

**CONTRACT DOCUMENTS &
TECHNICAL SPECIFICATIONS
FOR
LOXAHATCHEE RIVER DISTRICT**



**VACUUM TRUCK DUMP PIT
IMPROVEMENTS PROJECT
ITB# 25-006-00145**

July 2025

Prepared by:



VACUUM TRUCK DUMP PIT IMPROVEMENTS PROJECT

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NOTICE TO CONTRACTORS

Bids will be received by the Loxahatchee River Environmental Control District (the “District”) via DemandStar until **2:00 p.m. local time on August 18, 2025**. Any Bids received after **2:00 p.m. local time on August 18, 2025**, 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 18, 2025, at 2:00 p.m. local time** in the Governing Board room of the District, 2500 Jupiter Park Drive. The Work to be performed is located in Palm Beach County, Florida, in the Town of Jupiter, and consists of furnishing all labor, tools, materials, and equipment necessary for the installation as shown on the Contract Plans and Specifications and as specified herein, to include:

ITB # 25-006-00145

VACUUM TRUCK DUMP PIT IMPROVEMENTS PROJECT

Removal of the existing grease interceptor. Installation of a new grease interceptor and drain piping. Relocation of the prefabricated metal shed. Installation of reinforced concrete slabs for the metal shed, dumpster area, and lift station. Installation of the concrete trench drains and grating. Replacement of the existing trench drain grating on the northern ramp of the dump pit. Installation of a joint waterproofing system along the dump pit ramp and site restoration.

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 on **Thursday, July 31, 2025**, at 2:00 p.m. local time via Microsoft Teams. A meeting invite will be distributed to all plan holders prior to the scheduled date and time. This meeting will be recorded. 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 from DemandStar. Bid Documents will be available on **July 21, 2025**, 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.

This solicitation 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

Gordon M. Boggie, 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 electronic or hard copy 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 enters into a contract for the Work.
 - k. “County” shall mean Palm Beach County, as may be applicable.
 - l. “Town” shall mean the Town of Jupiter, as may be applicable.
 - m. “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.

- n. “District” shall mean the Loxahatchee River Environmental Control District, acting through its properly authorized representatives.
- o. “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 is not an employee of the District.
- p. “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.
- q. “Notice of Award” shall mean the District’s notification of award of the Contract to the Successful Bidder.
- r. “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.
- s. “Project” shall mean the entire construction to be performed as provided in the Contract Documents.
- t. “Specifications” shall mean the written requirements for materials, equipment, systems, standards, and workmanship for the Work, and performance of related services.
- u. “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.
- v. “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.
- w. “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:** Bids will be received by the Loxahatchee River Environmental Control District (the “District”) via DemandStar until **2:00 p.m. local time on August 18, 2025**. Any Bids received after **2:00 p.m. local time on August 18, 2025**, 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 at **2:00 p.m. local time on August 18, 2025**, 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 21, 2025, 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 onsite at **2:00 p.m., local time on Thursday, July 31, 2025**. 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.

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 discipline, including at a minimum a written reprimand and up to and including rejection of its Bid and/or cancellation of the Contract.

2. **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"). Bidders will send the ORIGINAL Bid Bond to the District immediately after the Bid Opening Date. **The original Bid Bond is to be received within 48 hours of the Bid Due Date or the bid will be deemed non-responsive. Bid Bonds are due not later than 2:00 p.m. local time on August 20, 2025.** 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 ten (10) business 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 five (5) business 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.

3. **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).

4. **Subject of Bids:** All Work for the Project shall be constructed in accordance with the Plans and Specifications prepared by Kimley-Horn and Associates, Inc. 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.

5. **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) business 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.

6. **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.

7. **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.

8. **Execution of the Contract:** When the District issues a Notice of Award to the Successful Bidder, the successful bidder shall return to the District original bonds and insurance certificates within ten (10) business days. Upon receipt the District shall forward to the Contractor a PandaDoc link to the Contract and all other Contract Documents. Within ten (10) business days thereafter, Contractor shall execute the Contract and other Contract Documents using PandaDoc. Thereafter, the District shall return one fully executed electronic PDF of the Contract and all other Contract Documents to the Contractor. 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.

9. **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, rights-of-way 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.

10. **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) business 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.

11. **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.

12. **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 five (5) business 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.

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

14. **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.

15. **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.

16. **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.

17. **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.

18. **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.

19. **License and Permits:** Contractor shall obtain and pay for all permits and licenses required for the Work as defined in Section 01000 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.

20. **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, to resolve all protests.

21. 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.

22. 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 the position of General Contractor on a multi-discipline project that includes structural, mechanical, electrical, plumbing, architectural, and site improvements. 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.

23. **Notice to Proceed:** The Notice to Proceed for this project will be issued within 90 days of the Award of Contract at a time mutually agreed to by the District and lowest responsive bidder.

24. **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 who 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	1.7
(U.S. Bureau of Labor Statistics, Table 1). Incidence rates of nonfatal occupational injuries and illnesses by industry and case types, 2022 ,		

Three-fourths of the establishments had a rate lower than or equal to: (3rd quartile) for size 50-249, NAICS 237100, Utility system construction. Bidder's DART must be less than or equal to benchmark.

Total Recordable Incident Rate (TRIR) **Benchmark 2.2**
(U.S. Bureau of Labor Statistics, Table 1. Incidence rates of nonfatal occupational injuries and illnesses by industry and case types, **2022, Three-fourths of the establishments had a rate lower than or equal to: (3rd quartile) for size 50-249, NAICS 237100, Utility system 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.

25. 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

PROPOSAL

ARTICLE 2

**VACUUM TRUCK DUMP PIT IMPROVEMENTS
PROJECT**

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 ten (10) business 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) business 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 CMA26)
- j. Initial_____. Project Resume's for qualifying experience (see CMA 27).

Contractor: _____

By: _____

Title: _____

Address: _____

Attest: _____

Title: _____

Contractor's License No: _____

BID FORM — BASE BID
VACUUM TRUCK DUMP PIT IMPROVEMENTS PROJECT

ITEM NO.	DESCRIPTION	UNIT	QTY	UNIT PRICE	EXTENDED PRICE
1	Mobilization, Insurance, and Bonds	1	LS		
2	As-Built Record Drawings	1	LS		
3	Professional Audio/Video of Construction Site	1	LS		
4	NPDES Permit/Erosion Protection Measures	1	LS		
5	Dewatering	1	LS		
6	Demolition	1	LS		
7	Grease Interceptor Installation and Plumbing	1	LS		
8	Excavation, Sheeting & Shoring	1	LS		
9	Bypass Pumping	1	LS		
10	Concrete and Trench Drain Improvements	1	LS		
				Subtotal	\$ -
				Total Base Bid	\$ -

TOTAL BASE BID, ITEMS 1-10 (in words) _____
Dollars

Cents

THE CONTRACT AWARD SHALL BE EVALUATED BASED ON THE TOTAL BASE BID PRICE FOR ITEMS 1 THROUGH ____ 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
VACUUM TRUCK DUMP PIT IMPROVEMENTS PROJECT

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>
General Contractor (primary)	_____
Construction Renovation (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 26, 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:

Electrical and Control Systems

Name:

Address & Telephone No.

Restoration

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 DISTRICT. 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.

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.

_____	CONTRACTOR
Date	
_____	_____
Witness	[Signature]
	By: _____
	[Name and Title Printed]

State of _____

County of _____

The foregoing instrument was acknowledged before me by means of ☐ physical presence or ☐ online notarization, this ____ day of _____ 20__ by _____ as _____ of _____ (Company Name) Contractor, who is personally known to me or who produced _____ as identification.

Notary Public, State of Florida

Print Name: _____

Commission No.: _____

My Commission Expires: _____

(Notary Ink Stamp)

**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. 25-006-00145 for VACUUM TRUCK DUMP PIT IMPROVEMENTS PROJECT.

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 by means of ☐ physical presence this ____ day of _____, 20____, by _____ as _____ of _____ (Company Name) Contractor, who is personally known to me or who produced _____ as identification.

Notary Public, State of Florida

Print Name: _____

Commission No.: _____

My Commission Expires: _____

(Notary Ink Stamp)

Condensed current financial statement for (Name of Contractor)

VACUUM TRUCK DUMP PIT IMPROVEMENTS PROJECT

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
\$ _____
5. 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 ten (10) business 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 five (5) 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.

6. 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.

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 VACUUM TRUCK DUMP PIT IMPROVEMENTS PROJECT and shall do everything required by or reasonably inferable from the Contract Documents. The Work is generally described as follows:

Removal of the existing grease interceptor. Installation of a new grease interceptor and drain piping. Relocation of the prefabricated metal shed. Installation of reinforced concrete slabs for the metal shed, dumpster area, and lift station. Installation of the concrete trench drains and grating. Replacement of the existing trench drain grating on the northern ramp of the dump pit. Installation of a joint waterproofing system along the dump pit ramp. Site restoration.

Applicable reference drawings are entitled VACUUM TRUCK DUMP PIT IMPROVEMENTS PROJECT as prepared by Baxter Woodman and Associates, Inc.

SECTION 2. Time of Completion: Construction of the Work must begin within ten (10) business days from the date of receipt of official Notice to Proceed. Substantial Completion shall be achieved within _____ 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, **\$100** per day for each and every calendar day Substantial Completion is delayed.
- b. **Final Completion Delay.** If Final Completion is not reached within **65 days** of actual Substantial Completion, Contractor shall pay to the District as Liquidated Damages, and not as a penalty, **\$50** 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. 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.

Contractor agrees and represents to the District that it has registered with the E-Verify System and is now, and shall be for the duration of this Agreement, in full compliance with Sections 448.09 and 448.095, Florida Statutes. Contractor shall ensure that each of its subcontractors is also registered with the E-Verify System, is in compliance with Sections 448.09(1) and 448.095, Florida Statutes, and that each provides the affidavit required by Section 448.095, Florida Statutes.

Contractor agrees that if it violates Section 448.09(1), Florida Statutes or Section 448.095, Florida Statutes, the District must terminate this Agreement and that any such termination shall not be considered a breach by the District. Contractor further understands and agrees that it shall be responsible for any additional costs incurred by the District as a result of the termination of this Agreement, pursuant to Section 448.095, Florida Statutes.

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) business 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) business 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) Business 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) business 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 fifteen (15) business 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) calendar 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) business 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 twenty (20) business 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) business days of receipt 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) business 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) business 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) business 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) business 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 fifteen (15) business 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

CONTRACT – Article 4

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

Gordon M. Boggie
Chairman
Address for notice: 2500 Jupiter Park Dr.
Jupiter, Florida 33458

CONTRACTOR:

Witness

Witness

As its: _____

Address for notice: _____

STATE OF _____
COUNTY OF _____

The foregoing instrument was acknowledged before me by means of ☐ physical presence or ☐ online notarization, this _____ day of _____, 20____, by _____ as _____ of the District, who is personally known to me or who produced _____ as identification, 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 _____
COUNTY OF _____

The foregoing instrument was acknowledged before me by means of ☐ physical presence or ☐ online notarization, this ____ day of _____, 20____, by _____ as _____ of _____ (Company Name) Contractor, who is personally known to me or who produced _____ as identification, 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 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)

BID FORM — BASE BID
VACUUM TRUCK DUMP PIT IMPROVEMENTS PROJECT

ITEM NO.	DESCRIPTION	UNIT	QTY	UNIT PRICE	EXTENDED PRICE
1	Mobilization, Insurance, and Bonds	1	LS		
2	As-Built Record Drawings	1	LS		
3	Professional Audio/Video of Construction Site	1	LS		
4	NPDES Permit/Erosion Protection Measures	1	LS		
5	Dewatering	1	LS		
6	Demolition	1	LS		
7	Grease Interceptor Installation and Plumbing	1	LS		
8	Excavation, Sheet piling & Shoring	1	LS		
9	Bypass Pumping	1	LS		
10	Concrete and Trench Drain Improvements	1	LS		
				Subtotal	\$ -
				Total Base Bid	\$ -

TOTAL BASE BID, ITEMS 1-10 (in words) _____

Dollars

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 _____, 20____ in the
amount of \$ _____ for the VACUUM
TRUCK DUMP PIT IMPROVEMENTS PROJECT 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 or 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.

1. 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.

SIGNED AND SEALED ON _____, 20_____.

Name of Principal

Name of Surety

By: _____
Signature of Principal

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

STATE OF FLORIDA

COUNTY OF _____

The foregoing instrument was acknowledged before me by means of ☐ physical presence this ____ day of _____, 20____, by _____ as _____ of _____ (Company Name) Contractor, who is personally known to me or who produced _____ as identification.

Notary Public, State of Florida

Print Name: _____

Commission No.: _____

My Commission Expires: _____

(Notary Ink Stamp)

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

6-1

[Date]

via: US Mail & email

[Contractor Name]
[Contractor Address]

**SUBJECT: Loxahatchee River Environmental Control District
VACUUM TRUCK DUMP PIT IMPROVEMENTS PROJECT
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:

VACUUM TRUCK DUMP PIT IMPROVEMENTS PROJECT

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.) Electronic executed Contract Document, and
- b.) A Public Construction Bond with power of attorney, 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.

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

Regards,

Kris Dean, P.E.
Deputy Executive Director
Enclosures: Contract Document

[Date]

via: US Mail & email

[Contractor Name]

[Contractor Address]

SUBJECT: VACUUM TRUCK DUMP PIT IMPROVEMENTS PROJECT
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 collaborating with you toward the successful completion of another project.

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

Sincerely,

Kris Dean, P.E.
Deputy Executive Director

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:

VACUUM TRUCK DUMP PIT IMPROVEMENTS PROJECT

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 Ink Stamp)

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

* THIS FORM SHALL BE SUBMITTED WITH EACH PAYMENT REQUEST.

PROGRESS PAYMENT APPLICATION No. _____
FOR
VACUUM TRUCK DUMP PIT IMPROVEMENTS PROJECT

1.	ORIGINAL CONTRACT AMOUNT	\$ _____
2.	VALUE OF APPROVED CHANGE ORDERS	\$ _____
3.	ADJUSTED CONTRACT AMOUNT	\$ _____
4.	ORIGINAL CONTRACT WORK PERFORMED TO DATE	\$ _____
5.	APPROVED CHANGE ORDERS PERFORMED TO DATE	\$ _____
6.	TOTAL VALUE OF WORK PERFORMED TO DATE	\$ _____
7.	LESS AMOUNT RETAINED (0%)	\$ _____
8.	NET AMOUNT EARNED ON CONTRACT TO DATE	\$ _____
9.	ADD: MATERIALS STORED AT CLOSE OF PERIOD (LESS 10% RETAINAGE)	\$ _____
10.	SUBTOTAL	\$ _____
11.	LESS AMOUNT OF PREVIOUS PAYMENTS	\$ _____
12.	BALANCE DUE THIS PAYMENT	\$ _____

Certification by Contractor

I certify that all items and amounts shown on this monthly application are correct and that all Work has been performed and/or material supplied in full accordance with the terms of the Contract between the Loxahatchee River Environmental Control District and _____; the foregoing is a true and correct statement of the contract account up to and including the last day of the period covered by this Progress Payment Application.

_____, 20__

By: _____

Title: _____

(Progress Payment Application Cont'd)

Certification by Engineer

I certify that this account is correct and just and that the terms of Work specified herein have been performed.

_____, 20____ By: _____
For: _____

Approval by the District

_____, 20____ By: _____
For: Loxahatchee River Environmental Control District

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:

VACUUM TRUCK DUMP PIT IMPROVEMENTS PROJECT

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: _____

FINAL PAYMENT APPLICATION No. _____
FOR
VACUUM TRUCK DUMP PIT IMPROVEMENTS PROJECT

1.	ORIGINAL CONTRACT AMOUNT	\$ _____
2.	VALUE OF APPROVED CHANGE ORDERS	\$ _____
3.	ADJUSTED CONTRACT AMOUNT	\$ _____
4.	ORIGINAL CONTRACT WORK PERFORMED TO DATE	\$ _____
5.	APPROVED CHANGE ORDERS PERFORMED TO DATE	\$ _____
6.	TOTAL VALUE OF WORK PERFORMED TO DATE	\$ _____
7.	LESS AMOUNT RETAINED (0%)	\$ _____
8.	NET AMOUNT EARNED ON CONTRACT TO DATE	\$ _____
9.	ADD: MATERIALS STORED AT CLOSE OF PERIOD (LESS 10% RETAINAGE)	\$ _____
10.	SUBTOTAL	\$ _____
11.	LESS AMOUNT OF PREVIOUS PAYMENTS	\$ _____
12.	BALANCE DUE THIS PAYMENT	\$ _____

Certification by Contractor

I certify that all items and amounts shown on this monthly application are correct and that all Work has been performed and/or material supplied in full accordance with the terms of the Contract between the Loxahatchee River Environmental Control District and _____; the foregoing is a true and correct statement of the contract account up to and including the last day of the period covered by this Progress Payment Application.

_____, 20 ____

By: _____

Title: _____

(Progress Payment Application Cont'd)

Certification by Engineer

I certify that this account is correct and just and that the terms of Work specified herein have been performed.

_____, 20__

By: _____

For: _____

Approval by the District

_____, 20__

By: _____

For: Loxahatchee River Environmental Control District

Certificate of Substantial Completion

[Date]
[NAME]
[ADDRESS]

Loxahatchee River Environmental Control District
VACUUM TRUCK DUMP PIT
IMPROVEMENTS PROJECT
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 01700, 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, P.E., LRECD
Courtney Jones, P.E., LRECD
Lenny Giacobelli, LRECD

Certificate of Final Completion

[DATE]
[NAME]
[ADDRESS]

Loxahatchee River Environmental Control District
VACUUM TRUCK DUMP PIT IMPROVEMENTS
PROJECT
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, P.E., LRECD
Courtney Jones, P.E., 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:

VACUUM TRUCK DUMP PIT IMPROVEMENTS PROJECT

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

Print Name: _____

Commission No.: _____

My Commission Expires: _____

(Notary Ink Stamp)

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: VACUUM TRUCK DUMP PIT IMPROVEMENTS PROJECT

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 # _____

DATE: _____

PROJECT NAME: VACUUM TRUCK DUMP PIT IMPROVEMENTS PROJECT

OWNER: Loxahatchee River Environmental Control District

CONTRACTOR: _____

THE FOLLOWING CHANGES:

IUSTIFICATION:

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 DISTRICT: _____
 LOXAHATCHEE RIVER ENVIRONMENTAL CONTROL DISTRICT DATE

ARTICLE 7

CERTIFICATE OF DISTRICT'S ATTORNEY

VACUUM TRUCK DUMP PIT IMPROVEMENTS PROJECT

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 DELETED AND LEFT BLANK INTENTIONALLY
- 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 held by the District as retainage on entitled Progress Payments shall conform to the following schedule:

- a. For contracts of \$200,000.00 or less, retainage of 10% of payments claimed.
- b. For contracts over \$200,000.00, retainage of 5% of payments claimed.
- c. 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.

9.05 DELETED AND 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. 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 BLM House 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.

A. 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.

B. 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 ratings 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

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TITLE

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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 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 pipes, 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:

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.

DISTRICT:

CONTRACTOR:

(Remainder of this page left blank intentionally)

TECHNICAL

SPECIFICATIONS

00 01 07

SEALS PAGE

July 08 2025

1. Specifications of materials and labor required for the construction work shown on the Drawings are prepared by Baxter & Woodman, Inc., Consulting Engineers.
2. The Drawings that accompany these Specifications are titled:

LOXAHATCHEE RIVER ENVIRONMENTAL CONTROL DISTRICT
VACUUM TRUCK DUMP PIT IMPROVEMENT

3. Copyright 2025 by Baxter & Woodman, Inc. All Rights Reserved. No part of these Specifications or the accompanying Drawing(s) may be reproduced by any means, or otherwise reused without the prior written permission of Baxter & Woodman, Inc.

