REG. LAND SURVEYOR, #5005  
 STATE OF FLORIDA, LB #3591

**MATHEWS CONSULTING**  
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VERIFY SCALE  
 1"  
 BAR IS ONE INCH ON FULL SIZE (22x34) ORIGINAL DRAWING. ADJUST SCALES AS NECESSARY.

ENGINEER NO.: 1862  
 CLIENT PROJECT NO.:  
 CAD REF.: 1862P&P

LOXAHATCHEE RIVER  
 ENVIRONMENTAL CONTROL DISTRICT  
 ALTERNATE A1A 16-INCH FORCE MAIN EXTENSION  
 STATE ROAD A1A  
 PLAN - SHEET 6  
 STATION 37+40 TO STATION 41+00

Date: Wed, 03 Jun 2020 2:42:00 PM  
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CONSTRUCTION



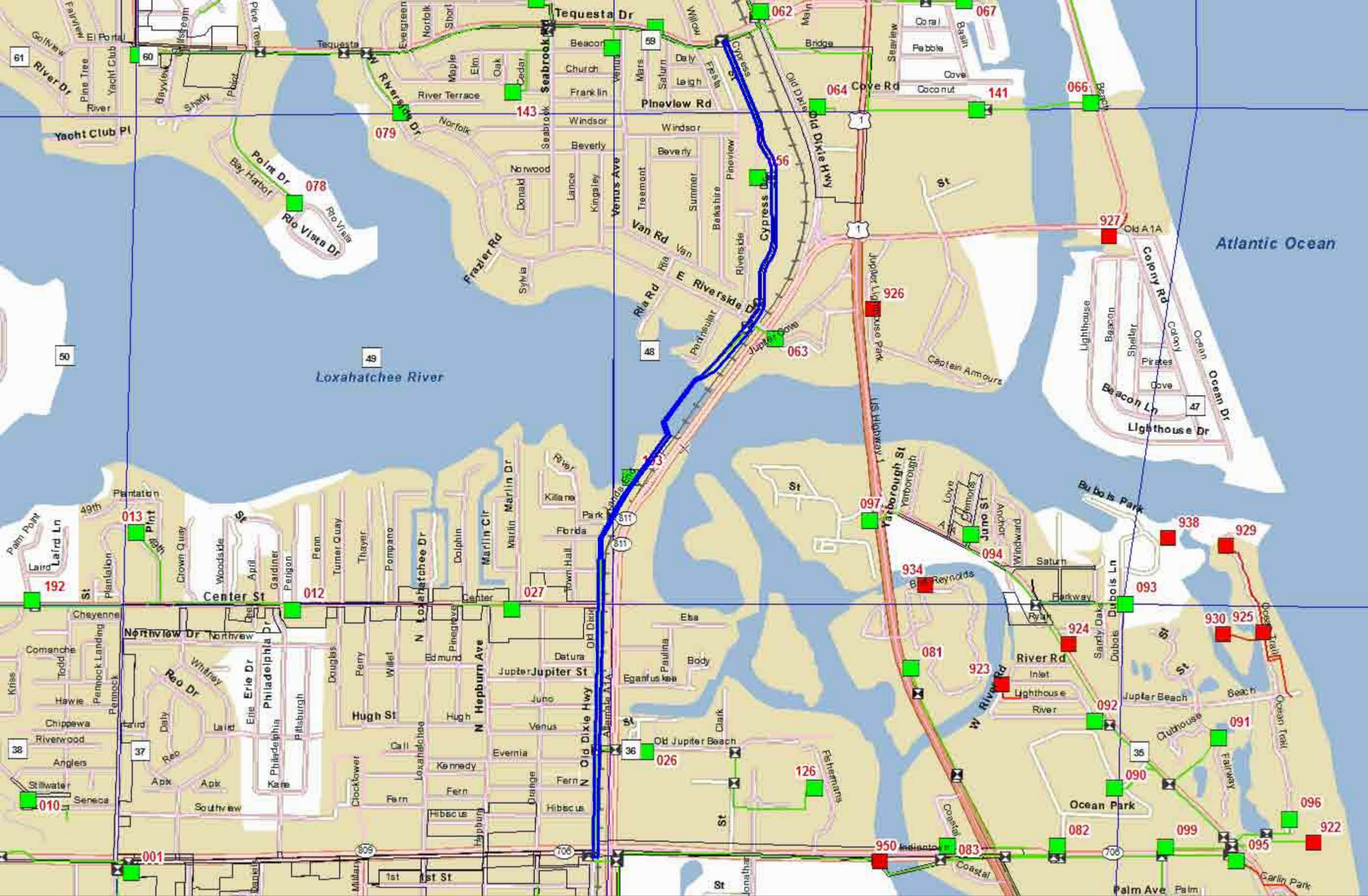






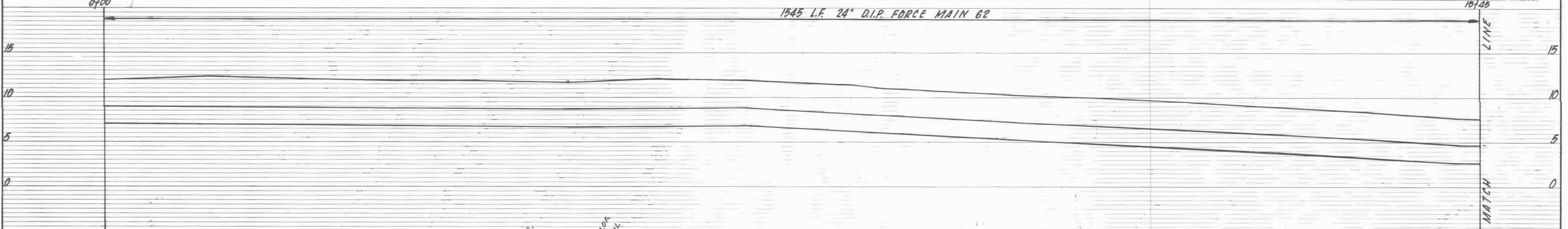