Project Manager
License Expires

Project Engineer

BAXTER & WOODMAN, INC.
STATE OF FLORIDA – ENGINEERING BUSINESS REGISTRY
LICENSE NO. 31795

SEALS PAGE
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SECTION 01 11 00

SUMMARY OF WORK

PART 1 -- GENERAL

1.1 THE SUMMARY

A. Construct WORK as described in the Contract Documents.

1. Provide the materials, equipment, and incidentals required to make the Project completely and fully operable.
2. Only the materials listed in Appendix A – Manual of Minimum Construction Standards and Technical Specifications for Loxahatchee River District (Latest Version) are approved for use, or as specified herein.
3. Provide the labor, equipment, tools, and consumable supplies required for a complete Project.
4. Provide the civil, mechanical, electrical and all other WORK required for a complete and operable Project.
5. Test and place the completed Project in operation.
6. Provide the special tools, spare parts, lubricants, supplies, or other materials as indicated in Contract Documents for the operation and maintenance of the Project.
7. Arrange and coordinate with Supplier for deliveries of OWNER purchased products in accordance with construction schedule, coordinate to avoid conflict with work and conditions at the site. Unload the products at the site, and store and protect the products in accordance with the Supplier's instructions.
8. The WORK shall be complete, and all work, materials, and services not expressly indicated or called for in the Contract Documents which may be necessary for the complete and proper construction of the WORK in good faith shall be provided by the CONTRACTOR and coordinated with the ENGINEER as though originally so indicated, at no increase in cost to the OWNER.
9. CONTRACTOR shall comply with all applicable federal, state and local safety regulations, laws and standards, as well as any specific Loxahatchee River District, Palm Beach County, Martin County, FDOT, FDEP, SFWMD, and the Army Corps of Engineers requirements while completing the work.
10. Except as specifically noted, the CONTRACTOR shall provide and pay for:
 - a. Labor, materials, and equipment.
 - b. Tools, equipment and machinery.
 - c. Water, electricity, and other utilities required to complete project.

- d. Other facilities and services necessary for proper execution and completion of the work.
 - e. Permits, surveys, and testing.
 - B. The CONTRACTOR and its SUBCONTRACTORS shall meet the qualification requirements as defined in the Contract Documents.
- 1.2 DESCRIPTION OF WORK
 - A. WORK is described in general, non-inclusive terms as:
 - 1. Removal of the existing grease interceptor. Installation of a new grease interceptor and drain piping. Relocation of the prefabricated metal shed. Installation of reinforced concrete slabs for the metal shed, dumpster area, and lift station. Installation of the concrete trench drains and grating. Replacement of the existing trench drain grating on the northern ramp of the dump pit. Installation of a joint waterproofing system along the dump pit ramp. Site restoration.

1.3 CONTRACT METHOD

- A. The WORK hereunder will be constructed under a lump sum and unit prices contract with supplemental unit prices.

1.4 WORK BY OTHERS

- A. Where 2 or more contracts are being performed at one time on the same Site or adjacent land in such manner that work under one contract may interfere with work under another, the OWNER will determine the sequence and order of the WORK in either or both contracts. When the Site of one contract is the necessary or convenient means of access for performance of work under another, the OWNER may grant privilege of access or other reasonable privilege to the CONTRACTOR so desiring, to the extent, amount, and in manner and at time that the OWNER may determine. No OWNER determination of method or time or sequence or order of the work or access privilege shall be the basis for a claim for delay or damage except under provisions of the General Conditions for temporary suspensions of the work. The CONTRACTOR shall conduct its operations so as to cause a minimum of interference with the work of such other CONTRACTOR's, and shall cooperate fully with such CONTRACTOR's to allow continued safe access to their respective portions of the Site, as required to perform work under their respective contracts.
- B. Interference With WORK On Utilities: The CONTRACTOR shall cooperate fully with all utility forces of the OWNER or forces of other public or private agencies engaged in the relocation, altering, or otherwise rearranging of any facilities which interfere with the progress of the WORK, and shall schedule the WORK so as to minimize interference with said relocation, altering, or other rearranging of facilities.

1.5 CONTRACTOR USE OF SITE

- A. The CONTRACTOR's use of the Site shall be limited to its construction operations, including on-site storage of materials, on-site fabrication facilities, and field offices.

- B. The CONTRACTOR shall coordinate use of premises under the 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.
- C. The CONTRACTOR shall assume full responsibility for the protection and safekeeping of equipment and materials stored on the site.

1.6 OWNER USE OF THE SITE AND OCCUPANCY

- A. The OWNER may utilize all or part of the existing Site and existing facilities during the entire period of construction for the conduct of the OWNER's normal operations. The CONTRACTOR shall cooperate and coordinate with the OWNER to facilitate the OWNER's operations and to minimize interference with the CONTRACTOR's operations at the same time. In any event, the OWNER shall be allowed access to the Site during the period of construction.
- B. Testing of equipment and appurtenances including specified test periods, training, and startup does not constitute acceptance for operation.
- C. OWNER may accept the facility for continued use after startup and testing at the option of the OWNER. If acceptance is delayed at the option of the OWNER, shut down facilities per approved Operation and Maintenance procedures.
- D. The execution of bonds indicates the consent of the surety to these provisions for occupancy of the structures and use of equipment.
- E. Provide an endorsement from the insurance carrier permitting occupancy of the structures and use of equipment during the remaining period of construction.
- F. Conduct operations to ensure the least inconvenience to the OWNER and general public.

1.7 CONSTRUCTION OF UTILITIES

- A. Utility companies or their CONTRACTOR's will provide new or enhanced utilities for this Project. Coordinate with others performing WORK associated with this Project.
- B. Power and Electrical Services:
 - 1. Pay for temporary power, including but not limited to construction cost, meter connection, fees and permits.
 - 2. CONTRACTOR may use the permanent power source in lieu of temporary power source when permanent power is available at the Site.
 - a. Notify ENGINEER and OWNER to use the permanent power source.
 - b. Arrange with the power utility and pay the charges for connections and monthly charges for use of this power.
 - 3. Pay for the power consumed until the Project has been accepted as substantially complete, unless noted otherwise.

1.8 REQUIREMENTS OF OTHER AGENCIES

- A. When performing WORK on facilities owned by agencies other than OWNER, comply with all requirements of such agencies which are more restrictive than those specified herein.

PART 2 -- PRODUCTS (RESERVED).

PART 3 -- EXECUTION (RESERVED).

END OF SECTION

SECTION 01 14 00

WORK RESTRICTIONS

PART 1 -- GENERAL

1.1 THE SUMMARY

- A. WORK shall be scheduled, sequenced, and performed in a manner which minimizes disruption to the operation and maintenance of existing facilities at the wastewater treatment plant.
- B. The CONTRACTOR shall incorporate the construction and schedule constraints of this Section in preparing the construction schedules required under Section 01 32 16 – Construction Progress Schedules.

1.2 EXISTING WASTEWATER TREATMENT PLANT

- A. The WORK shall be executed while the existing wastewater treatment plant is in operation. Operation of the existing wastewater treatment plant shall not be jeopardized nor shall the efficiency of wastewater treatment be reduced as a result of the execution of the WORK.
- B. Unless indicated otherwise, temporary pumping, piping, power, lighting, controls, instrumentation, alarms, security devices, and safety devices shall be provided by the CONTRACTOR whenever its activity or interruption due to its activity affects the existing facility.
- C. The construction constraints in this Section do not include every item affecting the completion of the WORK, but are intended to describe the sequence of critical events necessary to minimize disruption to the ongoing wastewater treatment plant processes and to ensure compliance with NPDES Permit requirements. It shall be understood and agreed by the CONTRACTOR that the critical events described are not inclusive and that additional items of WORK not included may be required to minimize disruption and ensure compliance. Deviation from or modification of these suggested sequences is permitted if techniques and methods known to the CONTRACTOR will result in reducing disruption to the facility operation and maintaining treatment efficiency, and if deviation is approved in advance by the ENGINEER.

1.3 OPERATION OF WASTEWATER TREATMENT PLANT EQUIPMENT

- A. Operational functions or shutdown of the existing wastewater treatment plant required to facilitate CONTRACTOR's operation will be done by the OWNER's personnel only.
 - 1. The CONTRACTOR is responsible for approval and compliance with the District's Standard Operating Procedure (SOP) for System Shutdowns and Bypass included in the Appendix C and made part of these Contract Documents.

2. The CONTRACTOR is responsible for planning all work requiring system shutdowns and/or bypasses to be completed within the Low Risk Holding Time and the Contractor's Wastewater Management/Spill Response Plan.
 3. The CONTRACTOR is responsible for all costs associated with the Emergency Operation Measures should these be implemented due to negligence on the CONTRACTOR'S part of failure of the CONTRACTOR to perform the work within the allowed time frame.
- B. The wastewater treatment plant operation and maintenance personnel will cooperate in every way that is practical in order to facilitate CONTRACTOR's operation. However, certain shutdown, bypasses, and connections may only be permissible at times other than normal working hours such as nights or weekends. No additional payment will be made to the CONTRACTOR for any night, weekend, or holiday premium or overtime payments.
- C. If it becomes necessary for the proper operation or maintenance of portions of the wastewater treatment plant, the OWNER may require the CONTRACTOR to reschedule an approved shutdown and/or bypass. The CONTRACTOR shall then reschedule its operations so there shall be no conflict with necessary operations or maintenance of the wastewater treatment plant. The CONTRACTOR shall, within 2 Days, furnish the ENGINEER a revised shutdown and/or bypass request and a plan for rescheduling the shutdown and/or bypassing accordance with the requirements of the construction schedule.

1.4 SHUTDOWN/BYPASS PLAN AND REQUESTS

- A. Unless the Contract Documents indicate otherwise, the CONTRACTOR shall not remove from service, de-energize, or modify settings for any existing operating tank, pipeline, valve, channel, equipment, structure, road, or any other facility or equipment without permission from the ENGINEER.
- B. Bypassing of untreated or partially treated sewage to surface waters or drainage courses is prohibited during construction. In the event accidental bypassing is caused by the CONTRACTOR's operations, the OWNER shall immediately be entitled to employ others to stop the bypassing and costs incurred therefore will be deducted from the CONTRACTOR's construction progress payments.
- C. Where the WORK requires modifications to existing facilities or construction of new facilities and connection of new facilities to existing facilities, the CONTRACTOR shall submit a detailed shutdown and/or bypass plan and schedule with the District's Standard Operating Procedure for System Shutdowns and Bypassing provided in Appendix C of the Contract Documents for the OWNER's approval at a minimum of two weeks in advance of the time that such shutdown and/or bypass is planned.

1. Vacuum Truck Dump Pit Facility:

- a. The proposed grease interceptor shall be installed while the existing system remains in operation.

- 1) The Lift station can be shutdown for a maximum of 2 days.

- b. The Contractor is responsible for including all the necessary shutdowns in their proposed schedule. The proposed work must be phased and coordinated to allow the facility to remain in operation.
 - c. Contractor must maintain access to the dump pit and lift station during all construction.
- D. The shutdown and/or bypass plans shall be coordinated with the construction schedule and shall meet the restrictions and conditions of the Contract Documents. The shutdown and/or bypass plan shall describe the CONTRACTOR's method for preventing bypassing of other wastewater treatment units; the length of time required to complete said operation; any necessary temporary power, controls, instrumentation or alarms required to maintain control, monitoring, and alarms for the wastewater treatment plant processes; and the manpower and equipment which the CONTRACTOR will furnish for proper operation of associated wastewater treatment units. All costs for preparing and implementing the shutdown and/or bypass plans shall be at no increase in cost to the OWNER.
- E. The ENGINEER and OWNER shall be notified in writing at least two weeks in advance of the required shutdown and/or bypass if the schedule for performing the work has changed or if revisions to the approved shutdown and/or bypass plan are required.
- F. The CONTRACTOR shall provide written confirmation of the shutdown and/or bypass date and time two (2) working days prior to the actual shutdown and/or bypass.

1.5 TEMPORARY CONNECTIONS

- A. Making connections to existing facilities or other operations that interfere with the operation of the existing equipment shall be thoroughly planned in advance, and required equipment, materials, and labor shall be on hand at the time of undertaking the connections. WORK shall be completed as quickly as possible and with as little delay as possible and shall proceed continuously (24 hours a day and seven days a week) if necessary to complete modifications and/or connections in the minimum time.
- B. The cost of any temporary facilities and night, weekend, or holiday activity and overtime payments required during process interruptions shall be included in the WORK.
- C. Temporary facilities and piping shall be located to minimize interference with CONTRACTOR's construction facilities and OWNER's operation and maintenance of the wastewater treatment plant. Unless otherwise indicated, each temporary pipeline shall be of the same size as its connection to the existing or permanent facility at the downstream end of the pipeline. Piping materials shall be suitable for the material being conveyed and be as required in the Contract Specifications.
- D. When temporary electrical power, controls, instrumentation, or alarms are required for routine continuous operations of existing or new equipment, the CONTRACTOR shall provide the necessary equipment and appurtenances. Prior to installing said equipment and appurtenances, CONTRACTOR shall furnish a submittal on the proposed components and installation for ENGINEER's review and approval.

- E. A plan showing the size and location of the temporary facilities and piping shall be submitted to the ENGINEER at the same time as the shutdown and/or bypass plan required under this Section. Costs for design, provision, operation, and removal of temporary facilities and piping shall be part of the WORK.

1.6 CONSTRUCTION SEQUENCING

- A. Construction activities shall be scheduled and sequenced to ensure continuous operation of the existing wastewater treatment plant. The CONTRACTOR's scheduling shall develop construction sequencing so that the WORK will not adversely impact wastewater treatment. The CONTRACTOR shall be responsible for development of the construction sequencing. In implementing the construction sequencing, the CONTRACTOR shall maintain the existing facilities in service until new facilities are constructed and are operational to supplement the existing capacity. When new facilities are operational, the existing facilities may be taken out of service. The following general guidelines shall be used by the CONTRACTOR in planning the sequence of construction.
 - 1. Safe working conditions for personnel shall be maintained during rehabilitation, modification, and demolition WORK. The foregoing includes at least proper trench excavation, the provision of temporary equipment guards, supports, warning signs, walkways, covers over openings, handrailing, and protection of electrical equipment and power supply.
 - 2. Temporary facilities shall be constructed in accordance with applicable codes and regulations to operate safely and properly.
 - 3. Valves to be temporarily shut off during the WORK shall be tagged as such and shall be wired shut with a crimped lead seal and padlocked. OWNER will be responsible for operating all valves and coordinating appropriate lockout/tagout procedures.
 - 4. Electrical and mechanical equipment shall be similarly shut down. OWNER will be responsible for operating all electrical and mechanical equipment as well as coordinating appropriate lockout/tagout procedures.

1.7 PERMITS

- A. The CONTRACTOR shall abide by the conditions of permits and shall obtain proof of satisfaction of conditions from issuers of permits prior to acceptance of the WORK by the OWNER.

1.8 SEQUENCE AND SCHEDULE CONSTRAINTS

- A. General: It is the CONTRACTOR's responsibility to coordinate and plan the construction activities to integrate each schedule constraint into performance of the overall WORK.

- B. The listing of sequence and schedule constraints below does not mean that every constraint or special condition has been identified. The list does not substitute for the CONTRACTOR's coordination and planning for completion of the WORK within the Contract Times.
- C. The following constraints affect the construction sequence and schedule.
 - 1. Installation of the slide gates at the East Parshall Flume and West Parshall flume required prior to the isolation, inspection, and rehabilitation of the concrete fillets in the drop box downstream of the East Parshall Flume and West Parshall Flume.
- D. Access to the site is limited to the hours of 7:30 AM and 5:00 PM on District working days unless otherwise approved by the OWNER.
 - 1. Only activities related to clean-up and organization are permissible between 4:00 PM and 5:00 PM.

PART 2 -- PRODUCTS (RESERVED).

PART 3 -- EXECUTION (RESERVED).

END OF SECTION

SECTION 01 14 13

ACCESS TO SITE

PART 1 -- GENERAL

1.1 THE SUMMARY

- A. The CONTRACTOR shall provide safe access to the project site with minimal disruption to vehicular and pedestrian traffic.
- B. Related sections:
 - 1. Section 01 11 00 – Summary of Work
 - 2. Section 01 66 00 – Product Storage and Handling Requirements

1.2 TEMPORARY CROSSINGS

- A. Safety:
 - 1. The CONTRACTOR shall take necessary precautions for the protection of the WORK and the safety of the public.
 - 2. All signs, signals, and barricades shall conform to the requirements of Subpart G, Part 1926, of the OSHA Safety and Health Standards for Construction.
- B. Traffic Control:
 - 1. For the protection of traffic in public or private streets and ways, the CONTRACTOR shall provide, place, and maintain necessary barricades, traffic cones, warning signs, lights, temporary piping ramps and other safety devices in accordance with the requirements of the "Manual on Uniform Traffic Control Devices," published by American Association of State Highway and Transportation Officials (AASHTO MUTCD-10) and other authorities having jurisdiction over the street or highway.
 - 2. The CONTRACTOR shall take necessary precautions for the protection of the WORK and the safety of the public. Barricades and obstructions shall be illuminated at night, and lights shall be kept burning from sunset until sunrise.
 - 3. The CONTRACTOR shall station such guards or flaggers and shall conform to such special safety regulations relating to traffic control as may be required by the public authorities within their respective jurisdictions.
 - 4. Signs, signals, and barricades shall conform to the requirements of Subpart G, Part 1926, of the OSHA Safety and Health Standards for Construction.
 - 5. The CONTRACTOR shall remove traffic control devices when no longer needed, repair damage caused by installation of the devices, and shall remove post settings and backfill the resulting holes to match grade.

ACCESS TO SITE

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1.3 PARKING

A. The CONTRACTOR shall:

1. The CONTRACTOR shall direct its employees to park in areas indicated by the OWNER.
2. Traffic and parking areas shall be maintained in a sound condition, free of excavated material, construction equipment, mud, and construction materials. The CONTRACTOR shall repair breaks, potholes, low areas which collect standing water, and other deficiencies.
3. CONTRACTOR shall be responsible for providing, maintaining and securing gates used for construction purposes for the duration of the WORK.
4. Maintain program throughout construction period.

1.4 ENTRY CONTROL

A. The CONTRACTOR shall:

1. Restrict entry of persons and vehicles into Site and existing facilities.
2. Allow entry only to authorized persons with proper identification.
3. Maintain log of workmen and visitors and make log available to OWNER on request.
4. Coordinate access of OWNER'S personnel to Site in coordination with OWNER'S security forces.

1.5 RESTRICTIONS

- #### A. The CONTRACTOR shall not allow cameras on site or photographs taken except by written approval of OWNER.

PART 2 -- PRODUCTS (RESERVED).

PART 3 -- EXECUTION (RESERVED).

END OF SECTION

SECTION 01 20 00

PRICE AND PAYMENT PROCEDURES

PART 1 -- GENERAL

1.1 THE SUMMARY

- A. Submit Applications for Payment to the OWNER in accordance with the schedule established by the General Conditions of the Contract Documents.
- B. The Contract Price is to include costs for:
 - 1. All home office overhead costs and expenses, including profit made directly or indirectly for the Project;
 - 2. Project management, contract administration, field office and field operations staff, including supervision, clerical support, and technology system support;
 - 3. Professional services including design fees, legal fees, and other professional services;
 - 4. Bonds and insurance;
 - 5. Permits, licenses, patent fees, and royalties;
 - 6. Taxes;
 - 7. Providing all documentation and submittals required by the Contract Documents;
 - 8. Facilities and equipment at the Site including:
 - a. Storage facilities for CONTRACTOR's use, storage facilities for stored materials and equipment, including spare parts storage,
 - b. Shops, physical plant, construction equipment, small tools, vehicles, technology, and telecommunications equipment,
 - c. Safety equipment and facilities to provide safe access and working conditions for workers and for others working at the Site,
 - d. Temporary facilities for power and communications,
 - e. Potable water and sanitation facilities, and
 - f. Mobilization and demobilization for all of these facilities and equipment;
 - 9. Products, materials, and equipment stored at the Site or other suitable location;
 - 10. Products, materials, and equipment permanently incorporated into the Project;

11. Temporary facilities for managing water, including facilities for pumping, storage, and treatment as required for construction and protection of the environment;
 12. Temporary facilities for managing environmental conditions and Constituents of Concern;
 13. Temporary facilities such as storage facilities, working areas, and other facilities required for construction of the Project;
 14. Temporary and permanent facilities for protection of all overhead, surface, or underground structures or features;
 15. Temporary and permanent facilities for removal, relocation, or replacement of any overhead, surface, or underground structures or features;
 16. Products, materials, and equipment consumed during the construction of the Project;
 17. CONTRACTOR labor and supervision to complete the Project, including that provided through Subcontractors or Suppliers;
 18. Correcting Defective Work during the Contract Times, during the Correction Period, or as required to meet any warranty provision of the Contract Documents;
 19. Risk associated with weather and environmental conditions, startup, and initial operation of facilities including equipment, processes, and systems;
 20. Maintenance of facilities, including equipment, processes, and systems until operation is transferred to OWNER;
 21. Providing warranties, extended or special warranties, or extended service agreements;
 22. Cleanup and disposal of any and all surplus materials; and
 23. Demobilization of all physical, temporary facilities not incorporated into the Project.
- C. Include the cost not specifically set forth as an individual payment item but required to provide a complete and functional system in the Contract Price.
- D. Submit Payment Application for completed WORK and for materials and equipment in accordance with the Contract Documents.
- E. Related Sections:
1. Contract between the OWNER and the CONTRACTOR.
 2. General Conditions of the Contract Documents.
 3. Section 01 26 63 – Change Orders

- 4. Section 01 29 00 – Measurement and Payment
- 5. Section 01 32 16 – Construction Progress Schedule
- 1.2 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS
 - A. Section 01 29 73 – Schedule of Values
 - B. Section 01 77 00 – Closeout Procedures
- 1.3 FORMAT AND DATA REQUIRED
 - A. Submit applications on the form required by and provided by the OWNER, with itemized data typed on 8-1/2 inch X 11-inch white paper continuation sheets, and Excel computer file.
 - B. Provide itemized data on continuation sheets:
 - 1. Format, schedules, line items and values: Those of the Schedule of Values accepted by the OWNER, Section 01 29 73 – Schedule of Values.
- 1.4 CONTRACTOR SUBMITTALS
 - A. Submit a schedule of the anticipated Payment Applications showing the application numbers, submission dates, and the anticipated amount to be requested.
 - 1. Prepare and submit on a form approved by the ENGINEER a detailed estimate and invoice on or before the tenth (10th) day of every month, except as provided for in the Special Conditions.
 - B. Update the schedule of anticipated payments as necessary to provide a reasonably accurate indication of the funds required to make payments each month to the CONTRACTOR for WORK performed.
- 1.5 PROCEDURES FOR SUBMITTING A PAYMENT APPLICATION
 - A. Submit a draft Payment Application to the ENGINEER at the end of the payment period as established in the Contract. Review the draft Payment Application with the ENGINEER to determine concurrence with:
 - 1. The earned value for each lump sum item including the value of properly stored and documented materials and equipment for each item in the original Contract;
 - 2. The quantity of WORK completed for each unit price item;
 - 3. Values requested for materials and equipment consistent with invoices for materials and equipment; and
 - B. Submit Payment Applications as a Working File. Do not leave any cells empty or incomplete. If information is not applicable, enter NA in the space provided.