**APPENDIX E**

**1975 LOXAHATCHEE RIVER SUBAQUEOUS 24" FORCE  
MAIN CROSSING**





1545 L.F. 24" D.I.P. FORCE MAIN 62

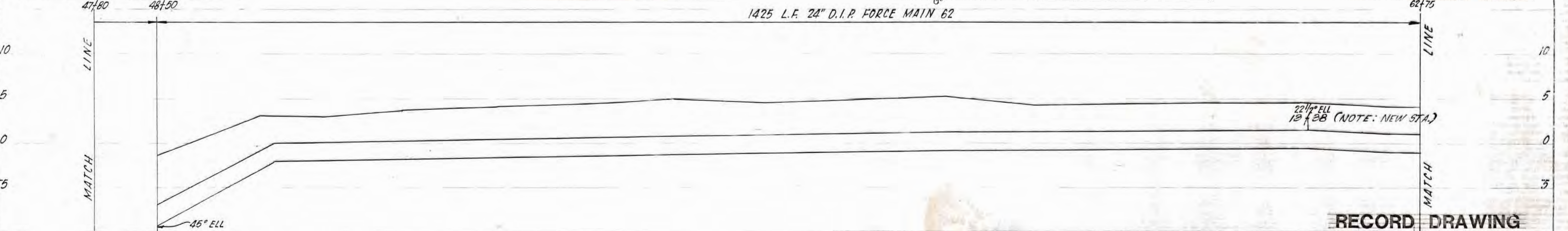
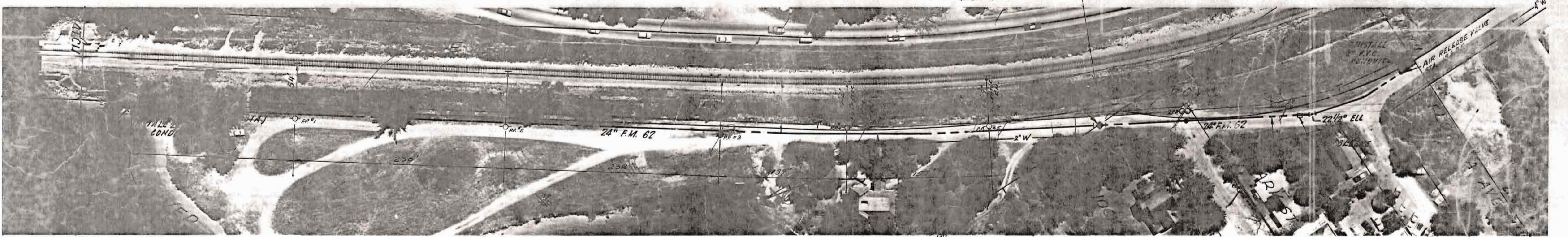
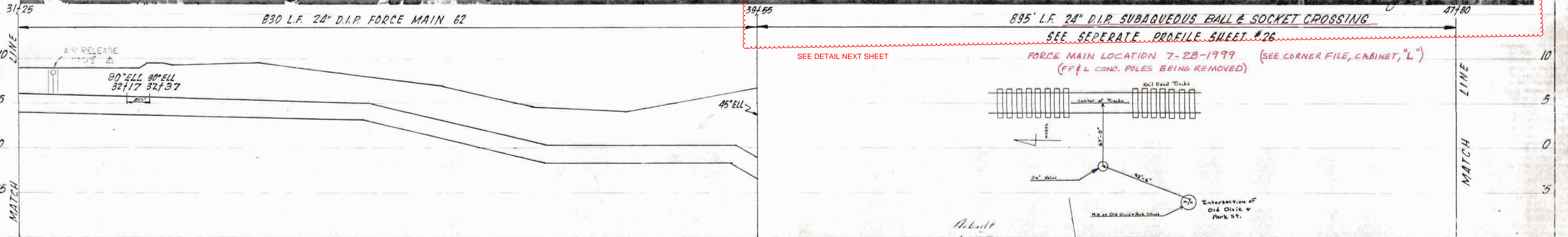
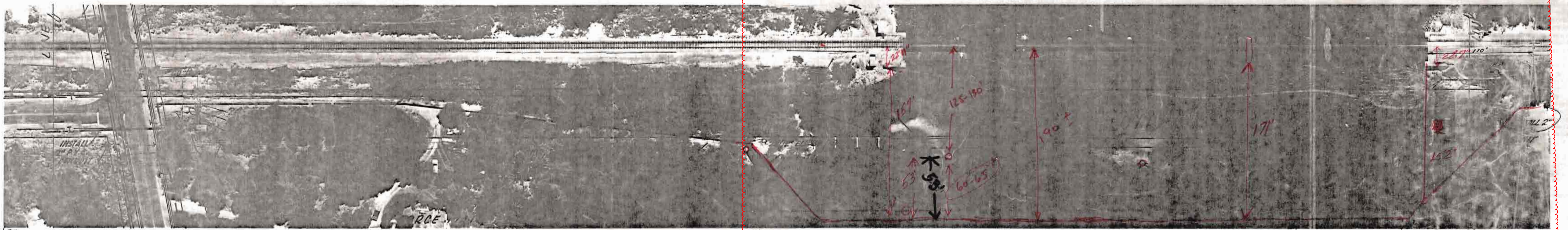


1580 L.F. 24" D.I.P. FORCE MAIN 62



**RECORD DRAWING**

Revisions			Field Book No. Pg	BARKER, OSHA & ANDERSON, INC.		Job No.
Date	Description	By	Design	CONSULTING ENGINEERS		73-1053
10/6/77	AS BUILT	J.C.W.	Drawn	RIVIERA BEACH & JUPITER		Scale: 1" = 5' VERT. 1" = 50' HORIZ.
			Checked	FLORIDA		Sheet 13 of 35
			J.BUSHELMAN	Not to be used for Construction until Approved		File No. D-3443-001
			Approved	Date		
			<i>Shirley L. Osha</i>	6-27-75		



**RECORD DRAWING**

Revisions			Field Book No. Pg	BARKER, OSHA & ANDERSON, INC. CONSULTING ENGINEERS		Job No. 73-1053
Date	Description	By	Design	RIVIERA BEACH & JUPITER FLORIDA		Scale 1" = 5' VERT 1" = 50' HORIZ.
8/25/77	RE-BUILT INFORMATION PANEL	J.W.	Drawn	Not to be used for construction until Approved		Sheet 14 of 35
7/25/75	LOCATE AIR RELEASE VALVE	J.C.W.	T.S., R.O., D.S., C.H.	Approved	Date 6-27-75	File No. D-3443-001
7/24/76	ADDED PLUG VALVES	R.O.C.	Checked			
7/25/76	REVISED FOR LIFT STATION MOVE	J.W.	J. BUSHELMAN			

SCALE: 1"=50'

190'±

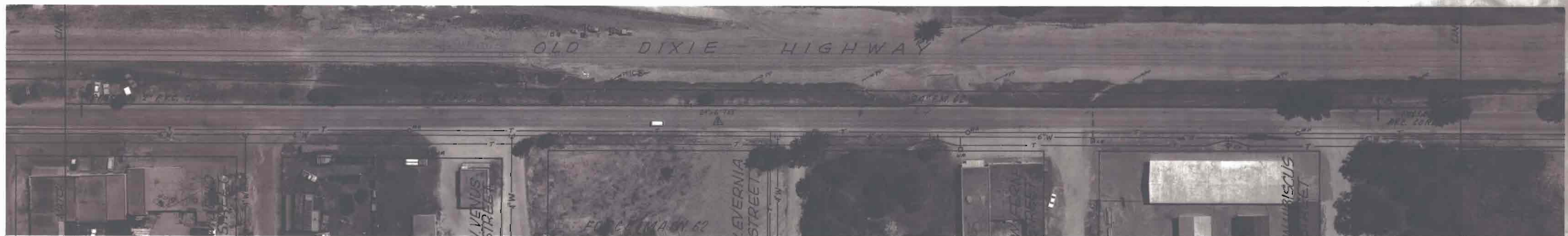
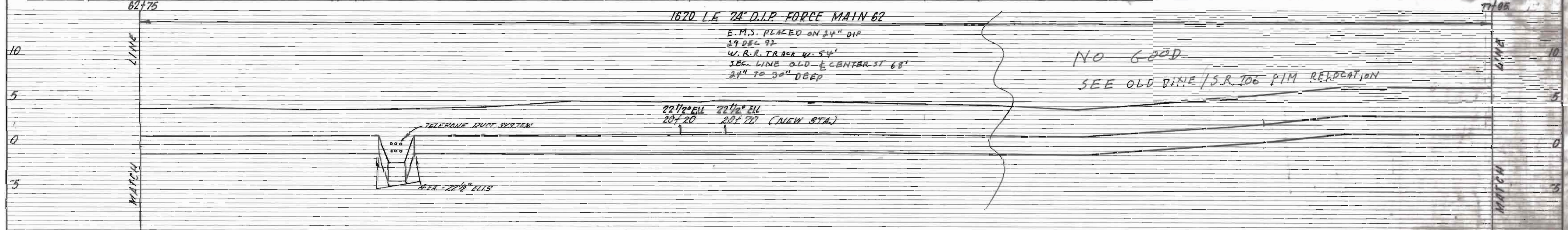
171'±

830 LF 24" DIP

895 LF 24" DIP

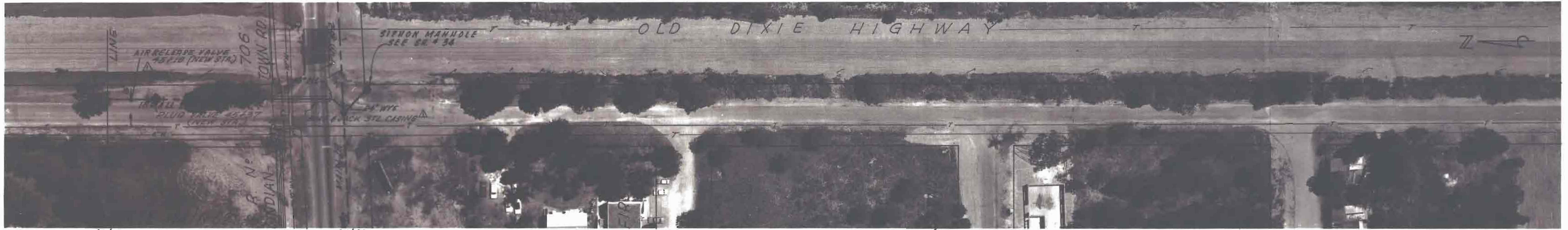
FORCE MAIN 62 (24" DIP)  
AS BUILT 4-25-91