1. Number each application sequentially and include the dates for the application period.
2. Show the total amounts for Earned Value of Original Contract Performed, Earned Value for Work on Approved Contract Modifications, and Net Set-offs. Show total amounts that correspond to totals indicated on the attached tabulation for each.

Execute the Certification with the signature of a responsible officer of the CONTRACTOR's firm. The Certification shall state that "all WORK, including materials, covered by this Application for Payment has been completed or delivered and stored in accordance with the Contract Documents, that all amounts have been paid for Work, materials, and equipment for which previous payment has been made by the OWNER, and that the current payment amount shown in this Payment Application is now due."

1.6 SUBSTANTIATING DATA FOR PROGRESS PAYMENTS

- A. The CONTRACTOR shall submit suitable information, with a cover letter identifying:
 1. Project Name.
 2. Application number, date and period of coverage.
 3. Detailed list of enclosures.
 4. For stored products:
 - a. Item number and identification as shown on the application.
 - b. Description of specific material.
 5. Submit updated Construction Schedule.
 6. Provide record drawings for piping installation within the payment period.

- B. Submit one (1) copy of data with each original application.

1.7 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.
- C. Prepare and provide a Final Payment Application to the ENGINEER within twenty (20) business days after the date of Final Completion when the WORK has been fully completed, including all punch list items as provided for in the Special Conditions
- D. Final payment requires additional procedures and documentation per Section 01 77 00 - Closeout Procedures.

E. The final Payment Application is to incorporate adjustments to the Contract Price including those for:

1. Adjustments of estimated quantities to actual quantities;
2. Approved Change Orders;
3. Allowances not previously adjusted by Change Order;
4. Deductions for Defective Work that has been accepted by the OWNER;
5. Penalties and bonuses;
6. Deductions for liquidated damages;
7. Deduction for all final Set-offs; and
8. Other adjustments if needed.

1.8 SUBMITTAL PROCEDURE

- A. Submit Applications for Payment to the OWNER at the times stipulated.
- B. Submit not less than three (3) originals of each Application.
- C. When the OWNER finds the Application to be properly completed and correct, it will be processed for payment.

PART 2 – PRODUCTS (RESERVED).

PART 3 – EXECUTION (RESERVED).

END OF SECTION

SECTION 01 21 13

ALLOWANCES

PART 1 - GENERAL

1.1 SUMMARY

- A. To provide an adequate budget to cover items not precisely determined before bidding, allow within the proposed Contract Price amounts described in this Section. Appropriate items include, but are not limited to, gas main relocation, sewer lateral relocation, or other unforeseen utilities work.
- B. Related work:
 - 1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 01 - General Requirements of these Specifications.
- C. References – (Reserved).

1.2 SUBMITTALS

- A. Shop Drawing Submittals – (Reserved).
- B. Operation and Maintenance Manuals – (Reserved).
- C. Certificates and Guarantees – (Reserved).
- D. Spare Parts – (Reserved).

1.3 QUALITY ASSURANCE – (Reserved).

1.4 DELIVERY, STORAGE, AND HANDLING – (Reserved).

1.5 SITE CONDITIONS – (Reserved).

1.6 MAINTENANCE – (Reserved).

1.7 PERMIT ALLOWANCE

- A. An allowance of \$8,000.00 shall be provided for permitting with Palm Beach County. The Contractor shall be reimbursed for actual permitting fees incurred during the project.

CASH ALLOWANCES
01 21 13-1 (2401618.00)

1.8 CONTINGENT ALLOWANCE

- A. From time to time it will be necessary to add unforeseen additional work to the Project. The intent of the Contingent Cash Allowance is to provide a means to fund reasonable charges and additions to the Project. The value of any work covered by the Contingent Cash Allowance(s) will be determined in accordance with the General Conditions and Supplementary Conditions. Allowance shall include additions submittals required.
- B. Do not include any overhead and profit amount in the Project base bid for the Contingent Cash Allowance. Include the appropriate overhead and profit in each item funded from the Contingent Cash Allowance.
 - 1. Include in the Lump Sum price a Contingent Cash Allowance as described in the Measurement and Payments section.

END OF SECTION

SECTION 01 11 00

PRODUCT SUBSTITUTION PROCEDURES

PART 1 -- GENERAL

1.1 THE SUMMARY

A. Section Includes:

1. Furnish and install products specified, under options and conditions for substitutions stated in this Section.

B. Related sections:

1. Section 01 60 00 – Product Requirements
2. Section 01 77 00 – Closeout Procedures

1.2 CONTRACTOR SUBMITTALS

A. Products List:

1. Within thirty days after Award of the Contract, submit to the ENGINEER five copies of a complete list of major products proposed for installation.
2. Tabulate products by Specification Section Number and Title.
3. For products specified only by reference standards, list the following information for each such product:
 - a. Name and address of manufacturer.
 - b. Trade name.
 - c. Model or catalog designation.
 - d. Manufacturer's data including reference standards and performance test data.

B. CONTRACTOR's Options

1. For products specified only by reference standard, select products meeting that standard, by any manufacturer.
2. For products specified by naming several products or manufacturer's, select any one of those products and manufacturers named which comply with the Specifications.
3. 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.

4. For those specified by naming only one product and manufacturer, there is no option and no substitution will be allowed.

1.3 SUBSTITUTIONS

- A. Within a period of thirty days after Award of the Contract, the ENGINEER will consider formal requests from the CONTRACTOR for substitutions of products in place of those specified. The burden of proof as to the type, function, and quality of any such substitution product, material or equipment shall be on the CONTRACTOR.
 1. After the end of the thirty day period, requests will be considered only in case of product unavailability or other conditions beyond the control of the CONTRACTOR.
- B. Submit a separate request for each substitution. Support each request with the following:
 1. Complete data substantiating compliance of the proposed substitution with the requirements stated in the Contract Documents:
 - a. Product identification, including manufacturer's name and address.
 - b. Manufacturer's literature identifying:
 - 1) Product description.
 - 2) Reference standards.
 - 3) Performance and test data.
 - c. Samples, as applicable.
 - d. Name and address of a minimum of 5 similar projects on which the product has been used, the date of each installation, and contact information for a reference for those projects.
 2. An itemized comparison of the proposed substitution with the product specified, listing all variations.
 3. Data relating to changes in the construction schedule.
 4. Any effect of the substitution on separate contracts.
 5. List of changes, if any, required in other work or products.
 6. Accurate cost data comparing proposed substitutions with the product specified.
 7. Designation of required license fees or royalties.
 8. Availability of maintenance services and sources of replacement materials.

- C. 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 the CONTRACTOR.
 2. They are requested directly by a subcontractor or a supplier.
 3. Acceptance will require substantial revisions to the Contract Documents.
 4. There is added cost deemed unwarranted by the OWNER.
 5. The substitution results in a time delay.
- D. The ENGINEER shall evaluate each proposed substitution within a reasonable period of time.
- E. The ENGINEER will record the time required by the ENGINEER in evaluating substitutions proposed by the CONTRACTOR and in making changes by the CONTRACTOR in the Contract Documents subject to the substitution.
- F. Substitute products shall not be ordered or installed without written acceptance of the ENGINEER.
- G. The ENGINEER will be the sole judge as to the type, function, and quality of any such substitution and the ENGINEER's decision shall be final.
- H. The ENGINEER may require the CONTRACTOR to furnish additional data about the proposed substitution.
- I. The OWNER may require the CONTRACTOR to furnish a special performance guarantee or other surety with respect to any substitution.
- J. Acceptance by the ENGINEER of a substitution item proposed by the CONTRACTOR shall not relieve the CONTRACTOR of the responsibility for full compliance with the Contract Documents and for adequacy of substitution.
- K. Without any increase in cost to the OWNER, the CONTRACTOR shall be responsible for and pay all costs in connection with proposed substitutions and of inspections and testing of equipment or materials submitted for review prior to the CONTRACTOR's purchase thereof for incorporation in the WORK, whether or not the ENGINEER accepts the proposed substitution or proposed equipment, or material. The CONTRACTOR shall reimburse the OWNER for the charges of the ENGINEER for evaluating each proposed substitution.
- L. The CONTRACTOR shall pay all costs of implementing accepted substitutions, including redesign and changes to WORK necessary to accommodate the substitution.

1.4 QUALITY ASSURANCE

A. Certifications

1. In making formal requests for substitutions, the CONTRACTOR certifies that:
 - a. CONTRACTOR has investigated the proposed product and has determined that it is equal to or superior in all respects to that specified.
 - b. CONTRACTOR will provide, at a minimum, the same warranties or bonds for substitute products as for the product specified unless otherwise required by paragraph 1.3.I of this specification section.
 - c. CONTRACTOR will coordinate installation of accepted substitutions into the WORK, and will make such changes required for the WORK to be complete in all respects.
 - d. CONTRACTOR waives claims for additional costs caused by substitutions which may subsequently become apparent.
 - e. Cost data is complete and includes related costs under this Contract, but not the following:
 - 1) Costs under separate contracts.
 - 2) The ENGINEER's costs of redesign or revision of the Contract Documents.

PART 2 -- PRODUCTS (RESERVED).

PART 3 -- EXECUTION (RESERVED).

END OF SECTION

SECTION 01 26 63

CHANGE ORDERS

PART 1 -- GENERAL

1.1 THE SUMMARY

- A. Promptly implement Change Order procedure.
 - 1. Provide full written data required to evaluate changes.
 - 2. Maintain detailed records of Work done on a time and materials/force account basis.
 - 3. Provide full documentation to the ENGINEER on request.
- B. Designate in writing the member of the CONTRACTOR's organization:
 - 1. Authorized to accept changes in the Work.
 - 2. Responsible for informing others in the CONTRACTOR's employ of the authorization of changes in the Work.
- C. The OWNER will designate in writing the person authorized to execute Change Orders.
- D. Related Sections:
 - 1. Agreement of the Contract Documents
 - 2. General Conditions of the Contract Documents
 - 3. Supplementary Conditions of the Contract Documents
 - 4. Section 01 20 00 – Price and Payment Procedures
 - 5. Section 01 29 00 – Measurement and Payment
 - 6. Section 01 32 16 – Construction Progress Schedule
 - 7. Section 01 77 00 – Closeout Procedures

1.2 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS

- A. Section 01 33 00 – Submittal Procedures

1.3 DEFINITIONS

- A. Change Order: See Article 1 of the Contract Documents.

- B. 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. See the General Conditions and the Supplementary Conditions of the Contract Documents.
- C. Work Directive Change: See the General Conditions and the Supplementary Conditions of the Contract Documents.
- D. Construction Change Authorization: A written order to the CONTRACTOR, signed by the OWNER and the ENGINEER (if applicable), which amends the Contract Documents as described, and authorizes the CONTRACTOR to proceed with a change which affects the Contract Sum and/or the Contract Time, for inclusion in a subsequent Change Order.

1.4 PRELIMINARY PROCEDURES

- A. The OWNER or the ENGINEER (if applicable) may initiate changes by submitting a written Proposal Request to the CONTRACTOR. Such requests will include the following:
 - 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. The CONTRACTOR may initiate changes by submitting a written notice to the OWNER and the ENGINEER (if applicable) containing the following:
 - 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 of the Work on other prime CONTRACTORS.
 - 5. Documentation supporting any change in Contract Sum or Contract Time, as appropriate.

1.5 CONSTRUCTION CHANGE AUTHORIZATIONS AND WORK DIRECTIVES

- A. In lieu of a Proposal Request, the OWNER or the ENGINEER (if applicable) may issue a construction change authorization or a Work Directive for the CONTRACTOR to proceed with a change for subsequent inclusion in the next Change Order.
- B. The Authorization or Directive 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 the Contract Time.
- C. The OWNER and the ENGINEER (if applicable) will sign and date the Construction Change Authorization or Work Directive as authorization for the CONTRACTOR to proceed with the changes.
- D. The CONTRACTOR shall sign and date the Construction Change Authorization or Work Directive to indicate agreement with the terms therein.

1.6 DOCUMENTATION OF PROPOSALS AND CLAIMS

- A. Support each quotation for a lump-sum proposal, and for each unit price which has not previously been established, with sufficient substantiating data to allow the OWNER and the ENGINEER to evaluate the quotation.
- B. On request , provide additional data to support time and cost computations for:
 - 1. Labor required.
 - 2. Equipment required.
 - 3. List of materials and equipment to be installed.
 - 4. Products required:
 - a. Recommended sources of purchase and unit costs.
 - b. Quantities required.
 - 5. Taxes, insurance and bonds.
 - 6. Credit for Work deleted from the Contract, similarly documented.
 - 7. Overhead and Profit.
 - 8. Justification for any change in Contract Time.
 - 9. Consumable supplies, fuels, and materials.
 - 10. Subcontractors or Supplier Costs.

11. Royalties and patent fees.

12. Field office costs; and

13. Other items of cost.

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 as follows:

1. Name of OWNER's authorized agent who ordered the Work.

2. The date of the order.

3. Dates and times Work was performed and by whom.

4. Time records, summary of hours worked, and hourly rates paid.

5. Receipts and invoices for:

a. Equipment used, listing dates and times of use.

b. Products used, listing quantities.

c. Subcontractors.

1.7 PREPARATION OF CHANGE ORDERS

A. The OWNER or the ENGINEER (if applicable) will prepare each Change Order on the OWNER's standard form.

B. The Change Order will describe changes in the Work, both additions and deletions, with attachments of revised Contract Documents to define details of the changes.

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

1.8 LUMP-SUM/FIXED PRICE CHANGE ORDER

A. Content of Change Orders will be based on either:

1. The Proposal Request and the CONTRACTOR's responsive Proposal as mutually agreed between the OWNER and the CONTRACTOR.

2. The CONTRACTOR's Proposal for a change, as recommended by the ENGINEER.

B. The OWNER and the ENGINEER (if applicable) will sign and date the Change Order as authorization for the CONTRACTOR to proceed with the changes.

- C. The CONTRACTOR shall sign and date the Change Order to indicate agreement with all of the terms therein.

1.9 UNIT PRICE CHANGE ORDER

- A. The content of Change Orders will be based on either:
 - 1. The OWNER's and/or the ENGINEER's definition of the scope of the required changes.
 - 2. The CONTRACTOR's Proposal for a change, as recommended by the ENGINEER.
 - 3. Survey of completed Work.
- B. The amounts of the unit prices to be:
 - 1. Those stated in the Agreement of the Contract Documents.
 - 2. Those mutually agreed upon between the OWNER and the CONTRACTOR.
- C. When quantities of each of the items affected by the Change Order can be determined prior to the start of the Work:
 - 1. The CONTRACTOR will sign and date the Change Order to indicate agreement with the terms therein.
 - 2. The OWNER and the ENGINEER (if applicable) will sign and date the Change Order as authorization for the CONTRACTOR to proceed with the changes.
- D. When quantities of the items cannot be determined prior to the start of the Work:
 - 1. The ENGINEER (if applicable) or the OWNER will issue a Construction Change Authorization directing the 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, the OWNER or the ENGINEER (if applicable) will determine the cost of such Work based on the unit prices and quantities used.
 - a. The CONTRACTOR shall submit documentation to establish the number of units of each item and any claims for a change in Contract Sum and/or Contract Time.
 - 3. The ENGINEER (if applicable) will sign and date the Change Order to establish the change in Contract Sum and/or Contract Time.
 - 4. The OWNER and the 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. The ENGINEER (if applicable) or the OWNER will issue a Construction Change Authorization directing the CONTRACTOR to proceed with the changes.
- B. At completion of the change, the CONTRACTOR shall submit itemized accounting and supporting data as provided in the Article "Documentation of Proposals and Claims" of this Section.
- C. The OWNER or the ENGINEER (if applicable) will determine the allowable costs of such Work, as provided in the General Conditions and the Supplementary Conditions of the Contract Documents.
- D. The ENGINEER (if applicable) will sign and date the Change Order to establish the change in Contract Sum and/or Contract Time.
- E. The OWNER and the CONTRACTOR will sign and date the Change Order to indicate their agreement therewith.

1.11 CORRELATION WITH CONTRACTOR'S SUBMITTALS

- A. Periodically revise the Schedule of Values and Application for Payment forms to record each change as a separate item of Work, and to record the adjusted Contract Sum.
- B. Periodically revise the Construction Schedule to reflect each change in Contract Time:
 - 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.

1.12 OWNER WILL EVALUATE THE REQUEST FOR A MODIFICATION

- A. OWNER will issue a Modification per the General Conditions if the Change Proposal is acceptable. OWNER will issue a Change Order or Contract Amendment for any changes in Contract Price or Contract Times.
 - 1. Change Orders and Contract Amendments will be sent to the CONTRACTOR for execution with a copy to the OWNER recommending approval. A Work Change Directive may be issued if Work needs to progress before the Change Order or Contract Amendment can be authorized by the OWNER.
 - 2. Work Change Directives, Change Orders and Contract Amendments can only be approved by the OWNER.
 - a. Work performed on the Change Proposal prior to receiving a Work Change Directive or approval of the Change Order or Contract Amendment is performed at the CONTRACTOR's risk.

- b. No payment will be made for Work on Change Orders or Contract Amendments until approved by the OWNER.
 - c. No payment can be made on Work authorized by a Work Change Directive until the Work Change Directive is incorporated into a Change Order or Contract Amendment approved by the OWNER.
- B. The CONTRACTOR may be informed that the Request for a Change Proposal is not approved and construction is to proceed in accordance with the Contract Documents.

PART 2 – PRODUCTS (RESERVED).

PART 3 – EXECUTION (RESERVED).

END OF SECTION

SECTION SPEC 01 29 00

MEASUREMENT AND PAYMENT

PART 1 -- GENERAL

- A. Payment for the various items of the Bid Schedule, as further specified herein, shall include all compensation to be received by the CONTRACTOR for furnishing all tools, equipment, supplies, and manufactured articles, and for all labor, operations, and incidentals appurtenant to the items of work being described, as necessary to complete the various items of the WORK all in accordance with the requirements of the Contract Documents, including all appurtenances thereto, and including all costs of permits and cost of compliance with the regulations of public agencies having jurisdiction, including Safety and Health Requirements of the Occupational Safety and Health Administration of the U.S. Department of Labor (OSHA). No separate payment will be made for any item that is not specifically set forth in the Bid Schedule, and all costs therefore shall be included in the prices named in the Bid Schedule for the various appurtenant items of work.
- B. Related sections:
 - 1. Section 01 29 73 – Schedule of Values

1.2 LUMP SUM PAYMENT ITEMS

- A. Measurement for progress payments of lump sum items will be made on the basis of the earned value for each item shown as a percentage of the cost for the lump sum item as listed in the Schedule of Values. The CONTRACTOR shall submit a schedule of values to the ENGINEER for approval in accordance with Section 01 29 73 – Schedule of Values.
- B. Payment will be made at the lump sum price as named in the Bid Schedule which price shall constitute full compensation for the complete and proper construction of the Work as shown on the Contract Drawings and specified herein. Payment at Final Completion will be equal to the total lump sum amount for that item.