**RECORD DRAWING**

Revisions			Field Book		BARKER, OSHA & ANDERSON, INC. CONSULTING ENGINEERS RIVIERA BEACH & JUPITER FLORIDA	PLAN AND PROFILE FORCE MAIN 62	POLLUTION CONTROL FACILITIES LOXAHATCHEE RIVER ENVIRONMENTAL CONTROL DISTRICT	Job No. 73-1053 Scale 1" = 5' VERT. 1" = 50' HORIZ. Sheet 15 of 35 File No. D-34,13-001
Date	Description	By	No.	Pg.				
7/30/75	LOCATE AIR RELEASE VALVE	JCW			Approved: <i>[Signature]</i> Date: 6-27-75			
2-17-76	ADD 24"x6" TEE	D.S.						
1/28/77	ADDED TELEPHONE LINES	LDW						



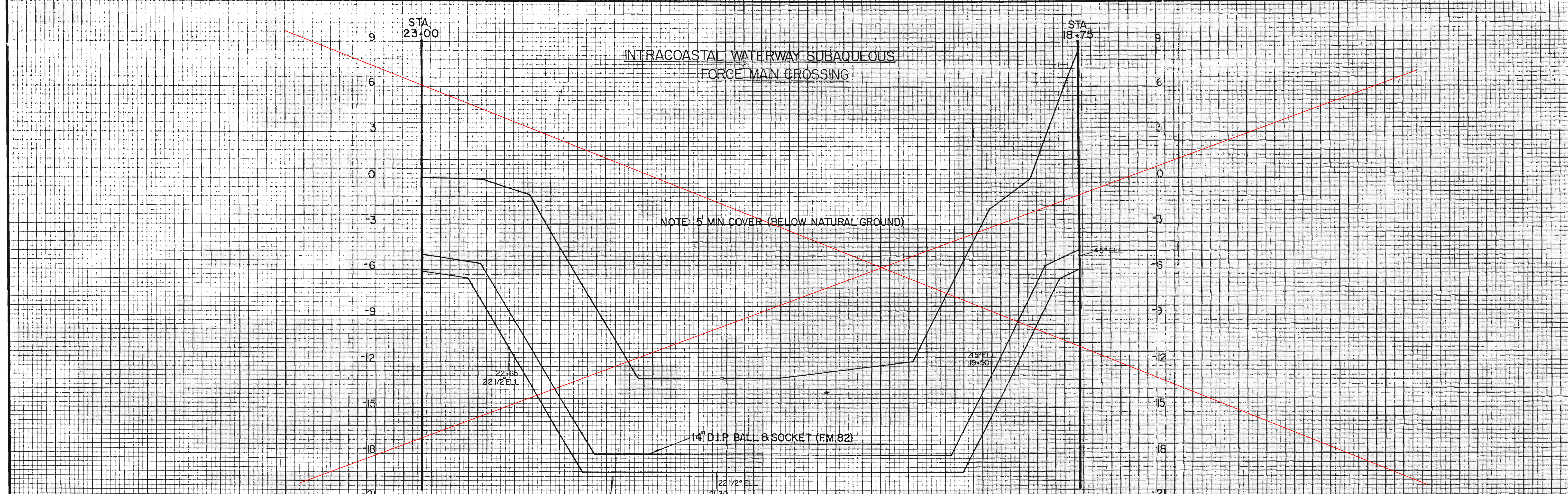
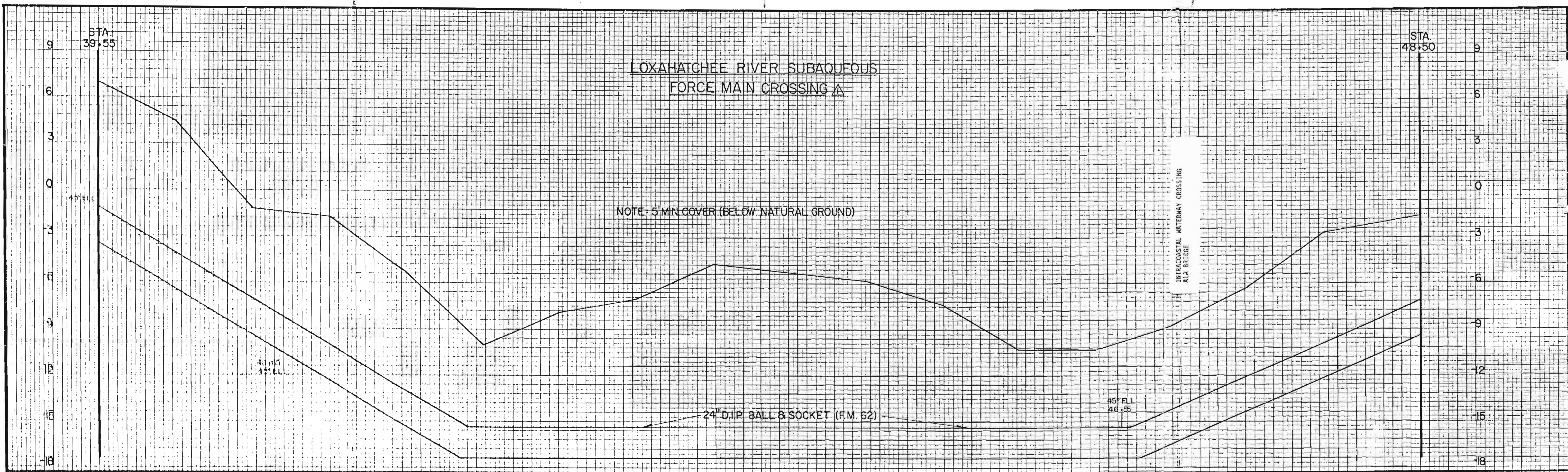
NO GOOD  
SEE OLD DIXIE / SR 706 F/M RELOCATION