1.3 UNIT PRICE PAYMENT ITEMS

- A. Measurement for progress payments will be as indicated for each unit price item as listed in the Bid Schedule.

PART 2 -- BID ITEMS

2.1 MOBILIZATION, INSURANCE AND BONDS (BID ITEM NO. 1)

- A. Consists of the preparatory work and operations in mobilizing/demobilizing for beginning Work on the Project, including, but not limited to, those operations necessary for the movement of personnel, equipment, materials, supplies and incidentals to the Project site, coordination with contractors and sub-contractors, and for the establishment of temporary offices, buildings, safety equipment and first aid supplies, sanitary and other facilities, as required by these Specifications, and State and local laws and regulations. The costs of bonds, insurance and any other pre-construction expense necessary for the start of the Work, excluding the cost of construction materials, is to be included in the lump sum bid item for Mobilization.
- B. Mobilization may not exceed eight (8) percent of the total Contract Price.
- C. Payment for Mobilization, Bonds, Insurance in the Schedule of Values shall be in accordance with the following schedule:

Percentage of Original Contract Amount <u>Completed</u>	Allowable Percentage of the Lump Sum Price for <u>Mobilization</u>
5	25
10	50
25	75
50	100

2.2 AS-BUILT RECORD DRAWINGS (BID ITEM NO. 2)

- A. Payment for this item will be made at the Contract Lump Sum bid price for this item. One set of full size design drawings and an electronic AutoCAD Civil 3D 2022 file of the design drawings will be furnished to the CONTRACTOR by the ENGINEER. The CONTRACTOR shall maintain full size (22" x 34") field drawings to reflect the "as-built" items of work as the work progresses.
- B. The signed and sealed As-Built Record Drawings prepared by professional surveyor are required to be submitted prior to requesting final payment. Partial payment will be made for this item based upon the percentage of work completed. All survey work shall be performed by an independent third party surveyor, licensed to practice in the State of Florida. The surveyor shall be retained by the CONTRACTOR and approved by the ENGINEER.
- C. The CONTRACTOR shall provide complete record drawing information to the Engineer. This information shall include horizontal and vertical dimensions of all structures, north & east coordinates, lateral stationing, slopes, lines, clean-outs, and materials. Discovered utilities or utilities to be found in different locations shall also be shown on record drawings. The AutoCAD file shall be established in State Plane Coordinate System, NAD 83, Florida East Zone.

The vertical data referenced shall be NGVD 29. All EMS marker locations shall be shown on record drawings and in accordance with ENGINEER's directions. No payment will be made for final "as-built" record drawings until both the reproducible and electronic files are received and accepted by the District.

- D. Refer to Section 01 77 00 – Closeout Procedures.
- E. Special Conditions Section 9.43D Project Closeout.

2.3 PROFESSIONAL AUDIO/VIDEO OF CONSTRUCTION SITE (BID ITEM NO. 3)

- A. Payment for this item will be made at the Contract Lump Sum (LS) bid price.
- B. The CONTRACTOR shall provide, before the start of construction, a video record of the entire project by a professional audio-video taping service acceptable to the District. Document the existing site conditions before the CONTRACTOR mobilizing to the project site and include all roadways, CONTRACTOR's staging area, the Vacuum Truck Dump Pit Area, Metal Shed, Lift Station, concrete walls, bollards, surrounding buildings, and landscaping area in the audio-video recording. Provide two (2) copies of the video to the OWNER by USB flash drive for use before construction activities.
- C. Refer to Section 01 32 36 - Video Monitoring And Documentation.

2.4 NPDES PERMIT/EROSION PROTECTION MEASURES (BID ITEM NO. 4)

- A. Payment for this item will be made at the Contract Lump Sum (LS) bid price. The percent completion of the bid item shall be based on the percent of the total project constructed and not on the percent of the contract price completed.
- B. The contractor's unit price shall include payment for contractor required NPDES permit application (notice of intent and notice of termination), reporting and associated erosion protection measures including turbidity abatement for dewatering procedures.
- C. The contractor's unit price shall also include compensation for required labor, materials, and equipment necessary for obtaining and complying with the NPDES permit and providing erosion protection measures during construction activities in accordance with the contract documents.
- D. This item includes NPDES inspections and reporting per the permit conditions and all erosion protection including protection of existing drainage inlets.

2.5 DEWATERING (BID ITEM NO. 5)

- A. Payment for this item will be made at the Contract Lump Sum (LS) unit price bid basis for this item. The percent completion of the project shall be based on the percent of the total project constructed and not on the percent of the Contract price completed.
- B. The Contract Unit Price shall include full compensation for labor, material, equipment, and cleanup necessary for providing dewatering and disposal operation for the construction of the proposed improvements. This item includes, well points, settling basin, piping, Silent Knight Pumps or equivalent, pump noise mitigation and all other required dewatering

appurtenances. Dewatering pumps shall have mitigation measures to reduce the noise level to less than 60 dBA measured at the base of residential structures.

- C. Discharge water exiting the Contractor's dewatering system shall not exceed background turbidity of the receiving water body. Discharge shall comply, at a minimum, 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 compliant with all applicable regulations. Contractor shall implement best management practices (BMPs) and install pollution control devices including but not limited to settling tanks, silt barriers, and hay bales as needed to comply with discharge water quality requirements.
- D. If the Contractor uses any existing drainage system for dewatering activities then the Contractor will be required to desilt the existing drainage system prior to project completion. Include this desilting work under this bid item.

2.6 DEMOLITION (BID ITEM NO. 6)

- A. Payment for this item will be made at the Contract Lump Sum (LS) bid price, named in the Bid Schedule under Item No. 6, which shall include all labor, material, equipment, disposal, and cleanup necessary for demolition, removal and abandonment as described in the Contract Drawings. Payment shall be based on the percentage of completion of the associated demolition, removal, and abandonment.
- B. Demolition includes but is not limited to the following:
 - 1. Removal of the existing grease interceptor and necessary piping. This includes the temporary relocation of the existing electrical control panel while removing the existing grease trap.
 - 2. Sawcutting and removal of the interior concrete wall.
 - 3. Sawcutting and removal of the concrete slab required for installation of the proposed trench drain and piping. Including breaking out and removal of concrete for installation of trench frame and cover in the existing trench drain along the north dump pit wall.
- C. Refer to Section 02 41 53 – Demolition, Removal, and Abandonment.

2.7 GREASE TRAP INSTALLATION AND PLUMBING (BID ITEM NO. 7)

- A. Payment for this item will be made at the Contract Lump Sum (LS) bid price, which shall include all labor, material, equipment, disposal, and cleanup necessary for the following work:
 - 1. Installation includes all structures, piping, fittings, cleanouts, and connections to the existing structures.
 - 2. This item includes the coring and concrete repair required to install the proposed pipe and remove the existing 10" PVC influent pipe at the lift station.
 - 3. Site restoration is included in this item. All the surrounding areas shall be returned to their original conditions. Grades shall be smooth, and transitions to Concrete shall be level.

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01 29 00-4 (2401618.00)

4. This item includes the repair and patching of the existing 10" PVC influent pipe hole at the east side of the wet well.
5. This item includes removal and reinstallation of the aeration unit at the lift station slab.
6. This bid item includes all sheeting and shoring required for the demolition and installation of the proposed work.

2.8 EXCAVATION, SHEETING, AND SHORING (BID ITEM NO. 8)

- A. Payment for this item will be made at the Contract Lump Sum (LS) bid price, which shall include all labor, material, equipment, disposal, and cleanup necessary for the following work:
 1. Sheeting and shoring are required to excavate and install the proposed structure.
 2. Support and restrain the existing wet well structure and dump pit walls.
 3. Support and restrain the existing reclaim main adjacent to the proposed structure. All joints within the excavation must be confirmed restrained. All joints and piping shall be supported during excavation. The Contractor should estimate that (6) 16-inch joints must be restrained.

2.9 BYPASS PUMPING (BID ITEM NO. 9)

- A. Payment for this item will be made at the Contract Lump Sum (LS) bid price, which shall include all labor, material, equipment, disposal, and cleanup necessary for the following work:
 1. During the installation of the grease interceptor and piping, provide a bypass from the vacuum dump pit trench drain to the lift station. This includes temporary plugs, piping, pumps, controls, and operation of the bypass. Bypassing is only required if the vacuum dump pit and lift station piping are out of operation for longer than 2 days. The duration of the bypassing is dependent upon the Contractor's means and methods of installing the interceptor and piping.
 2. Payment shall be based on the percentage of completed work.

2.10 CONCRETE AND TRENCH DRAIN IMPROVEMENTS (BID ITEM NO. 10)

- A. Payment for this item will be made at the Contract Lump Sum (LS) bid price, which shall include all labor, material, equipment, disposal, and cleanup necessary for the following work:
 1. Relocation of the prefabricated metal shed as shown on the contract drawings. Relocation shall include any required disassembly and reassembly. It shall also include anchoring of the metal shed to the new slab.
 2. Reinforced concrete slabs for the prefabricated metal shed, dumpster area, and lift station. This includes the concrete mountable curb.
 3. Reinforced concrete wall extension for the dumpster area.
 4. Installation of the concrete trench drain with trench frame and cover. This includes trench drain frame and cover replacement along the north dump pit wall.
 5. Polyurethane grout injection and hydraulic repair mortar application along the entire joint of the existing dump pit ramp between the floor slab and walls, and 2 feet up vertical construction joints in the corners.

6. Installation of the 6" PVC pipe from the north end of the proposed trench drain to the existing trench drain in the dump pit, including patching of the existing concrete ramp.

B. Refer to Sections:

1. Section 03 01 30 – Maintenance of Cast-In-Place Concrete.
2. Section 03 30 00 – Cast-In-Place Concrete
3. Section 05 50 00 – Metal Fabrications

PART 3 -- PRODUCTS (RESERVED).

PART 4 -- EXECUTION (RESERVED).

END OF SECTION

SECTION 01 29 73
SCHEDULE OF VALUES

PART 1 -- GENERAL

1.1 THE SUMMARY

- A. This Section defines the process whereby the Schedule of Values (lump sum price breakdown) shall be developed and incorporated into the cost loading function of the CPM Schedule in accordance with the requirements of Section 01 32 16 – Construction Progress Schedule.
- B. Upon request of the ENGINEER, the CONTRACTOR shall support the Schedule of Values with data that shall substantiate their correctness.
- C. The Schedule of Values, unless objected to by the ENGINEER, may be used for the lump sum portions of the Work as the basis for Payment Applications.
- D. Monthly progress payment amounts will be determined from the monthly progress updates of the CPM Schedule activities.
- E. Develop the Schedule of Values independent of but simultaneous with the development of the CPM Schedule activities and logic.

1.2 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS

- A. Section 01 11 00 – Summary of Work
- B. Section 01 32 16 – Construction Progress Schedule

1.3 FORM AND CONTENT OF SCHEDULE OF VALUES

- A. The CONTRACTOR shall type Schedule of Values on 11" x 17" white paper. The CONTRACTOR's standard forms and automated printout shall be considered for approval by the ENGINEER upon the CONTRACTOR's request. The CONTRACTOR shall identify the Schedule of Values with:
 - 1. Title of Project and Location.
 - 2. ENGINEER and OWNER's Project numbers.
 - 3. Name and Address of Contractor.
 - 4. Date of Submission.
- B. Schedule of Values shall be produced in Excel and a copy of the file shall be submitted to the ENGINEER and OWNER.
- C. The Schedule of Values shall list the installed value of the components of the Work in sufficient detail to serve as a basis for computing values for partial payments during construction.

- D. The CONTRACTOR shall identify each line with the numbers and title of the respective major section of the Specifications.
- E. For each major line item, the CONTRACTOR shall list sub-values of major products or operations under the item.
- F. For the various portions of the Work:
 - 1. Each item shall include a directly proportional amount of the CONTRACTOR's overhead profit.
 - 2. For items on which partial payments will be requested for stored materials, the Schedule of Values shall conform to the requirements of the General Conditions of these Contract Documents.
- G. The sum of each item of the lump sum breakdown shall equal the lump sum in the Proposal. All lump sum values listed in the Schedule of Values plus the sum of the unit price shall equal the Total Contract Price.

1.4 PRELIMINARY SCHEDULE OF VALUES

- A. Submit a preliminary Schedule of Values for the major components of the WORK at the Preconstruction Conference in accordance with the requirements of Section 01 11 00 – Summary of Work.
- B. At a minimum, submit proposed values for the work as separated in the Measurements and Payments Section 01 29 00.
- C. Review and Revisions
 - 1. The CONTRACTOR and ENGINEER shall meet and jointly review the preliminary Schedule of Values and make any adjustments in value allocations if, in the opinion of the ENGINEER, these are necessary to establish fair and reasonable allocation of values for the major WORK components.
 - 2. Front-end loading will not be accepted.
 - 3. The ENGINEER may require reallocation of major WORK components from items in the above listing if in the opinion of the ENGINEER such reallocation is necessary.
 - 4. This review of the preliminary Schedule of Values and discussion of any necessary revisions shall be completed within 10 Days from the date of Notice to Proceed.

1.5 DETAILED SCHEDULE OF VALUES

- A. Prepare and submit a detailed Schedule of Values to the ENGINEER within 10 Days from the date of Notice to Proceed.
- B. Base the detailed Schedule of Values on the accepted preliminary Schedule of Values for major WORK components.

- C. Because the ultimate requirement is to develop a detailed Schedule of Values sufficient to determine appropriate monthly progress payment amounts through cost loading of the CPM Schedule activities, furnish a sufficiently detailed breakdown in order to meet this requirement.
- D. The ENGINEER will be the sole judge of acceptable numbers, details and description of values established.
- E. If, in the opinion of the ENGINEER, a greater number of Schedule of Values items than proposed is necessary, add the additional items so identified by the ENGINEER.
- F. Submit the minimum detail of breakdown of the major WORK components as follows; furnish greater detail if requested by the ENGINEER:
 - 1. Section 01 32 16 – Construction Progress Schedule: break down by submittal;
 - 2. At a minimum, submit proposed values for the work as separated in the Measurements and Payments Section 01 29 00.
- G. Adjustments and Acceptance
 - 1. The CONTRACTOR and ENGINEER shall meet and jointly review the detailed Schedule of Values within 10 Days from the date of Notice to Proceed, at which time the value allocations and extent of detail shall be reviewed in order to determine if necessary adjustments to the values are required, and to determine if sufficient detail has been proposed in order to allow acceptable cost loading of the CPM Schedule activities.
 - 2. Make necessary adjustments to the value allocation or level of detail, and submit a revised detailed Schedule of Values within 30 Days from the date of Notice to Proceed.
 - 3. Following acceptance of the detailed Schedule of Values, incorporate the values into the cost loading portion of the CPM Schedule.
 - 4. Concurrently develop the CPM activities and logic with the development of the detailed Schedule of Values; however, it shall be necessary to adjust the detailed Schedule of Values to correlate to individual Schedule activities.
 - 5. It is anticipated that instances will occur, due to the independent but simultaneous development of the Schedule of Values and the CPM Schedule activities, where interfacing these 2 documents will require changes to each document.
 - 6. Schedule activities may need to be added to accommodate the detail of the Schedule of Values, and Schedule of Value items may need to be added to accommodate the detail of the CPM Schedule activities.
 - 7. Where such instances arise, propose changes to the Schedule of Values and to the CPM Schedule activities in order to satisfy the CPM Schedule cost loading requirements.

1.6 CROSS-REFERENCE LISTING

- A. To assist in the correlation of the Schedule of Values and the CPM Schedule, provide a cross-reference listing to be furnished in 2 parts:
 - 1. In the first part, list each scheduled activity with the breakdown of the respective valued items making up the total cost of the activity; and,
 - 2. In the second part, list the valued item with the respective schedule activity or activities that make up the total indicated cost.
- B. In the case where a number of schedule items make up the total cost for a valued item (shown in the Schedule of Values), indicate the total cost for each Schedule of Value item.
- C. Update and submit these listings in conjunction with the CPM monthly submittals as indicated in Section 01 32 16 – Construction Progress Schedule.
- D. Incorporate approved Change Orders reflected in the CPM Schedule into the Schedule of Values as a single unit identified by the Change Order number.

1.7 CHANGES TO SCHEDULE OF VALUES

- A. Changes to the CPM Schedule which additional activities not included in the original schedule but included in the original WORK (schedule omissions) shall have values assigned as approved by the ENGINEER.
- B. Reduce other activity values in order to provide equal value adjustment increases for added activities, as approved by the ENGINEER.
- C. In the event that the CONTRACTOR and ENGINEER agree to make adjustments to the original Schedule of Values because of inequities discovered in the original accepted detailed Schedule of Values, increases and equal decreases to values for activities may be made.

1.8 LIQUIDATED DAMAGES

- A. Provisions for liquidated damages are set forth in Article 4.
- B. Contractor shall pay to the District as Liquidated Damages, and not as penalty, \$500 per day for each and every calendar day Substantial Completion is delayed.
- C. Contractor shall pay to the District as Liquidated Damages, and not as penalty, \$150 per day for each and every calendar day Final Completion is delayed.
- D. 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.

PART 2 – PRODUCTS (RESERVED).

PART 3 – EXECUTION (RESERVED).

END OF SECTION

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SECTION 01 31 13
PROJECT COORDINATION

PART 1 -- GENERAL

1.1 THE SUMMARY

A. The CONTRACTOR shall:

1. Coordinate the Work of its employees and all of its subcontractors.
2. Expedite its Work to assure compliance with approved construction schedules.
3. Coordinate its Work with the work of other Prime contractors and work by the OWNER.
4. Comply with the orders and instructions of the ENGINEER and/or the OWNER.

B. Related Sections:

1. Section 01 11 00 – Summary of Work
2. Section 01 57 00 – Temporary Controls
3. Section 01 77 00 – Closeout Procedures

1.2 REFERENCE SPECIFICATIONS, CODES AND STANDARDS

- A. Section 01 20 00 – Price and Payment Procedures
- B. Section 01 26 63 – Change Orders
- C. Section 01 32 16 – Construction Progress Schedule
- D. Section 01 33 00 – Submittal Procedures
- E. Section 01 35 13 – Special Project Procedures

1.3 CONSTRUCTION ORGANIZATION AND START-UP

A. The OWNER shall establish on-site lines of authority and communications:

1. Schedule and conduct pre-construction conference and progress meetings as outlined in Section 1.4 of this specification.
2. Establish procedures for intra-project communications:
 - a. Submittals.
 - b. Reports and records.

- c. Recommendations, Coordination of drawings, Schedules, Resolution of conflicts, Interpret Contract Documents.
 - d. Transmit written interpretations to the CONTRACTOR and to other concerned parties.
- 3. Control the use of the Site:
 - a. Allocate space for the CONTRACTOR's use for field offices, storage trailers, storage areas and the work.
- 4. Inspection and Testing:
 - a. Inspect Work to assure performance in accordance with requirements of the Contract Documents.
 - b. Administer special testing and inspections of suspect work.
 - c. Reject Work not in compliance with the requirements of the Contract Documents.
 - d. Coordinate testing laboratory services:
 - 1) Verify that required laboratory personnel are present.
 - 2) Verify that tests are made in accordance with specified standards.
 - 3) Review test reports for compliance with specified criteria.
 - 4) Recommend and administer any required re-testing.

1.4 PROJECT MEETINGS

A. Preconstruction Conference:

- 1. Attend Preconstruction Conference to cover the following topics;
 - a. Contract Administration,
 - b. Design concepts and concerns, review of Shop Drawings and commissioning,
 - c. Environmental, landowners, permits and utilities,
 - d. Fair Opportunities in Purchasing and Construction administration and support, and
 - e. Site Safety.
- 2. The location of the workshops will be determined by OWNER, but typically will be at the offices of the OWNER.