**RECORD DRAWING**

Revisions			Field Book No. Pg.	BARKER, OSHA & ANDERSON, INC. CONSULTING ENGINEERS RIVIERA BEACH & JUPITER FLORIDA	PLAN AND PROFILE FORCE MAIN 62	Job No. 73-1053
Date	Description	By	Design J. WHITMER Drawn R.O., D.S., T.S., C.H. Checked J. BUSHELMAN			Scale 1" = 5' VERT. 1" = 30' HORIZ.
9/18/75	APPENDUM No. 1	ROO		Not to be used for Construction until Approved Approved: <i>Donald L. Oule</i> Date: 6-27-75	POLLUTION CONTROL FACILITIES LOXAHATCHEE RIVER ENVIRONMENTAL CONTROL DISTRICT	File No. D-3443-001
5/23/76	ADDED PLUG VALVE	ROO				
1/26/77	ADDED TELEPHONE LINES	J.C.W.				

ORIGINAL SURVEY  
 SURVEYED BY: J. WHITMER  
 DATE: 10-1-75  
 CHECKED BY: D. SCHMIDT  
 DATE: 6-27-75  
 APPROVED BY: J. BUSHELMAN  
 DATE: 6-27-75

FINAL SURVEY  
 SURVEYED BY: J. WHITMER  
 DATE: 10-1-75  
 CHECKED BY: D. SCHMIDT  
 DATE: 6-27-75  
 APPROVED BY: J. BUSHELMAN  
 DATE: 6-27-75



Field Book No. Pg.	BARKER, OSHA & ANDERSON, INC. CONSULTING ENGINEERS		Job No. 73-1053
Design J. WHITMER	RIVIERA BEACH & JUPITER FLORIDA		Scale 1" = 30' HORIZ. 1" = 3' VERT.
Drawn D. SCHMIDT	Not to be used for Construction until Approved.		Sheet 26
Checked J. BUSHELMAN	Approved <i>[Signature]</i> Date 6-27-75		of 35
Date 10-1-75	Revised RIVER CROSSING	By J.S.	File No. D-3443-001
POLLUTION CONTROL FACILITIES LOXAHATCHEE RIVER ENVIRONMENTAL CONTROL DISTRICT			