3. The Preconstruction Conference will be scheduled by the ENGINEER no later than ten (10) calendar days after the execution of the Contract and prior to the start of construction.
4. CONTRACTOR is required to attend the Preconstruction Conference.
 - a. Participants for the conference may vary but should include the CONTRACTOR's project manager and superintendent, representatives from major Subcontractors and Suppliers as applicable.
5. Provide and be prepared to discuss the following at the conference:
 - a. CONTRACTOR's organizational chart and key personnel as it relates to this Project. Key personnel for this section is defined as Project Executive, Project Manager, and Superintendent;
 - b. List of Subcontractors and Suppliers;
 - c. CONTRACTOR's safety program, including the designated safety representative, requirement for personal protective equipment and safety protocols;
 - d. A 60-Day plan of operation and a project overview bar chart in accordance with Section 01 32 16 – Construction Progress Schedule;
 - e. Status of building permits and crossing permits and a list of permits and licenses the CONTRACTOR shall obtain, indicating the agency required to grant the permit, the expected date of submittal for the permit, and required date for receipt of the permit;
 - f. Requirements for surveying or establishing controls;
 - g. Status of Storm Water Pollution Prevention Plans;
 - h. Preliminary submittal schedule per Section 01 33 00 – Submittal Procedures;
 - i. Preliminary Schedule of Values and anticipated schedule of payments per Section 01 20 00 – Price and Payment Procedures;
 - j. Letter indicating the agents of authority for the CONTRACTOR and the limit of that authority with respect to the execution of legal documents, contract modifications and payment requests;
 - k. Major equipment deliveries and priorities; and

B. Progress Meetings:

1. Attend meetings with ENGINEER and OWNER.
 - a. Meet on a monthly basis or as requested by OWNER to discuss the Project.
 - b. Meet at the Site or other location as designated by OWNER.

- c. CONTRACTOR's superintendent and other key personnel are required to attend the meeting. Other individuals may be requested to attend to discuss specific matters.
 - d. Notify OWNER of any specific items to be discussed a minimum of 1 week prior to the meeting.
2. Provide information as requested by OWNER concerning this Project. Prepare to discuss:
- a. Status of submittals;
 - b. Status of RFIs;
 - c. Changes in CONTRACTOR's resources including staffing, major equipment and Subcontractors;
 - d. Proposed or pending Modifications;
 - e. Overview of Work completed since the previous meeting with emphasis on planned but not executed Work;
 - f. CONTRACTOR's detailed schedule for the next 6 weeks, identifying planned efforts on critical path Work;
 - g. Anticipated delivery dates for equipment;
 - h. Status of overall project schedule;
 - i. Coordination with the OWNER on operations;
 - j. Information or clarification of the Contract Documents;
 - k. Status on correction of any outstanding Defective Work and maintenance of quality standards;
 - l. Field observations, problems, or conflicts;
 - m. Site Management issues;
 - n. Status of Record Documentation;
 - o. Proposed pre-submittal, pre-installation or other meetings for specific issues;
 - p. Other items of old business or concerns; and
 - q. New business items.
3. ENGINEER will prepare minutes of meetings. Review the minutes of the meeting and notify the ENGINEER of any discrepancies within 10 days of the date of the meeting memorandum. The minutes will not be corrected after the 10 days have expired. Corrections will be reflected in revised minutes.

C. Pre-Submittal and Pre-Installation Meetings:

1. Conduct pre-submittal and pre-installation meetings as required in the individual technical Specifications or as determined necessary by OWNER (for example, instrumentation, roofing, concrete mix design, etc.);
2. Set the time and location of the meetings when ready to proceed with the associated WORK. Submit a Notification by CONTRACTOR in accordance with Section 1.7 for the meeting 2 weeks before the meeting. OWNER must approve of the proposed time and location;
3. Attend the meeting and require the participation of appropriate Subcontractors and Suppliers in the meeting; and
4. Prepare minutes of the meeting and submit to the ENGINEER for review. ENGINEER will review the minutes of the meeting and notify the CONTRACTOR of any discrepancies within 10 days of the date of the meeting memorandum. The minutes will not be corrected after the 10 days have expired. Corrections will be reflected in a revised set of meeting minutes.

D. Coordination Meetings:

1. Meet on a weekly basis with OWNER or designated on-site representative of the OWNER to discuss Work planned for the following week, review coordination issues, testing required or other issues.

1.5 PROJECT DECISION AND ACTION ITEM REGISTERS

- A. The ENGINEER will maintain a Project Decision Register to document key decisions made during meetings, telephone conversations or site visits using the format provided by OWNER. Review the register prior to each regular meeting and report any discrepancies to OWNER for correction or discussion at the next monthly meeting.
- B. The ENGINEER will maintain an Action Item Register in conjunction with the Project Decision Register to track assignments made during meetings, telephone conversations or site visits using the format provided by OWNER:
 1. Review the Action Item Register prior to each regular meeting;
 2. Report actions taken subsequent to the previous progress meeting on items in the register assigned to the CONTRACTOR or through the CONTRACTOR to a Subcontractor or Supplier to ENGINEER. Report on status of progress 1 week prior to each progress meeting established in Section 1.4 to allow ENGINEER to update the register prior to the progress meetings; and
 3. Be prepared to discuss the following at each meeting.
 - a. Status on items assigned to the CONTRACTOR on the Action Item Register;
 - b. Review items on the Project Decision Register added since the previous meeting.

- C. Decisions or action items in the register that require a change in the Contract Documents will have the preparation of a Change Order as an action items if appropriate. The Contract Documents can only be changed by a Change Order.

1.6 REQUESTS FOR INFORMATION

- A. Submit Request for Information (RFI) to obtain additional information or clarification of the Contract Documents.
 - 1. Submit a separate RFI for each item. Attach adequate information to permit a response without further clarification. OWNER will return requests to the CONTRACTOR that do not have adequate information. CONTRACTOR is responsible for all delays resulting from RFIs returned for additional information.
 - 2. Resubmit a new RFI when adequate information is available.
- B. Do not use RFIs to confirm decisions or directives. Use the Project Decision Register to document decisions or directives in accordance with Section 1.5.
- C. Use the Action Item Register to document assignments for actions to be taken in accordance with Section 1.5.
- D. Response to an RFI is given to provide additional information, interpretation, or clarification of the requirements of the Contract Documents, and does not modify the Contract Documents. OWNER will initiate a Request for a Change Proposal (RCP) per Section 01 26 63 – Change Orders if the RFI indicates that a Change Order is required.

1.7 NOTIFICATION BY CONTRACTOR

- A. Notify the OWNER of:
 - 1. Required testing and inspections including observation required by OWNER, ENGINEER or inspection agencies prior to covering Work;
 - 2. Errors, conflicts or discrepancies in the Contract Documents that require attention;
 - 3. Issues related to delays or disruptions;
 - 4. Site related issues including unforeseen site conditions, potential utility conflicts, work on adjacent properties, by other CONTRACTORS, or Hazardous Environmental Conditions;
 - 5. Issues related to bonds or insurance;
 - 6. Intent to work outside regular working hours;
 - 7. Changes in key personnel, Subcontractors, or Suppliers. Change in key personnel shall not take place until the CONTRACTOR has supplied resumes for the replacement personnel and the OWNER has approved;
 - 8. Request to shut down facilities or utilities;

9. Proposed utility connections;
 10. Special meetings; and
 11. Training.
- B. Provide notification a minimum of 2 weeks in advance in order to allow OWNER time to respond appropriately to the notification, unless a shorter time is agreed to by the OWNER.
- 1.8 PLANS OF ACTION
- A. Submit a Plan of Action prior to critical operations as specified by the OWNER, including, but not necessarily limited to:
1. Road Crossings;
 2. Work elements impacting other designated operations.
- B. Describe the following in the Plan of Action:
1. Scheduled dates for construction;
 2. Work to be performed;
 3. Utilities, piping, or services affected;
 4. Length of time the service or utility will be disturbed;
 5. Procedures to be used to carry out the Work;
 6. Contingency plans for emergencies;
 7. List of manpower, equipment, and ancillary supplies;
 8. Plans required in Section 01 35 13 – Special Project Procedures;
 9. Backups for key pieces of equipment and key personnel; and
 10. Contingency plan that will be used if the original schedule cannot be met.
- C. Submit the Plan of Action for approval 2 weeks prior to beginning the Work.
- D. Conduct a pre-action conference with the members involved in the process prior to implementing the Plan of Action to discuss the implementation of the Plan of Action.
- 1.9 MONTHLY REPORTS AND SUBMISSION
- A. The following documents are to be submitted with an Application for Payment:
1. Construction Progress Schedule submitted in accordance with Section 01 32 16 – Construction Progress Schedule;

2. Other periodic reports or documentation required for administration of the Contract.

B. The following Payment Application will not be processed if any of these documents are not submitted within the allotted time, unless OWNER agrees to an extension of time for delivery of these items.

1.10 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 for each phase.
 - b. Recommend to the OWNER adjustments in the schedule to meet required completion dates.
 - c. Document changes in schedule and submit to the OWNER, the ENGINEER and to involved subcontractors.
3. Observe work of each subcontractor to monitor compliance with the schedule.
 - a. Verify that labor and equipment are adequate for the Work and the schedule.
 - b. Verify that product and equipment procurement schedules are adequate, including OWNER furnished materials.
 - c. Verify that product and equipment deliveries are adequate to maintain the schedule, including OWNER furnished materials.
 - d. Report non-compliance to the OWNER, with recommendations for changes.

B. Process Shop Drawings, Product Data and Samples:

1. Prior to submittal to the OWNER, review for compliance with the Contract Documents:
 - a. Field dimensions and clearance dimensions.
 - b. Relation to available space.
 - c. Effect of any changes on the work of any subcontractor.
 - d. Operations and Maintenance Manuals

- C. Review drawings prepared by subcontractors:
 - 1. Prior to submittal to the ENGINEER, review for compliance with the Contract Documents.
 - D. Prepare coordination drawings as required to resolve conflicts and to assure coordination of the Work of all trades or subcontractors or by special equipment requirements.
 - 1. Submit to the OWNER and the ENGINEER.
 - 2. Reproduce and distribute copies to concerned parties after review by the OWNER and the ENGINEER.
 - E. Maintain reports and records at the job site:
 - 1. Daily log of the progress of Work.
 - 2. Records:
 - a. Contracts.
 - b. Purchase Orders.
 - c. Materials and Equipment Records, including delivery tickets and invoices for OWNER furnished materials.
 - d. Approved Field Orders and Change Orders.
 - e. Applicable handbooks, codes and standards.
 - 3. Maintain a file of record documents.
- 1.11 CONTRACTOR'S CLOSE-OUT DUTIES
- A. Cleaning and testing of piping systems:
 - 1. Coordinate flushing/cleaning of piping systems to remove all construction deposits and debris.
 - 2. Supply Record Drawings for approval prior to pressure testing.
 - 3. Organize hydrostatic pressure testing.
 - 4. Record dates on which specific sections were tested.
 - 5. Submit to the OWNER written notice of beginning of warranty and guarantee periods for equipment installed.

B. Substantial Completion:

1. CONTRACTOR shall notify the ENGINEER and OWNER in writing when the WORK has reached Substantial Completion.
2. Conduct an inspection with the ENGINEER and the OWNER to develop a list of WORK to be completed or corrected.
 - a. ENGINEER to develop "Punch List" of defective, overlooked, or incomplete WORK.
3. Assist the OWNER and the ENGINEER in conducting the inspection.
4. Supervise correction and completion of work of subcontractors.
5. Return all unused piping materials desired to be retained by the OWNER to the OWNER's storage yard.
6. Equipment manufacturers visits to site.
7. Startup tests completed and documentation provided to the ENGINEER.
8. All instruments and controls calibrated and tested.
9. All components of the WORK successfully tested.
10. Provide operations and maintenance manuals.
11. Provide training as required under the Contract Documents.
12. WORK and its constituent pieces must be fully operational in accordance with the Contract Documents and permits.
13. Restore areas disturbed by construction activities.

C. Final Completion:

1. Correct and/or replace defective WORK, including completion of items previously overlooked or WORK which remains incomplete, all as evidenced by the ENGINEER's "Punch List"
 - a. Upon completion of the items on the "Punch List", CONTRACTOR shall notify the ENGINEER in writing that the WORK is ready for inspection.
 - b. WORK that has been inspected and accepted by the ENGINEER shall be maintained by the CONTRACTOR until Final Completion of the WORK.
2. Conduct an inspection to assure that:
 - a. ENGINEER's "Punch List" items and any other items listed brought to CONTRACTOR's attention by the ENGINEER have been resolved.

- b. Specified cleaning and restoration has been accomplished to the satisfaction of the OWNER or other governmental agencies.
 - c. Temporary facilities have been removed from the site.
 - d. Provide release of liens.
 - e. Provide record drawings.
 - f. Provide special warranties.
 - g. Provide spare parts and tools, including grease guns or other lubricating devices.
 - h. Provide test results of Project components.
 - i. Provide performance affidavits for equipment.
 - j. Provide month-to-month records containing all deviations from the Contract Documents.
3. CONTRACTOR shall accomplish the cleaning and final adjustments of the various facility components as specified in the Contract Documents including:
- a. Clean and lubricate all finish hardware after adjustment for proper operation.
 - b. Touch up marks or defects in painted surfaces and touch up any similar defects in factory finished surfaces.
 - c. Remove all stains, marks, fingerprints, soils, spots, and blemishes from all finish surfaces.
 - d. Restore all areas disturbed by construction operations to conditions equal to or better than that which existed prior to WORK.

1.12 ENGINEER'S CLOSE-OUT DUTIES

A. Substantial Completion:

- 1. ENGINEER will make an inspection of the WORK 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").
 - a. ENGINEER shall develop the "Punch List" within thirty (30) days following actual Substantial Completion of the WORK.
- 2. If ENGINEER determines the WORK to be substantially complete, ENGINEER shall issue the Certificate of Substantial Completion.

B. Final Completion:

1. When the CONTRACTOR determines that the Work is finally complete, conduct an inspection with the ENGINEER and the OWNER to verify final completion of the Work.

C. Administration of Contract Close-Out:

1. Receive and review CONTRACTOR's final submittals.
2. Transmit to the OWNER with recommendations for action.

PART 2 -- PRODUCTS (RESERVED).

PART 3 -- EXECUTION (RESERVED).

END OF SECTION

SECTION 01 32 16

CONSTRUCTION PROGRESS SCHEDULES

PART 1 - GENERAL

1.1 SUMMARY

- A. Prepare and maintain the schedules and reports described in this Section to assure adequate planning and execution of the WORK so that the WORK is completed within the Contract Times, and to assist the ENGINEER in appraising the reasonableness of the proposed schedule and in evaluating progress of the WORK.
- B. Related work:
 - 1. Documents affecting WORK of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Division 01 - General Requirements of these Specifications.
 - 2. Requirements for progress schedule: General Conditions.
 - 3. Construction period: Form of Agreement.
- C. References – (Reserved).

1.2 SUBMITTALS

- A. Shop Drawing Submittals – (Reserved).
- B. Operation and Maintenance Manuals – (Reserved).
- C. Certificates and Guarantees – (Reserved).
- D. Spare Parts – (Reserved).
- E. Comply with pertinent provisions of Section 01 33 00.
- F. Construction schedule: Prior to signing the Contract Documents, CONTRACTOR shall submit the overall proposed construction schedule for the WORK.
- G. Periodic reports: Update the construction progress monthly and submit it to the Engineer prior to submittal of each Application for Payment for completed work.
 - 1. Submit four prints of the construction schedule updated as described in Part 3 of this Section.

1.3 QUALITY ASSURANCE

- A. Perform data preparation, analysis, charting, and updating in accordance with standards approved by the Engineer.

CONSTRUCTION PROGRESS SCHEDULES

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- B. Reliance upon the approved schedule:
 - 1. The construction schedule as approved by the Engineer will be an integral part of the Contract and will establish interim completion dates for the various activities under the Contract.
 - 2. Processing of the first Application for Payment will not be completed by the Engineer until the construction schedule has been submitted in accordance with 1.2 F. above.
 - 3. Processing of the 50 percent and 80 percent progress payment applications will not be completed by the Engineer until the periodic reports have been submitted in accordance with 1.2 G. above.

1.4 DELIVERY, STORAGE, AND HANDLING – (Reserved).

1.5 SITE CONDITIONS – (Reserved).

1.6 MAINTENANCE – (Reserved).

PART 2 - PRODUCTS

2.1 CONSTRUCTION SCHEDULE

- A. The construction schedule shall be prepared using Oracle – Primavera P6.
 - 1. Submit to the ENGINEER and OWNER the electronic Primavera P6 schedule and a PDF copy of the Primavera P6 Gannt chart to the OWNER and ENGINEER.
- B. The construction schedule shall conform to the requirements of Special Conditions Section 9.36 and specify the WORK completion date as set forth in the Contract Documents.
- C. The construction schedule shall be time sealed, 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 WORK within the Contract time.
- D. CONTRACTOR shall revise the construction schedule to reflect the ENGINEER's comments prior to approval.
 - 1. CONTRACTOR to submit a letter of explanation with appropriate references and revision dates on the construction schedule for any subsequent changes to the construction schedule.
- E. CONTRACTOR shall submit an updated construction schedule monthly with each Progress Payment Application depicting progress to the last day of the month.

2.2 CONSTRUCTION ANALYSIS

- A. Graphically show by Critical-Path (CPM), Program Evaluation and Review Technique (PERT), Precedence Methods, bar-chart, or other means acceptable to the ENGINEER, the order and interdependence of all activities necessary to

complete the WORK, and the sequence in which each activity is to be accomplished, as planned by the CONTRACTOR and his project field superintendent in coordination with all subcontractors whose work is shown on the diagram.

1. Depict in detail the proposed sequence of the WORK and identifying construction activities for each structure, collection, transmission, or treatment facility.
- B. Include, but do not necessarily limit indicated activities to:
1. Project mobilization.
 2. Work elements.
 3. Special material and equipment installation and testing.
 4. Final cleanup.
 5. Final inspecting and testing.
 6. All activities by the Engineer that affect progress, required dates for completion, or both, for all and each part of the work.
 7. Contractor's anticipated working dates.

PART 3 - EXECUTION

3.1 CONSTRUCTION SCHEDULE

- A. As soon as practicable after receipt of Notice to Proceed, complete the construction schedule in preliminary form, meet with the Engineer, review contents of the proposed construction schedule, and make all revisions agreed upon.
- B. Submit in accordance with Paragraph 1.2 F. above.

3.2 PERIODIC REPORTS

- A. As required under Paragraph 1.2 G. above, update the approved construction schedule.
 1. Indicate "actual" progress in percent completion for each activity;
 2. Provide written narrative summary of revisions causing delay in the program, and an explanation of corrective actions taken or proposed.

3.3 REVISIONS

- A. Make only those revisions to approved construction schedule as are approved in advance by the Engineer.

END OF SECTION

SECTION 01 32 36

VIDEO MONITORING AND DOCUMENTATION

PART 1 -- GENERAL

1.1 THE SUMMARY

- A. The CONTRACTOR shall provide the following:
 - 1. Pre-construction video or photographic documentation of the existing conditions of the site.
 - 2. Monthly photographic documentation of construction progress.
 - 3. Post construction video or photographic documentation after the Project is complete and all construction trailers, excess materials, trash and debris have been removed.

1.2 RELATED SECTIONS:

- A. Section 01 20 00 – Price and Payment Procedures
- B. Section 01 11 00 – Summary of Work
- C. Section 01 77 00 – Closeout Procedures

1.3 CONTRACTOR SUBMITTALS

- A. The CONTRACTOR shall provide a continuous color video record on USB Flash Drives of the entire length of the proposed project prior to construction. The CONTRACTOR shall furnish to the ENGINEER and the OWNER at least two (2) copies of each USB Flash Drive of the recording, which becomes a project record document. The recording shall contain at least one (1) hour of recorded information.
- B. The CONTRACTOR shall provide progress photographs of the site taken on or about the cutoff date for each scheduled Application for Payment or as required in the contract.

1.4 SCHEDULING

- A. Video recordings shall not be made more than 30 days prior to construction for each phase. No construction shall begin prior to review and approval of the video recordings by the ENGINEER and the OWNER. Video records not conforming to the Specifications shall be resubmitted at no additional charge.

1.5 QUALITY ASSURANCE

- A. Provide clear photographs and recordings taken with proper exposure. View photographs and recordings in the field and take new photographs or recordings immediately if photos of an adequate print quality cannot be produced or video quality

is not adequate. Provide photographs with adequate quality and resolution to permit enlargements.

1.6 PERFORMANCE REQUIREMENTS

- A. The finished products shall be a bright, sharp, clear picture free of distortion.
- B. Provide audio-visual digital format on USB Flash Drives that can be played with Windows Media Player in common format in full screen mode without loss of resolution.
- C. Identify Project on video by audio or visual means.
- D. Provide video with file size that does not exceed 1 GB.
- E. Provide video resolution of at least 1080p.
- F. Provide a 360- degree view of the Project from a consistent height and angle.
- G. Video format must allow photographic still shots to be extracted from the video recording.
- H. Photograph file format shall be TIFF with a minimum original pixel count of 35 million pixels. The image sensor shall be sized at a minimum of 4500 x 3000 pixels smaller files and image sensors shall not be acceptable. A list of equipment, with specifications, capable of producing this image will be submitted upon request. ENGINEER may request a viewing of the image capturing equipment to ensure format size.
- I. All photographs, video recordings and a digital copy of this media are to become the property of the OWNER. Photographs or recording may not be used for publication, or public or private display without the written consent of the OWNER.

PART 2 -- PRODUCTS

2.1 VIDEO RECORDING

- A. Provide digital format on USB Flash Drives that can be played with Windows Media Player in common format in full screen mode without loss of resolution.
- B. Identify Project on video by audio or visual means.
- C. Provide video resolution of at least 1080p.
- D. The quality of the video must be sufficient to determine the existing conditions of the construction area. Camera panning must be performed while at rest; do not pan the camera while walking or driving. Camera pans should be performed at intervals sufficient to clearly view the entire construction area.
- E. The entire construction area recording shall be submitted at once. Sections submitted separately will not be accepted.

- F. Site components shall be video recorded in an organized sequential order with major components identified.
- G. The video shall include the entrance to the site and typical routes taken to the construction area.

PART 3 -- EXECUTION

3.1 VIDEO RECORDING

- A. The video record shall show all surface features located within the construction zone. These features shall include, but not be limited to, roadways, driveways, culverts, walls, fences and landscaping. The CONTRACTOR shall record the condition of all existing facilities in or abutting the construction area (right-of-way) including streets, curbs, gutters, utilities, driveways, fencing, landscaping, etc. prior to the beginning of construction. Record after construction staking is complete but prior to any clearing.
- B. Make audio description simultaneously with video coverage.
- C. Perform all recording during times of good visibility and perform no documentation during periods of visible precipitation.
- D. OWNER has the authority to designate what areas may be omitted or added for audio-video coverage.
- E. OWNER has the authority to reject all or any portion of the video recording not conforming to the Contract Documents.
- F. Re-record any coverage not acceptable to the OWNER at no cost to the OWNER.
- G. Reschedule recording of unacceptable coverage as soon as possible after being notified of non-acceptance of previous recordings.

END OF SECTION

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SECTION 01 33 00

SUBMITTAL PROCEDURES

PART 1 -- GENERAL

1.1 THE SUMMARY

- A. Submit to the OWNER, shop drawings, project data, samples and miscellaneous work-related submittals required by the Specification Sections. Individual submittal requirements are specified in applicable sections of these Contract Documents.
- B. The OWNER's review is for general conformance with the design concept and the Contract Documents.
- C. Miscellaneous submittals related directly to the WORK (non-administrative) include warranties, guarantees, maintenance agreements, workmanship bonds, project photographs, survey data and reports, physical records, statements of applicability, quality testing and certifying reports, copies of industry standards, record drawings, overrun stock, and similar information, devices and materials applicable to the WORK and not defined as shop drawings, product data or samples.
- D. Within 10 Days after the date of commencement as stated in the Notice to Proceed, submit the following items for review:
 - 1. Submittal Schedule
 - a. Submit a preliminary schedule of Shop Drawings, Samples, and proposed Substitutes ("or equal") submittals listed in the Bid.
 - b. Base the schedule of submittals on CONTRACTOR's priority, planned construction sequence and schedule, long-lead items, and size of submittal package.
 - c. Allow time for resubmittals.
 - 2. Submit a list of permits and licenses the CONTRACTOR shall obtain, indicating the agency required to grant the permit and the expected date of submittal for the permit and required date for receipt of the permit.
- E. Related Sections:
 - 1. Section 01 31 13 – Project Coordination
 - 2. Section 01 45 00 – Quality Control
 - 3. Section 01 77 00 – Closeout Procedures
 - 4. Section 01 78 23 – Operation and Maintenance Data

1.2 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS

- A. Section 01 11 00 – Summary of Work
- B. Section 01 29 73 – Schedule of Values
- C. Section 01 32 16 – Construction Progress Schedule
- D. Section 01 60 00 – Products Requirements
- E. Loxahatchee River District Environmental Control District Manual of Minimum Construction Standards and Technical Specifications (Latest Revision).

1.3 PRECONSTRUCTION CONFERENCE SUBMITTALS

- A. At the preconstruction conference per Section 01 31 13 – Project Coordination, submit the following items to the ENGINEER for review:
 - 1. CONTRACTOR's organizational chart as it relates to this Project;
 - 2. List of Subcontractors and Suppliers;
 - 3. CONTRACTOR's safety program, including the designated safety representative, requirement for personal protective equipment and safety protocols;
 - 4. A 60-Day plan of operation and a project overview bar chart in accordance with Section 01 32 16 – Construction Progress Schedule;
 - 5. Status and a list of permits and licenses the CONTRACTOR shall obtain, indicating the agency required to grant the permit, the expected date of submittal for the permit, and required date for receipt of the permit;
 - 6. Requirements for surveying or establishing controls;
 - 7. Status of Storm Water Pollution Prevention Plans;
 - 8. Preliminary submittal schedule per Section 01 33 00 – Submittal Procedures;
 - 9. Preliminary Schedule of Values and anticipated schedule of payments per Section 01 20 00 – Price and Payment Procedures;
 - 10. Letter indicating the agents of authority for the CONTRACTOR and the limit of that authority with respect to the execution of legal documents, contract modifications and payment requests;
 - 11. Major equipment deliveries and priorities; and

1.4 CONTRACTOR'S RESPONSIBILITIES

- A. Review documents, shop drawings, product data and samples prior to submission. Make certifications as required by the Contract Documents and as indicated on OWNER provided forms.

- B. Determine and verify:
 - 1. Field measurements.
 - 2. Field construction criteria.
 - 3. Catalog numbers and similar data.
 - 4. Conformance with the Specifications.
- C. Coordinate each submittal with requirements of the WORK and of the Contract Documents.
- D. Notify the OWNER and ENGINEER in writing, at the time of submission, of any deviations in the submittals from the requirements of the Contract Documents.
- E. Begin no fabrication or work requiring approved submittals until return of submittals by the OWNER and ENGINEER.
- F. Provide a Schedule of Submittals to list the documents that are to be submitted, the dates on which submittals are to be sent to the OWNER and ENGINEER for review and proposed dates that submittals must be returned to comply with the project schedule. Use the form provided by the OWNER for this list.
- G. Incorporate the dates for processing submittals into the Progress Schedule required by Section 01 32 16 – Construction Progress Schedule.
 - 1. Provide submittals in accordance with the schedule so construction of the Project is not delayed.
 - 2. Allow a reasonable time for the review of submittals when preparing the Progress Schedule. Assume a 14 day review cycle for each submittal unless a longer period of time is indicated in the Contract Documents or agreed to by OWNER, ENGINEER, and CONTRACTOR.
 - 3. Schedule submittal to provide all information for interrelated WORK at one time.
 - 4. Allow adequate time for processing submittals so construction of the WORK is not delayed.

1.5 SHOP DRAWINGS

- A. Wherever called for in the Contract Documents or where required by the OWNER, submit Shop Drawings electronically to the Engineer as a single .pdf set.
 - 1. Collate the electronic .pdf file to include all data pertaining to the Shop Drawing Submittal in one .pdf set. Separate .pdf files submitted will be cause for rejection and the Shop Drawing will be returned to the CONTRACTOR.
 - 2. In cases where Electronic Shop Drawing files exceed a size that is practical for electronic transmission via electronic mail or through an FTP site, the CONTRACTOR may and will be required to submit up to six (6) .pdf file shop drawing submittals on

separate compact discs or removeable USB storage, if requested, plus the quantity of discs or removable USB storage that will be required to be returned to the CONTRACTOR.

- B. Shop Drawings may include detail design calculations, shop-prepared drawings, fabrication and installation drawings, erection drawings, lists, graphs, catalog sheets, data sheets, drawings of concrete reinforcement, structural details, piping layout, wiring, materials fabricated especially for this WORK, materials and equipment for which such drawings are specifically requested and similar items.
- C. Whenever the CONTRACTOR is required to submit design calculations as part of a submittal, such calculations shall bear the signature and seal of an engineer registered in Florida and in the appropriate branch, unless otherwise indicated.
- D. Drawings shall be presented in a clear and thorough manner.
 - 1. Details shall be identified by reference to sheet and detail and schedule as shown on the Contract Documents.
- E. Designate in the construction schedule, or in a separate coordinating schedule, the dates for submission and the dates that reviewed shop drawings, product data and samples are needed.
- F. Transmittal Form
 - 1. Shop Drawing submittals shall be accompanied by a transmittal form acceptable to the ENGINEER.
 - 2. A submittal without a transmittal form, or where applicable items on the form have not been completed, will be returned for resubmittal.
 - 3. Transmittal form shall include the following:
 - a. Number and title of drawing.
 - b. Date of drawing or revision
 - c. Name of project building or facility
 - d. Name of CONTRACTOR and subcontractor submitting drawing
 - e. Clear identification of contents and location of the work.
 - f. Specification title and number.
 - g. Specification Section.
 - h. Applicable Drawing Number.

G. Organization

1. Use a single submittal transmittal form for each technical specification Section or item or class of material or equipment for which a submittal is required.
2. A single submittal covering multiple Sections will not be accepted, unless the primary specification references other Sections for components: For example, if a pump Section references other Sections for the motor, shop-applied protective coating, anchor bolts, local control panel, and variable frequency drive, a single submittal would be accepted, whereas a single submittal covering vertical turbine pumps and horizontal split-case pumps would not be accepted.
3. On the transmittal form, index the components of the submittal and insert tabs in the submittal to match the components.
4. Relate the submittal components to specification paragraph and subparagraph, Drawing number, detail number, schedule title, room number, or building name, as applicable.
5. Unless otherwise indicated, match terminology and equipment names and numbers used in the submittals with those used in the Contract Documents.

H. Disorganized submittals that do not meet the requirements of the Contract Documents will be returned without review.

I. ENGINEER's Review

1. Except as otherwise indicated, the ENGINEER will return electronic review of each submittal to the CONTRACTOR with comments noted thereon, within 30 Days following receipt by the ENGINEER.
2. It is considered reasonable that the CONTRACTOR shall make a complete and acceptable submittal to the ENGINEER by the first resubmittal on an item.
3. The OWNER reserves the right to withhold monies due to the CONTRACTOR to cover additional costs of the ENGINEER's review beyond the first resubmittal.
4. The ENGINEER'S maximum review period for each submittal or resubmittal will be 30 Days; thus, for a submittal that requires 2 resubmittals before it is complete, the maximum review period could be 90 Days.

J. If a submittal is returned to the CONTRACTOR marked "FURNISH AS SUBMITTED (FAS)," formal revision and resubmission will not be required.

K. If a submittal is returned marked "FURNISH AS CORRECTED (FAC)," the CONTRACTOR shall make the corrections on the submittal, but formal revision and resubmission will not be required.

L. Resubmittals

1. If a submittal is returned marked "REVISE AND RESUBMIT (RAR)," the CONTRACTOR shall revise the submittal and resubmit the required number of copies.
2. Resubmittal of portions of multi-page or multi-drawing submittals will not be accepted: For example, if a Shop Drawing submittal consisting of 10 drawings contains one drawing noted as " REVISE AND RESUBMIT (RAR)," the submittal as a whole is deemed " REVISE AND RESUBMIT (RAR)," and 10 drawings are required to be resubmitted.
3. Make any corrections or changes in the submittals noted by the OWNER or the ENGINEER and resubmit unless otherwise noted. Identify all changes made since previous submittal.
 - a. CONTRACTOR shall provide a cover letter responding to each of the review comments returned to the CONTRACTOR by the ENGINEER with the previous review and specifically stating:
 - b. If the equipment and resubmitted data provided complies with the review comment(s) then provide:
 - 1) How the equipment complies.
 - 2) Specifically indicate where support documentation can be located in the shop drawing.
 - c. If the equipment and resubmitted data provided cannot or does not comply with the review comment(s) then provide:
 - 1) What is being provided to comply instead.
 - 2) Justify why the CONTRACTOR feels the ENGINEER should consider it is acceptable to allow the CONTRACTOR to not comply with the specification.
 - d. Resubmission of a complete and fully-inclusive shop drawing with all data pertinent to the item(s) submitted.
 - 1) Partial submission of data that only addresses the ENGINEER's specific review comments, or a portion thereof, and does not include all data for a complete resubmittal, will be cause for immediate rejection.
4. Shop Drawings, Project Data and Product Data:
 - a. Revise initial drawings or data and resubmit as specified for the initial submittal.
 - b. Indicate any changes which are made other than those requested by the Engineer.

5. The OWNER and ENGINEER will review one (1) re-submittal for each shop drawing or product data. All costs of reviewing additional re-submittals shall be at the Contractor's expense and shall be reflected in the final Change Order.
 6. Samples: Submit new samples as required for initial submittal.
- M. The fabrication of an item may commence only after the ENGINEER has reviewed the pertinent submittals and returned copies to the CONTRACTOR marked either " FURNISH AS SUPPLIED (FAS)" or " FURNISH AS CORRECTED (FAC)."
- N. Corrections indicated on submittals shall be considered as changes necessary to meet the requirements of the Contract Documents and shall not be taken as changes to the contract requirements.
- O. Review by CONTRACTOR
1. Submittals shall be carefully reviewed by an authorized representative of the CONTRACTOR prior to submission to the ENGINEER and OWNER.
 2. Each submittal shall be dated and signed by the CONTRACTOR as being correct and in strict conformance with the Contract Documents.
 3. In the case of Shop Drawings, each sheet shall be so dated and signed.
 4. Any deviations from the Contract Documents shall be noted on the transmittal sheet.
 5. The ENGINEER will only review submittals that have been so verified by the CONTRACTOR.
 6. Non-verified submittals will be returned to the CONTRACTOR without action taken by the ENGINEER, and any delays caused thereby shall be the total responsibility of the CONTRACTOR.
- P. Conformance
1. Corrections or comments made on the CONTRACTOR's Shop Drawings during review shall not relieve the CONTRACTOR from compliance with Contract Drawings and Specifications.
 2. A lack of comments made on the CONTRACTOR's Shop Drawings during review shall not relieve the CONTRACTOR from compliance with Contract Drawings and Specifications.
 3. Review is for conformance to the design concept and general compliance with the Contract Documents only.
 4. The CONTRACTOR shall be responsible for confirming and correlating quantities and dimensions, fabrication processes and techniques, coordinating WORK with the trades, and satisfactory and safe performance of the WORK.

1.6 SAMPLES

A. Quantity

1. The CONTRACTOR shall submit the number of samples indicated by the Specifications.
2. If the number is not indicated, submit not less than 3 samples.
3. Where the quantity of each sample is not indicated, submit such quantity as necessary for proper examination and testing by the methods indicated.

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

1. Functional characteristics of the product, with integrally related parts and attachment devices.
2. Full range of color, texture and pattern.

C. Identification and Distribution

1. Individually and indelibly label or tag each sample, indicating the salient physical characteristics and the manufacturer's name.
2. Upon acceptance by the ENGINEER and OWNER, one set of the samples will be stamped and dated by the ENGINEER and returned to the CONTRACTOR, one set of samples will be retained by the ENGINEER, and one set shall be provided to the OWNER.

D. Selection

1. Unless otherwise indicated, the ENGINEER will select colors and textures from the manufacturer's standard colors and standard materials, products, or equipment lines.
2. If certain samples represent non-standard colors, materials, products, or equipment lines that will require an increase in Contract Times or Price, the CONTRACTOR shall clearly state so on the transmittal page of the submittal.

E. The CONTRACTOR shall schedule sample submittals such that:

1. Sample submittals for color and texture selection are complete so the ENGINEER has 45 Days to assemble color panels and select color- and texture-dependent products and materials without delay to the construction schedule; and,
2. After the ENGINEER selects colors and textures, the CONTRACTOR has sufficient time to provide the products or materials without delay to the construction schedule.
3. The Contract Times will not be extended for the CONTRACTOR's failure to allow enough review and approval or selection time, failure to submit complete samples requiring color or texture selection, or failure to submit complete or approvable samples.

1.7 WARRANTIES

- A. Refer to individual sections of these Specifications for specific general requirements on the submittal of warranties, guarantees, product/workmanship bonds, and maintenance agreements which are uniquely prepared and executed for the project.

1.8 TECHNICAL MANUAL

- A. The CONTRACTOR shall submit technical operation and maintenance information for each item of mechanical, electrical, and instrumentation equipment in an organized manner in the Technical Manual.
- B. The manual shall be written such that it can be used and understood by the OWNER's operation and maintenance staff.

C. Categories

- 1. The Technical Manual shall be subdivided first by Specification Section number; second, by equipment item; and last, by "Category." The following "Categories" shall be addressed (as applicable):

a. Category 1 - Equipment Summary

- 1) Summary: A table shall indicate the equipment name, equipment number, and process area in which the equipment is installed.
- 2) Form: The ENGINEER will supply an Equipment Summary Form for each item of mechanical, electrical, and instrumentation equipment in the WORK. The CONTRACTOR shall fill in the relevant information on the form and include it in Part 1.

b. Category 2 - Operational Procedures

- 1) Procedures: Manufacturer-recommended procedures on the following shall be included in Part 2:
 - a) Installation
 - b) Adjustment
 - c) Startup
 - d) Location of controls, special tools, equipment required, or related instrumentation needed for operation
 - e) Operation procedures
 - f) Load changes
 - g) Calibration
 - h) Shutdown

- i) Troubleshooting
 - j) Disassembly
 - k) Reassembly
 - l) Realignment
 - m) Testing to determine performance efficiency
 - n) Tabulation of proper settings for pressure relief valves, low and high pressure switches, and other protection devices
 - o) List of all electrical relay settings including alarm and contact settings
- c. Category 3 - Preventive Maintenance Procedures
 - 1) Procedures: Preventive maintenance procedures shall include manufacturer-recommended procedures to be performed on a periodic basis, both by removing and replacing the equipment or component, and by maintaining the equipment in place.
 - 2) Schedules: Recommended frequency of preventive maintenance procedures shall be included. Lubrication schedules, including lubricant SAE grade, type, and temperature ranges, shall be covered.
- d. Category 4 - Parts List
 - 1) Parts List: A complete parts list shall be furnished, including a generic description and manufacturer's identification number for each part. Addresses and telephone numbers of the nearest supplier and parts warehouse shall be included.
 - 2) Drawings: Cross-sectional or exploded view drawings shall accompany the parts list. Part numbers shall appear on the drawings with arrows to the corresponding part.
- e. Category 5 - Wiring Diagrams
 - 1) Diagrams: Category 5 shall include complete internal and connection wiring diagrams for electrical equipment items.
- f. Category 6 - Shop Drawings
 - 1) Drawings: This category includes approved shop or fabrication drawings with ENGINEER comments and corrections incorporated, complete with dimensions.
- g. Category 7 - Safety
 - 1) Procedures: This category describes the safety precautions to be taken when operating and maintaining the equipment or working near it.

h. Category 8 - Documentation

- 1) Equipment warranties, affidavits, certifications, calibrations, laboratory test results, etc. required by the Technical Specifications shall be placed in this category.

D. Format

1. Bind each Technical Manual in standard size 3-ring hardcover binders, labeled on the spine and cover with Project name, OWNER's project number, Specification Section number, equipment name, and equipment identification number
2. Each Binder shall contain its own detailed table of contents at the front, plus a summary level table of contents information for the other binders in a multi-binder set.
3. Documents in binders shall be 3-hole punched, with no text punched out, and pages larger than 8-1/2 by 11 shall be folded to 8-1/2 by 11 size.
4. Provide two (2) hard copies and a USB drive with electronic files with each final set of Technical Manuals in .pdf format as a single document.

E. Review Process

1. Provide electronic copy of draft Technical Manuals for each Specification Section that requires a manual in .pdf format as a single document.
2. Upon completion of the ENGINEER's review of the electronic Technical Manuals, one electronic .pdf file will be returned to the CONTRACTOR for their distribution.
 - a. Submitted Technical Manuals found not to be in compliance will be returned with the ENGINEER's comments for the CONTRACTOR's revision and resubmission.
 - b. Submitted Technical Manuals found to be in compliance with will be returned with the ENGINEER's comments and marked "Submit Required Copies", at which time the CONTRACTOR shall provide the number of electronic .pdf Technical Manuals on removable USB drives and hard copies of Technical Manuals organized and bound as specified herein.

F. Schedule

1. Prepare and submit with the Construction Schedule, a separate schedule listing dates for submission and review of shop drawings, project data and samples that will be needed for each product or piece of equipment.
2. Coordinate and prepare the delivery and processing of submittals with the performance of the WORK so that the WORK is not delayed by submittals. Coordinate and sequence different categories of submittals for the same WORK, and for interfacing units of WORK, so that one is not delayed for coordination with another.