**APPENDIX F**

**STANDARD OPERATION PROCEDURE:  
SYSTEM SHUTDOWNS AND BYPASS**



Standard Operating Procedure: **System Shutdowns and Bypass**

Project Name: \_\_\_\_\_

Work Order #: \_\_\_\_\_

Shutdown Schedule Date: \_\_\_\_\_

Time Start: \_\_\_\_\_

Time Complete: \_\_\_\_\_

1. All work for the system shutdown shall be done under one work order specific to the system shutdown, not the work requiring the system shutdown. System Shutdown Work Order # to be noted above.
2. Scope: Develop a scope fully encompassing the work to be performed. The scope shall be attached as **Exhibit A**.
3. Map: Develop a system map overlaid on an aerial clearly showing the location of the work, relation of the work to other infrastructure, primary and secondary isolation points for the work. All infrastructure shown on the map shall be field located and GPS'd. The map shall be attached as **Exhibit B**.
4. Isolation Point Verification: All isolation points, primary and secondary, shall be field verified, if possible, prior to scheduling the work. Verification shall confirm isolation points are operable and **substantially** isolate the work area from the remainder of the collection/transmission system. Substantially isolate, at a minimum, shall mean all flows except those that can reasonably be managed with a vacuum truck are isolated from the work. Upstream System Capacity: Upstream system capacity (holding time) shall be determined. Prior to scheduling the work adequate values for the following shall be agreed upon. The scheduled shutdown duration, staff, equipment and materials shall be planned around the Low Risk Holding Time.
  - a. Low Risk Holding Time: \_\_\_\_\_
  - b. Unacceptable Risk Holding Time: \_\_\_\_\_
5. Wastewater Management/Spill Response Plan: Prior to scheduling the work:
  - a. The Contractor shall have an approved wastewater management plan to address capture and disposal of wastewater. The Contractor's Wastewater Management/Spill Response Plan shall be attached as **Exhibit C**.
  - b. The District shall have an approved Wastewater Management Plan to address management of wastewater in the collection/transmission system. The Wastewater Management Plan shall include Emergency Operation Measures in the event the shutdown exceeds the Unacceptable Risk Holding Time. The District's Wastewater Management Plan shall be attached as **Exhibit D**.

6. Personnel: The Contractor and the District shall have adequate staff to manage the shutdown and work. The Contractor shall have one designated person in-charge of his employees and work. The District shall have one designated person in-charge of his employees and work.
  - a. Contractor Representative In-Charge: \_\_\_\_\_ cell #: \_\_\_\_\_ # of
    - i. Contractor's supporting staff: \_\_\_\_\_
  - b. District Representative In-Charge: \_\_\_\_\_ cell #: \_\_\_\_\_
    - i. # of District supporting staff: \_\_\_\_\_
7. Schedule: Prior to scheduling the work predetermined times to implement various steps, back-up plans, cancel the tie-in or failure response shall be agreed upon.
  - a. Primary Isolation: \_\_\_\_\_
  - b. Secondary Isolation: \_\_\_\_\_
  - c. System Evacuation Deadline: \_\_\_\_\_
  - d. Low Risk Work Completion Deadline: \_\_\_\_\_
  - e. Unacceptable Risk Deadline: \_\_\_\_\_

If the system is not adequately isolated and evacuated by the System Evacuation Deadline. Work is CANCELLED, the force main secured and placed back in service.

Once the Work has commenced progress shall be monitored with direct communication between the Contractor Representative In-Charge and the District Representative In-Charge. At any time during the performance of the Work the projected completion time exceeds the Unacceptable Risk Deadline Emergency Operation Measures shall be implemented. See **Exhibit D**.

8. Equipment:
  - a. The Contractor shall have adequate equipment on site by Close of Business preceding the scheduled shutdown. All equipment shall be on site by: \_\_\_\_\_. The list of equipment shall be attached as **Exhibit E**.
  - b. The District shall have adequate equipment on site by Close of Business preceding the scheduled shutdown. All equipment shall be on site by: \_\_\_\_\_. The list of equipment shall be attached as **Exhibit F**.
9. Materials: All materials required for the work shall be on site by Close of Business preceding the scheduled shutdown. All materials shall be on site by: \_\_\_\_\_. The approved Material List shall be attached as **Exhibit G**.
10. Vendors: All vendors required for the work shall be issued Purchase Orders by Close of Business preceding the scheduled shutdown. All vendor Purchase Orders shall be confirmed by \_\_\_\_\_. The Vendor list shall be attached as **Exhibit H**.

### System Shutdown Checklist

Description	Approved By	Scheduled Time	Scheduled Date
Work Order			
Exhibit A			
Exhibit B			
Exhibit C			
Exhibit D			
Exhibit E			
Exhibit F			
Exhibit G			
Exhibit H			
Low Risk Holding Time			
Unacceptable Risk Holding Time			
Primary Isolation Time			
Secondary Isolation Time			
System Evacuation Deadline			
Low Risk Work Completion Deadline			
Unacceptable Risk Deadline			
Contractor Equipment Onsite			
District Equipment Onsite			
Materials Onsite			
Vendor's Confirmed			