3. No extension of time will be allowed because of the CONTRACTOR's failure to properly coordinate and sequence submittals.
4. Do not proceed with purchasing, fabrication and delivery of WORK related to a submittal until the submittal procedure is successfully complete.
5. Coordinate fabrication and delivery of OWNER furnished materials.

G. Submittal and Corrections

1. The WORK under this Contract involves start-up and commissioning of equipment in multiple areas of the facility at independent times within the Project Schedule.
2. The manuals shall be completed for each piece of equipment prior to final acceptance of the equipment by the OWNER.
3. Except as otherwise indicated, submit the manuals for review in final form a minimum of 30 Days prior to commissioning for each piece of equipment.
4. Discrepancies found by the ENGINEER shall be corrected within 30 Days from the Date of written notification by the ENGINEER.

H. Manuals that are incomplete or unacceptable at the schedule criterion above will constitute sufficient justification for the OWNER to retain the amount in Paragraph "Technical Manual Submittals" of Section 01 77 00 – Closeout Procedures, from any monies due the CONTRACTOR.

1. The CONTRACTOR's attention is directed to the condition that one percent of the Contract Price will be retained from any monies due the CONTRACTOR as progress payments, if at the 75 percent construction completion point, the approved Technical Manual complying with Section 01 33 00 – Contractor Submittals has not been submitted.

1.9 SPARE PARTS LIST

A. General

1. Furnish to the ENGINEER six (6) identical sets of spare parts information for mechanical, electrical, and instrumentation equipment.
2. The spare parts list shall include those spare parts that each manufacturer recommends to be maintained by the OWNER in inventory.

B. Sources and Pricing

1. The spare parts list shall include a current list price of each spare part.
2. Each manufacturer or supplier shall indicate the name, address, and telephone number of its nearest outlet of spare parts, to assist the OWNER in ordering.

C. Format

1. Cross-reference the spare parts lists to the equipment numbers designated in the Contract Documents.
2. The spare parts lists shall be bound in standard-size, 3-ring, loose-leaf, vinyl plastic, hard-cover binders suitable for bookshelf storage.
3. The binder ring size shall not exceed 2-1/2 inches.
4. Each copy of the spare parts lists shall be accompanied by a USB drive containing the lists in electronic format, in files created under Microsoft Office Version 16.

1.10 AS-BUILT DRAWINGS

A. On-Site Drawings Set

1. Maintain one set of Drawings at the Site for the preparation of as-built drawings. Label each document "PROJECT RECORD" in neat large printed letters.
2. On this set, mark every project condition, location, configuration, and any other change or deviation which may differ from the Contract Drawings at the time of award, including buried or concealed construction and utility features that are revealed during the course of construction.
3. Give special attention to recording the horizontal and vertical location of buried utilities that differ from the locations indicated, or that were not indicated on the Contract Drawings.
4. Supplement the as-built drawings by any detailed sketches as necessary or as directed, in order to fully indicate the WORK as actually constructed.
5. The as-built drawings are the CONTRACTOR's representation of as-built conditions, shall include revisions made by addenda and change orders, and shall be maintained up-to-date during the progress of the WORK.
6. Use red ink for alterations and notes.
7. Notes shall identify relevant Change Orders by number and date.

B. Unacceptable Drawings

1. Disorganized or incomplete as-built drawings will not be accepted.
2. The CONTRACTOR shall revise them and resubmit within 10 Days.
3. In the case of those drawings that depict the detail requirement for equipment to be assembled and wired in the factory, such as motor control centers and the like, update the as-built drawings by indicating those portions which are superseded by Change Order drawings or final Shop Drawings, and by including appropriate reference information describing the Change Orders by number and the Shop Drawings by manufacturer, drawing, and revision numbers.

4. As-built drawings shall be accessible to the ENGINEER during the construction period.

1.11 RECORD DRAWINGS

- A. Final payment will not be acted upon until the record drawings have been completed and delivered to the ENGINEER.
- B. Upon substantial completion of the WORK and prior to final acceptance, the CONTRACTOR shall finalize and deliver a complete set of record drawings to the ENGINEER for transmittal to the OWNER, conforming to the construction records of the CONTRACTOR. This set of drawings shall consist of corrected drawings showing the reported location of the WORK.
- C. Legibly mark drawings to record actual construction
 1. Provide horizontal location of pipes any time the pipe passes a permanent surface reference point. Permanent reference points are as defined herein. Any deviations from the alignment shown on the Contract Drawings must be noted.
 2. Provide vertical locations at 100-foot intervals. Vertical location will be depth of cover or pipe elevation, whichever is called for on the drawings.
 3. All fittings, including sleeves, valves, and services are to be located by two measurements to permanent surface reference points.
 4. Permanent surface reference points are manholes, catch basins, power poles, concrete sidewalk, or concrete curbs. Edge of pavement and road intersections may not be used without the ENGINEER's approval.
 5. Field changes of dimension and detail.
- D. Legibly mark each Section of the Specifications and Addenda to record:
 1. Manufacturer, trade name, catalog number, and supplier of each item actually installed.
 2. Changes made by Field Order, Change Order, or Work Directive.
- E. Record drawings for new equipment provided by the CONTRACTOR shall address the following information:
 1. Manufacturer, model number, serial numbers for each piece of equipment.
- F. Computer generated as-built drawings shall be submitted. Data in tabular form will not be accepted. Initially two (2) signed and sealed paper prints are to be submitted for review. Following review by the ENGINEER and OWNER, any comments are to be addressed. On final submission, the following items shall be provided.
 1. One (1) set of mylars and two (2) signed and sealed sets of prints (24" x 36"). Ammonia process single matte mylars (3 mils) are preferred. Xerographic mylars will

be acceptable if the data cannot be scratched /readily erased off the mylar. No tape or sticky back film on mylar will be accepted.

2. All proposed data must be crossed out and the computer generated as-built data must be easy to be identified as such, using different font (larger size, thickness, pitch, etc). Record data identifiers must be added to the legend and shown on each plan/profile sheet.
3. Manufacturers of equipment including but not limited to valves, hydrants, pumps, motors, control panels, backflow preventors, generators, engines, and meters shall be listed on at least one page of the record drawings.
4. The electronic drawing files must be AutoCAD format or compatible (DWG file or DXF file) submitted on USB drive. All fonts and line types shall be from the standard AutoCAD library or be AutoCAD compatible. Reference files and blocks are to be bound to drawings prior to submittal. Layers and drawings created by turning on and off layers are to be documented and submitted in MS Word or ASCII format. As a minimum requirement, electronic files must include all features that were shown on the Contract Drawings.

G. Information submitted by the CONTRACTOR will be assumed to be correct, and the CONTRACTOR shall be responsible for the accuracy of such information.

H. The submittal shall conform to Loxahatchee River District Record Drawing Submittal Guide SD-29.

1. Available at: <https://loxahatcheeriver.org/wp-content/uploads/2023/06/SD-29.pdf>

1.12 QUALITY CONTROL (QC) SUBMITTALS

A. Quality control submittals are defined as those required by the Specifications to present documentary evidence to the ENGINEER that the CONTRACTOR has satisfied certain requirements of the Contract Documents.

B. Unless otherwise indicated, QC submittals shall be submitted:

1. Before delivery and unloading, for the following types of submittals:
 - a. Manufacturers' installation instructions
 - b. Manufacturers' and Installers' experience qualifications
 - c. Ready mix concrete delivery tickets
 - d. Design calculations
 - e. Affidavits and manufacturers' certification of compliance with indicated product requirements
 - f. Laboratory analysis results
 - g. Factory test reports

2. Within 30 Days of the event documented for the following types of submittals:

- a. Manufacturers' field representative certification of proper installation
- b. Field measurement
- c. Field test reports
- d. Receipt of permit
- e. Receipt of regulatory approval

C. The ENGINEER will record the date that a QC submittal was received and review it for compliance with submittal requirements, but the review procedures above for Shop Drawings and samples will not apply.

1.13 INFORMATIONAL SUBMITTALS

A. Informational submittals formalize the flow of information between the CONTRACTOR and the ENGINEER.

B. Electronic forms, if applicable, shall be obtained from the ENGINEER for such purpose.

PART 2 -- PRODUCTS (RESERVED).

PART 3 -- EXECUTION (RESERVED).

END OF SECTION

SECTION 01 35 13

SPECIAL PROJECT PROCEDURES

PART 1 -- GENERAL

1.1 SERVICES OF MANUFACTURERS' FIELD SERVICE TECHNICIAN

- A. After installation of the equipment has been completed and the equipment is presumably ready for operation, but before it is operated by others, the MANUFACTURER's field service technician shall inspect, operate, test, and adjust the equipment. The inspection shall include at least the following points where applicable:
 - 1. Soundness (without cracked or otherwise damaged parts).
 - 2. Completeness in all details, as specified and required.
 - 3. Correctness of setting, alignment, and relative arrangement of various parts.
 - 4. Adequacy and correctness of packing, sealing, and leak proof.
- B. The operation, testing, and adjustment shall be as required to prove that the equipment has been left in proper condition for satisfactory operation under the conditions specified.
- C. Upon completion of the WORK, the MANUFACTURER's field service technician shall submit to the ENGINEER a complete, signed report of the results of his inspection, adjustments, and tests. The report shall include detailed descriptions of the points inspected, tests and adjustments made, quantitative results obtained if such are specified, and suggestions for precautions to be taken to ensure proper maintenance.
- D. A certificate from the MANUFACTURER stating that the installation of the equipment is satisfactory, that the unit has been satisfactorily tested, and is ready for operation, shall be submitted before final acceptance. The certificate shall indicate date and time inspection was given and names of operating personnel in attendance.

1.2 OPERATING AND MAINTENANCE DATA

- A. Operating and maintenance data covering all equipment furnished under these specifications shall be delivered directly to the ENGINEER. Data shall be prepared and submitted in full.

1.3 INSTALLATION OF EQUIPMENT

- A. Special care shall be taken to ensure proper alignment of all equipment. The units shall be carefully aligned on their foundations after their sole plates have been shimmed to true alignment. The CONTRACTOR shall be responsible for the exact alignment of equipment with associated piping, and under no circumstances, will pipe deformation be allowed.

- B. All wedges, shims, filling pieces, keys, packing, red on white lead grout, or other materials necessary to properly align, level, and secure all equipment in place shall be furnished by the CONTRACTOR. All parts intended to be plumb or level must be proven exactly so. Any work necessary to bring parts to proper bearing after erection shall be done at the expense of the CONTRACTOR.

1.4 SLEEVES AND OPENINGS

- A. The CONTRACTOR shall provide all openings, channels, chases, etc., and install anchor bolts and other items to be embedded in concrete, as required to complete the work under this contract together with all cutting and patching.
- B. The CONTRACTOR shall provide all sleeves, inserts, hangers, anchor bolts, etc. of the proper size and material for the execution of the work. The CONTRACTOR shall be responsible for any corrective cutting and refinishing required to make the necessary openings, chases, etc. In no case shall beams, lintels, or other structural members be cut without the written approval of the ENGINEER.

1.5 RELOCATIONS

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

1.6 OBSTRUCTIONS

- A. The attention of the CONTRACTOR is drawn to the fact that during excavation at the project site, the possibility exists of the CONTRACTOR encountering various water, chemical, electrical, or other lines not shown on the Contract Documents. The CONTRACTOR shall exercise extreme care before and during excavation to locate and flag these lines so as to avoid damage to the existing lines. Should damage occur to an existing line, the CONTRACTOR shall repair the line at no cost to the OWNER.
- B. It is the responsibility of the CONTRACTOR to ensure that all utility or other poles, the stability of which may be endangered by the close proximity of excavation, are temporarily stayed in position while work proceeds in the vicinity of the pole and that the utility or other companies concerned be given reasonable advance notice of any such excavation by the CONTRACTOR.

1.7 ARCHITECTURAL COATINGS

- A. Maintain coordination among all Sections requiring PVC and PVF coatings. All coatings shall match to the satisfaction of the ENGINEER with regard to color and texture. Items rejected by the ENGINEER shall promptly be removed from the job site.

1.8 VALVE INDICES

- A. The CONTRACTOR shall be responsible for furnishing tags for all valves required on the work and installing the tags. The CONTRACTOR shall submit to the ENGINEER for approval before start-up, a valve schedule containing all valves required for his work. The schedule shall contain for each valve, the location, type, a number, words to identify the valve's function and the normal operating positions. Tags shall be furnished with noncorrosive metal wire for attachment thereof. The tag shall not be attached to handwheel or crank operators or any part of the valve which would inhibit operation of the valve.

1.9 EXISTING UTILITY PROTECTION

- A. Existing utilities are shown in their approximate locations. It shall be the CONTRACTOR's responsibility to locate and protect all utilities whether shown on Drawings or not.
- B. It shall be the CONTRACTOR's responsibility to contact utility companies 48 hours before starting construction so maintenance personnel can locate and protect facilities, if required by the utility company.

1.10 WARRANTIES

- A. All equipment supplied under these Specifications shall be warranted by the CONTRACTOR and the equipment MANUFACTURERS for a period of one (1) year unless other warranty requirements are specified herein. Warranty period shall commence on the date of Substantial Completion.
- B. The equipment shall be warranted to be free from defects in workmanship, design and materials. If any part of the equipment should fail during the warranty period, it shall be replaced and the unit(s) restored to service at no expense to the OWNER.
- C. The MANUFACTURER'S warranty period shall run concurrently with the CONTRACTOR's warranty or guarantee period. No exception to this provision shall be allowed. The CONTRACTOR shall be responsible for obtaining equipment warranties from each of the respective suppliers or MANUFACTURERS for all equipment specified under these specifications.

1.11 Final Guarantee

- A. All work shall be guaranteed by the CONTRACTOR for a period of one year from and after the date of Final Completion.
- B. If within the guarantee period, repairs or changes are required in connection with guaranteed work, which, in the opinion of the ENGINEER, is rendered necessary as the result of the use of materials, equipment or workmanship which are inferior, defective, or not in accordance with the terms of the Contract, the CONTRACTOR shall, promptly upon receipt of notice from the OWNER and without expense to the OWNER do the following:

1. Place in satisfactory condition in every particular all of such guaranteed work and correct all defects therein.
 2. Make good all damage to the building or site, or equipment or contents thereof, which, in the opinion of the ENGINEER, is the result of the use of materials, equipment or workmanship which are inferior, defective, or not in accordance with the terms of the Contract.
 3. Make good any work or material, or the equipment and contents of building, structure of site disturbed in fulfilling any such guarantee.
- C. If the CONTRACTOR, after notice, fails within ten days to proceed to comply with the terms of this guarantee, the OWNER may have the defects corrected, and the CONTRACTOR and his surety shall be liable for all expense incurred, provided, however, that in case of an emergency where, in the opinion of the OWNER, delay would cause loss or damage, repairs may be started without notice being given to the CONTRACTOR and the CONTRACTOR shall pay the cost thereof.
- D. All special guarantees or warranties applicable to specific parts of the work as may be stipulated in the Contract specification or other papers forming a part of this Contract shall be subject to the terms of this paragraph during the first year of life of each such guarantee. All special guarantees and MANUFACTURERS' warranties shall be assembled by the CONTRACTOR and delivered to the ENGINEER, along with a summary list thereof, before the acceptance of the Work.

1.12 HURRICANE PREPAREDNESS PLAN

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

1.13 SALVAGE

- A. Any existing equipment or material, including but not limited to, valves, pipes, fittings, couplings, etc., which is removed or replaced as a result of construction under this project may be designated as salvage by the ENGINEER or OWNER and if so shall be cleaned and stored on or adjacent to the site in a protected place specified by the ENGINEER or loaded onto trucks provided by the OWNER. Any equipment or material not worthy of salvaging, as directed by the OWNER, shall be disposed of by the CONTRACTOR at a suitable location.

1.14 ARCHEOLOGICAL FINDS

- A. Notwithstanding anything to the contrary herein, in the event any archeological artifacts within the project are discovered during the course of the work, the OWNER shall have and retain all right, title, and interest to such artifacts and shall have the further right, during the course of Contract, to examine or cause to have examined, the site of the WORK for any such artifacts and to perform or have performed archeological

excavations and all other related WORK to explore for, discover, recover, and remove such artifacts from the site of WORK. In the event the work or archeological examination and related work delays the CONTRACTOR's work, he shall be entitled to an extension of time to complete the work equal to the number of days he is delayed.

1.15 EQUIPMENT DATA LIST

- A. Obtain, prepare, and submit a complete, detailed listing equipment for all electrical items furnished under this Contract. This listing shall be submitted on Equipment Data Sheets.

1.16 PROTECTION AGAINST ELECTROLYSIS

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

1.17 DAMAGE ON ACCOUNT OF HIGH WATER

- A. CONTRACTOR will hold himself responsible for all damage due to his work by heavy rains or floods and he shall take all reasonable precautions to provide against damages by building such temporary dikes, channels, or shoring to carry off storm water as the nature of the work may require.

1.18 TOOLS

- A. 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.

1.19 EMERGENCY PHONE NUMBERS AND ACCIDENT REPORTS

- A. Emergency phone numbers (fire, medical, police) shall be posted at the CONTRACTOR'S phone and its locations known to all.
- B. Accidents shall be reported immediately to the ENGINEER by messenger or phone.
- C. All accidents shall be documented and a fully detailed written report submitted to the ENGINEER after each accident.

1.20 SITE RESTORATION

- A. The CONTRACTOR shall remove all excess material and shall clean up and restore the site to its original condition or better. All damage, as a result of WORK under this Contract, done to existing structures, pavement, driveways, paved areas, curbs and gutters, sidewalks, shrubbery, grass, trees, utility poles, utility pipelines, conduits, drains, catch basins, flagstones, rocked, graveled or stabilized areas or driveways and including all obstructions not specifically named herein, shall be repaired.

1.21 WATER TIGHTNESS

- A. Special precautions shall be taken in the curing of concrete to reduce concrete cracking as called for in Section 03 01 30 – Maintenance of Cast-In-Place Concrete.

PART 2 -- PRODUCTS (RESERVED).

PART 3 -- EXECUTION (RESERVED).

END OF SECTION

SECTION 01 35 29

HEALTH, SAFETY, AND EMERGENCY RESPONSE PROCEDURES

PART 1 -- GENERAL

1.1 THE SUMMARY

- A. The WORK of this Section includes preparation and implementation of the CONTRACTOR's safety provisions for the WORK.

1.2 REFERENCE SPECIFICATIONS, CODES AND STANDARDS

- A. CONTRACTOR shall comply with all applicable federal, state and local safety regulations, laws and standards, as well as any specific Palm Beach County or Water Utilities Department requirements.
- B. Related Work specified elsewhere: Section 01 14 13 – Access to Site.

1.3 CONTRACTOR SUBMITTALS

- A. Furnish Submittals in accordance with Section 01 33 00 – Submittal Procedures.
 - 1. Submit thirty (30) days prior to the start of any field work:
 - a. Copy of the CONTRACTOR's Project Specific Safety Program;
 - b. Copy of the CONTRACTOR's Emergency Response Plan including a description of any prior arrangements made with local authorities or emergency service providers (fire, police, ambulance) to be implemented in the event of an emergency;
 - c. Copy of the CONTRACTOR's Confined Space Entry Program, if applicable to the WORK;
 - d. A resume of the CONTRACTOR Safety Coordinator's qualifications and experience. Include a description of the Safety Coordinator's education, safety and first aid training, safety related certifications, if any, and experience with the specific hazards anticipated with implementation of the WORK (for example, confined space entry, trenching and excavation, tunnel and underground construction).
- B. Submit, for information only, monthly reports by the Safety Coordinator; and copies of accident and near-miss reports, Occupational Safety and Health Administration (OSHA) citations, and accident claims as specified herein.
- C. Project Specific Safety Plan
 - 1. Assess the risks posed to the CONTRACTOR's work force in the construction of potentially hazardous aspects of the WORK. Use this assessment in devising safe

systems/controls of work, and document these safe systems/controls in a Project Specific Safety Plan (PSSP) to be implemented throughout the construction. This risk assessment can be in the form of a Job Safety Analysis (JSA), Job Hazard Analysis (JHA) or similar format.