Contractor's Representative Name: \_\_\_\_\_ Cell: \_\_\_\_\_

District's Representative Name: \_\_\_\_\_ Cell: \_\_\_\_\_

**APPENDIX G**

**CONTRACTOR EVALUATION REPORT**



	Loxahatchee River Environmental Control District	CONTRACT NO.	
ADDRESS	2500 Jupiter Park Drive	CONTRACTOR	
CITY / STATE / ZIP	Jupiter, FL 33458	PERIOD OF PERFORMANCE	FROM <input type="text"/> TO <input type="text"/>
CONTRACT PROJECT MANAGER		LOCATION OF PERFORMANCE	

**INSTRUCTIONS:** This form can be completed on the computer or printed and completed by hand. Use the mouse to navigate. To check or uncheck a box, **'double click' the box**. If further direction is required on how to complete this evaluation or where to submit it, please contact your Contracting Officer. Comment boxes are formatted to automatically wrap the entered text. Check the box that best describes the level in which the Contractor supported the area described. Comments are essential and must substantiate your rating selection. N/A = not applicable. If additional space is required, use page 2 of the form or attach additional page(s).

**SEE PAGE 3 FOR EVALUATION RATINGS DEFINITIONS**

**1. Quality. Contractor conformed to contract requirements. Was capable, efficient and effective in supporting the programs of this contract. Provided well maintained equipment and highly qualified personnel. Finished product meets the quality requirements set forth in the contract.**

N/A                      Satisfactory                      Unsatisfactory

COMMENTS:


**2. Schedule. Contractor was prepared and available to begin work on contract start date and provided daily coverage during the contract period with little to no disruption or unavailability. Contractor completed the work within the dates specified in the contract and any approved extensions of time.**

N/A                      Satisfactory                      Unsatisfactory

COMMENTS:


**3. Change Orders. Contractor conformed to contract requirements, providing complete documentation and was reasonable in the negotiations for time and costs. Contractor did not engage with frivolous or unsupported change order requests. Contractor met time requirements in the contract for identification and quantification of additional or deleted work.**

N/A                      Satisfactory                      Unsatisfactory

COMMENTS:


**4. Management.** Contractor and on-site representatives were professional, well qualified, and committed to customer satisfaction and safety of operations. Contractor provided necessary support for key personnel and if applicable, took necessary action to correct or replace any personnel. Contractor was timely and complete with shop drawings, pay applications, releases, schedules and other required submittals.

N/A       Satisfactory       Unsatisfactory

COMMENTS: 

**6. Regulatory Compliance.** How well does the contractor comply with governing regulations such as the FDEP, FDOH, SFWMD or others.

N/A       Satisfactory       Unsatisfactory

COMMENTS: 

**7. Safety.** Contractor and on-site representatives attitude and efforts, as well as actual application and general safety of operations?

N/A       Satisfactory       Unsatisfactory

COMMENTS: 

**9. Other Areas:**

N/A       Satisfactory       Unsatisfactory

**10. Other Areas:**

N/A       Satisfactory       Unsatisfactory

**11. Other Areas:**

N/A       Satisfactory       Unsatisfactory

**12. Other Areas:**

N/A       Satisfactory       Unsatisfactory

**12. Overall Contractor Rating:**

N/A                       Satisfactory                       Unsatisfactory

Additional comments to support your response to any item above or other items.

Name, Title of Individual Completing this Form ( include agency, phone and electronic address )

Signature

<b>RATING</b>	<b>DEFINITION</b>	<b>NOTE</b>
Satisfactory	Performance meets contractual requirements. The contractual performance of the element being assessed may contain some minor problems for which corrective actions taken by the Contractor were satisfactory.	To justify a Satisfactory rating, there should have been only minor problems, or major problems the contractor recovered from without impact to the contract. There should have been NO significant weaknesses identified.
Unsatisfactory	Performance does not meet most contractual requirements and recovery is not likely in a timely manner. The contractual performance of the element contains a serious problem(s) for which the contractor's corrective actions appear or were ineffective.	To justify an Unsatisfactory rating, identify multiple significant events in each category that the Contractor had trouble overcoming and state how it impacted the Government. A singular problem, however, could be of such serious magnitude that it alone constitutes an unsatisfactory rating. An Unsatisfactory rating should be supported by referencing the management tools used to notify the contractor of the contractual deficiencies (e.g. management, quality, safety, etc.)