2. The PSSP shall provide for regular safety meetings and describe safety training programs required for all personnel engaged in the WORK.
3. The PSSP shall address the availability and maintenance of required safety and rescue equipment. Required equipment may include such items as fire extinguishers, first aid kits, personal fall protection lanyards and harnesses, stretchers, breathing apparatus and other respiratory protection, gas detectors, equipment required by law, and any other equipment deemed necessary by the CONTRACTOR.
4. When applicable, the PSSP shall include a Confined Space Entry (CSE) Program, including identification of the primary rescue team.
5. The PSSP shall include requirements to issue a permit for Hot Work (any work that involves burning, welding, using fire- or spark-producing tools, or that produces a source of ignition).
6. The PSSP shall include requirements for Lockout-Tagout procedures for work on machines and equipment in which the unexpected energization or startup of the machines or equipment, or release of stored energy, could harm employees.
7. The PSSP shall be designed and implemented to correct safety hazards and violations as they are discovered and reported.
8. The PSSP shall identify by name the "Competent Person(s)" required by various OSHA regulations such as Fall Protection (29 CFR 1926 Subpart M), Excavations (29 CFR 1926 Subpart P), and Confined Spaces in Construction (29 CFR 1926 Subpart AA).
9. The PSSP shall include requirements of Palm County Policy and Procedures Memoranda #CW-P-026 that the project site be "drug and alcohol-free" as a condition on all construction projects. The PSSP should specify that all CONTRACTOR workers and those of its subcontractors participate in a drug testing program. The PSSP should document drug testing protocols for how CONTRACTOR tests and screens employees and its subcontractor including the requirements and frequency of testing. CONTRACTOR shall provide certified statement that all workers on the project have adhered to the requirements of the testing protocols and have met the criteria for passing the drug screen. CONTRACTOR shall provide pass/fail test results for all CONTRACTOR and subcontracted staff and shall update the required documentation upon changes to the CONTRACTOR's program, its workforce, or as required by the OWNER.

D. Safety Training

1. Properly train all persons working on the site so that they are able to carry out their tasks and duties safely and in a manner that will not endanger their own health nor the health of others. Instruct persons when first employed on the site in the hazards inherent in the site, precautions to be taken, the form of construction, the contents and requirements of the PSSP and emergency procedures.
2. Reinforce safety and emergency training by periodic practice drills.
3. Document employee safety training to establish that the CONTRACTOR has a structured program of training; that the training is held on a planned basis; and that all members of the work force receive the training.

E. Emergency Response Plan

1. Prepare an Emergency Response Plan to be implemented in the event of a serious injury or general emergency (such as fire, explosion, collapse), to ensure a rapid, coordinated, and effective response. The CONTRACTOR shall be solely responsible for implementation of the Plan.
2. The Emergency Response Plan shall:
 - a. Identify key personnel, and define their roles and responsibilities;
 - b. List telephone numbers for key personnel;
 - c. Identify the emergency command center;
 - d. Establish lines of communication between the incident location and the command center;
 - e. Identify internal and external support services to be called upon in the event of an emergency (rescue team, fire, police, ambulance, poison control);
 - f. Provide a plan of action to speed the transfer of injured persons from working areas and to ensure that ambulances can reach access points quickly;
 - g. Define procedures for emergency evacuation for ensuring that injured persons are not left behind or unaccounted for;
 - h. Provide immediate notification of the OWNER in the event of an emergency.

F. Public Safety

1. Install and maintain trench safety systems in accordance with the detail specifications set out in the provision of the OSHA Excavations Standard, 29 CFR 1926, Subpart P, (current edition).

2. Maintain railings, barricades, steel plates, or other barriers at openings, obstructions, or other hazards in roadways, walkways, and other travel ways accessible to the public. Place flashing lights and proper signs as necessary to provide adequate warning to the public day and night.
3. Maintain secure fencing around worksites, trenches, excavations, hazardous materials, equipment, or materials stockpiles to prevent unauthorized entry.

G. Safety Coordinator

1. The CONTRACTOR shall employ a safety coordinator qualified in areas of safety related to the WORK under this Contract, having a minimum of two years of construction site experience, and have attended a minimum 10-hour OSHA Construction training. Such person(s) shall report directly to a corporate officer and shall be regularly at the worksite and authorized to enforce compliance with the CONTRACTOR's safety program.
2. The Safety Coordinator or a qualified and approved deputy shall be on site at all times.
3. The Safety Coordinator shall be familiar with corporate safety policy, management operational instructions, regulations, legislation, OWNER safety requirements, and current best practice and how these relate to site safety.
4. The Safety Coordinator shall be capable of identifying the existing and predictable hazards in the areas surrounding the project or those working conditions at the project that are dangerous to employees or the public or are unsanitary. The Safety Coordinator shall have the authority and shall make prompt corrective measures to eliminate those hazards.
5. The Safety Coordinator's duties shall include:
 - a. Hazard recognition, accident prevention, new employee orientation (including subcontractors), and supervising a safety program;
 - b. Posting appropriate notices regarding safety and health regulations at locations that afford maximum exposure to affected personnel, and posting appropriate instructions and warning signs with regard to hazardous areas or conditions;
 - c. Maintaining safety records and current copies of all pertinent safety rules and regulations.
 - d. Conducting daily safety inspections of the WORK.
6. The Safety Coordinator shall submit a monthly safety report to the OWNER within seven (7) days of the end of the month, providing the following information:
 - a. Summary of daily site safety inspections, deficiencies noted, and disposition of such deficiencies;

- b. Site visits by OSHA and other regulatory enforcement agencies;
- c. Certification of new employee orientation;
- d. Safety meeting topics and reports;
- e. Records of accidents and near-misses;
- f. Status of lost-time injuries;
- g. Status of citations;
- h. Major equipment problems;
- i. Log of equipment safety checks and calibration records;
- j. Revisions to the Project Specific Safety Plan, if applicable.

H. Notifications to OWNER

- 1. Notify the OWNER immediately, by telephone or email, of any serious injury or damage, or of any emergency threatening life, limb, or property, resulting from the WORK.
- 2. Provide a preliminary accident report to the OWNER, in writing, describing any accident involving injury to persons or damage to the WORK or property, within 24 hours of the event.
- 3. Follow any preliminary accident report with a summary accident report to the OWNER, in writing, describing known details of the accident, and corrective actions to be taken to reduce the possibility of recurrence, to be submitted within two (2) weeks of the event.
- 4. Submit to the OWNER, within two (2) days of receipt, a copy of any citations concerning safety aspects of the project received from OSHA or any other regulatory enforcement agency.
- 5. Submit to the OWNER, within two (2) days of receipt, a report of any claim against the CONTRACTOR or Subcontractor resulting from an accident, giving full details of the claim, including investigation and restitution.

1.4 PERFORMANCE REQUIREMENTS

- A. Safety requirements of the Contract Documents represent the minimum measures for performance of the WORK. The CONTRACTOR shall implement additional safety measures as necessary to protect persons and property from injury that may result from construction operations or from the passage of the general public through the work zones.

- B. The CONTRACTOR's obligations to ensure safety under this Contract shall be executed in such a manner that they are understood and carried out by all, including non-English speaking, employees.
- C. Compliance with health and safety requirements shall be the responsibility of the CONTRACTOR's managers and work force at every level.
- D. The OWNER may bring to the CONTRACTOR's attention any apparent deficiencies in their compliance with the CONTRACTOR's safety program. These deficiencies shall be corrected within 24 hours of notice. A report describing the deficiency and corrective action taken by the CONTRACTOR shall be submitted within 48 hours.
- E. The OWNER's review of submittals required under this Section are for the purpose of determining general conformance with Contract requirements, and shall not be construed to alter the CONTRACTOR's responsibility for safety.

PART 2 -- GENERAL (RESERVED).

PART 3 -- GENERAL (RESERVED).

END OF SECTION

SECTION 01 41 26

PERMITS

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section describes permit requirements for the scope of work.
- B. The project shall be permitted with the Palm Beach County Planning, Zoning and Building Department. Completion of all permit applications, sub-permits and coordination of inspections is Contractor's responsibility.
- C. All permits acquired by the Owner are provided in the Appendices.
- D. Related Sections:
 - 1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Division 01 - General Requirements of these Specifications.
 - 2. Other permits requirements may also be described in other Sections of these Specifications.
- E. References – (Reserved).

1.2 SUBMITTALS

- A. Contractor shall provide to Engineer a copy of all Contractor acquired permits prior to commencing work subject to said permit.
- B. Submit copy of permits acquired by Contractor in compliance with pertinent provisions of Section 01 33 00.
- C. Within 14 days of commencement as stated in the Notice to Proceed, submit a list of permits and licenses the Contractor shall obtain, indicating the agency required to grant the permit and the expected date of submittal for the permit and required date for receipt of the permit.

1.3 QUALITY ASSURANCE – (Reserved).

1.4 DELIVERY, STORAGE, AND HANDLING – (Reserved).

1.5 SITE CONDITIONS – (Reserved).

1.6 MAINTENANCE – (Reserved).

PERMITS

01 41 26-1 (2401618.00)

1.7 BUILDING PERMITS

- A. Obtain a building permit from Palm Beach County.

1.8 ADDITIONAL PERMITS

- A. Contractor is responsible to acquire all necessary permits to complete the construction of the work as shown on the Drawings whether those permits are listed within this specification section or not.

END OF SECTION

SECTION 01 42 13

ABBREVIATIONS AND ACRONYMS

PART 1 -- GENERAL

1.1 THE SUMMARY

- A. Wherever in these Specifications references are made to the standards, specifications, or other published data of the various international, national, regional, or local organizations, such organizations may be referred to by their acronym or abbreviation only. As a guide to the user of the Specifications, the following acronyms or abbreviations which may appear shall have the meanings indicated herein.
- B. Unless a particular issue is designated, all references to the above specifications, standards, or methods shall, in each instance, be understood to refer to the issue in effect (including all amendments) on the last published date of the Advertisement for Bids.

1.2 ABBREVIATIONS

AA	Aluminum Association
AABC	Associated Air Balance Council
AAMA	American Architectural Manufacturers Association
AAR	Association of American Railroads
AASHTO	American Association of State Highway and Transportation Officials
AATCC	American Association of Textile Chemists and Colorists
ABMA	American Bearing Manufacturer's Association
ACGIH	American Conference of Governmental Industrial Hygienists
ACI	American Concrete Institute
ACPA	American Concrete Pipe Association
AF&PA	American Forest and Paper Association
AFBMA	Anti-Friction Bearing Manufacturer's Association
AGA	American Gas Association
AGMA	American Gear Manufacturers Association
AHA	American Hardboard Association
AHAM	Association of Home Appliance Manufacturers

AHDGA	American Hot Dip Galvanizers Association
AI	The Asphalt Institute
AIA	American Institute of Architects
AIEE	American Institute of Electrical Engineers
AIHA	American Industrial Hygiene Association
AIIM	Association for Information and Image Management
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
AITC	American Institute of Timber Construction
AMA	Acoustical Material Association
AMCA	Air Movement and Control Association International, Inc
ANS	American Nuclear Society
ANSI	American National Standards Institute, Inc.
APA	The Engineered Wood Association
API	American Petroleum Institute
APWA	American Public Works Association
ARI	Air-Conditioning and Refrigeration Institute
AREA	American Railway Engineering Association
ASA	Acoustical Society of America
ASAE	American Society of Agricultural Engineers
ASLE	American Society of Lubrication Engineers
ASCE	American Society of Civil Engineers
ASHRAE	American Society of Heating, Refrigerating, and Air Conditioning Engineers
ASME	American Society of Mechanical Engineers
ASNT	American Society of Nondestructive Testing
ASQ	American Society for Quality

ASQC	American Society for Quality Control
ASSE	American Society of Sanitary Engineers
ASTM	American Society for Testing and Materials
AWCI	American Wire Cloth Institute
AWPB	American Wood Preservers Bureau
AWI	Architectural Woodwork Institute
AWPA	American Wood Preservers Association
AWPI	American Wood Preservers Institute
AWS	American Welding Society
AWWA	American Water Works Association
BBC	Basic Building Code, Building Officials and Code Administrators International
BHMA	Builders Hardware Manufacturer's Association
CABO	Council of American Building Officials
CBM	Certified Ballast Manufacturer's
CDA	Copper Development Association
CEMA	Conveyors Equipment Manufacturer's Association
CGA	Compressed Gas Association
CISPI	Cast Iron Soil Pipe Institute
CLFMI	Chain Link Fence Manufacturer's Institute
CLPCA	California Lathing and Plastering Contractors Association
CMAA	Crane Manufacturers Association of America, Inc.
CPG	Compressed Gas Association
CRSI	Concrete Reinforcing Steel Institute
DCDMA	Diamond Core Drilling Manufacturer's Association
DER	Florida Department of Environmental Regulation
DHI	Door and Hardware Institute

DIPRA	Ductile Iron Pipe Research Association
EI	Energy Institute
EIA	Electronic Industries Alliance
EPA	Environmental Protection Agency
ETL	Electrical Test Laboratories
FCC	Federal Communications Commission
FCI	Fluid Controls Institute
FDOT	Florida Department of Transportation
FES	Florida Engineering Society
FEMA	Federal Emergency Management Association
FHWA	Federal Highway Administration
FM	Factory Mutual System
FPL	Forest Products Laboratory
FS	Federal Specifications
HI	Hydronics Institute, Hydraulic Institute
HMI	Hoist Manufacturer's Institute
HSWA	Federal Hazardous and Solid Waste Amendments
IAPMO	International Association of Plumbing and Mechanical Officials
IBC	International Building Code
ICBO	International Conference of Building Officials
ICC	International Code Council
ICCES	International Code Council Evaluation Service
ICCEC	International Code Council Electrical Code
ICEA	Insulated Cable Engineers Association
IECC	International Energy Conservation Code
IEEE	Institute of Electrical and Electronics Engineers

IESNA	Illuminating Engineering Society of North America
IFC	International Fire Code
IFGC	International Fuel Gas Code
IMC	International Mechanical Code
IME	Institute of Makers of Explosives
IP	Institute of Petroleum (London)
IPC	International Plumbing Code, Association Connecting Electronic Industries
ICEA	Insulated Cable Engineers Association
IRC	International Residential Code
ISA	International Society of Automation
ISDI	Insulated Steel Door Institute
ISEA	Industrial Safety Equipment Association
ISO	International Organization for Standardization
ITE	Institute of Traffic Engineers
ITU-T	Telecommunications Standardization Sector of the International Telecommunications Union
JIC	Joint Industry Conferences of Hydraulic Manufacturers
LPI	Lightning Protection Institute
LRQA	Lloyd's Register Quality Assurance
LWDD	Lake Worth Drainage District
MBMA	Metal Building Manufacturer's Association
MIL	Military Standards (DoD)
MPTA	Mechanical Power Transmission Association
MSS	Manufacturers Standardization Society
MTI	Marine Testing Institute
NAAMM	National Association of Architectural Metal Manufacturer's
NACE	National Association of Corrosion Engineers

NBHA	National Builders Hardware Association
NBS	National Bureau of Standards Publication
NCCLS	National Committee for Clinical Laboratory Standards
NAPF	National Association of Pipe Fabricators
NBBPVI	National Board of Boiler and Pressure Vessel Inspectors
NCCLS	National Committee for Clinical Laboratory Standards
NCMA	National Concrete Masonry Association
NEC	National Electrical Code
NEMA	National Electrical Manufacturer's Association
NESC	National Electric Safety Code
NETA	International Electrical Testing Association
NFPA	National Fire Protection Association or National Fluid Power Association
NISO	National Information Standards Organization
NIST	National Institute of Standards and Technology
NLGI	National Lubricating Grease Institute
NLMA	National Lumber Manufacturers Association
NRCA	National Roofing Contractors Association
NSF	National Sanitation Foundation
NSPE	National Society of Professional Engineers
NWMA	National Woodwork Manufacturers Association
NWWDA	National Wood Window and Door Association
OSHA	Occupational Safety and Health Administration
PBCBC	Palm Beach County Building Code
PBCDERM	Palm Beach County Department of Environmental Resources Management
PBCHD	Palm Beach County Health Department
PBCPZB	Palm Beach County Planning, Zoning and Building

PBCPHU	Palm Beach County Public Health Unit
PBCWUD	Palm Beach County Water Utilities Department
PCA	Portland Cement Association
PCI	Precast/Prestressed Concrete Institute
PPI	Plastic Pipe Institute
RCRA	Resource Conservation and Recovery Act
RIS	Redwood Inspection Service, a division of the California Redwood Association, CRA
RLM	RLM Standards Institute
RMA	Rubber Manufacturers Association
RVIA	Recreational Vehicle Industry Association
RWMA	Resistance Welder Manufacturer's Association
SAE	Society of Automotive Engineers
SAMA	Scientific Apparatus Manufacturers Association
SDI	Steel Door Institute, Steel Deck Institute
SFBC	South Florida Building Code
SFWMD	South Florida Water Management District
SMA	Screen Manufacturers Association
SMACNA	Sheet Metal and Air Conditioning Contractors National Association
SPFA	Steel Plate Fabricator's Association
SPI	Society of the Plastics Industry
SPIB	Southern Pine Inspection Bureau
SPR	Simplified Practice Recommendation
SSA	Swedish Standards Association
SSBC	Southern Standard Building Code, Southern Building Code Congress
SSPC	Society for Protective Coating
SSPWC	Standard Specifications for Public Works Construction

STLE	Society of Tribologists and Lubricating Engineers
TAPPI	Technical Association of the Worldwide Pulp, Paper, and Converting Industry
TCNA	Tile Council of North America
TEMA	Tubular Exchanger Manufacturers Association
TFI	The Fertilizer Institute
TIA	Telecommunications Industries Association
TPI	Truss Plate Institute
UBC	Uniform Building Code
UL	Underwriters Laboratories, Inc.
USEPA	United States of America Environmental Protection Agency
VPS	Voluntary Product Standards Section - U.S. Dept. of Commerce
WCLIB	West Coast Lumber Inspection Bureau
WCRSI	Western Concrete Reinforcing Steel Institute
WDMA	National Window and Door Manufacturers Association
WEF	Water Environment Federation
WI	Woodwork Institute
WOG	Water, Oil and Gas
WRI	Wire Reinforcement Institute, Inc.
WWPA	Western Wood Products Association

PART 2 -- PRODUCTS (RESERVED).

PART 3 -- EXECUTION (RESERVED).

END OF SECTION

SECTION 01 42 19

REFERENCE STANDARDS

PART 1 -- GENERAL

1.1 THE SUMMARY

- A. Titles of Sections and Paragraphs: Titles and subtitles accompanying specification sections and paragraphs are for convenience and reference only and do not form a part of the Specifications.
- B. Applicable Publications: Whenever in these Specifications references are made to published specifications, codes, standards, or other requirements, it shall be understood that wherever no date is indicated, only the latest specifications, standards, or requirements of the respective issuing agencies which have been published as of the date that the Contract is advertised for Bids shall apply; except to the extent that said standards or requirements may be in conflict with applicable laws, ordinances, or governing codes. No requirements set forth in the Specifications or shown on the Drawings will be waived because of any provision of or omission from said standards or requirements.
- C. Specialists, Assignments: In certain instances, specification text requires (or implies) that specific WORK is to be assigned to specialists or expert entities who must be engaged to perform that WORK. Such assignments shall be recognized as special requirements over which the CONTRACTOR has no choice or option. These requirements shall not be interpreted so as to conflict with the enforcement of building codes and similar regulations governing the WORK; also they are not intended to interfere with local union jurisdiction settlements and similar conventions. Such assignments are intended to establish which party or entity involved in a specific unit of WORK is recognized as "expert" for the indicated construction processes or operations. Nevertheless, the final responsibility for fulfillment of the entire set of Contract requirements remains with the CONTRACTOR.

1.2 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS

- A. The CONTRACTOR shall construct the WORK in accordance with the Contract Documents and the referenced portions of those referenced codes, standards, and specifications.
- B. References to "Building Code" shall mean the "Palm Beach County Amendments to the Florida Building Code". The latest edition of the codes as approved by the Municipal Code and used by Palm Beach County as of the date that the WORK is advertised for Bids shall apply to the WORK herein, including all addenda, modifications, amendments, or other lawful changes thereto.
- C. In case of conflict between codes, reference standards, drawings, and the other Contract Documents, the most stringent requirements shall govern. All conflicts shall be brought to the attention of the ENGINEER for clarification and direction prior to ordering or providing any materials or furnishing labor. The CONTRACTOR shall bid for the most stringent requirements.

REFERENCE STANDARDS

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- D. References to "OSHA Regulations for Construction" shall mean Title 29, Part 1926, Construction Safety and Health Regulations, Code of Federal Regulations (OSHA), including all changes and amendments thereto.
- E. References to "OSHA Standards" shall mean Title 29, Part 1910, Occupational Safety and Health Standards, Code of Federal Regulations (OSHA), including all changes and amendments thereto.

1.3 REGULATIONS RELATED TO HAZARDOUS MATERIALS

- A. The CONTRACTOR shall be responsible that all WORK included in the Contract Documents, regardless if indicated or not, shall comply with all EPA, FDEP, OSHA, RCRA, NFPA, and any other federal, state, and local regulations governing the storage and conveyance of hazardous materials, including petroleum products.

PART 2 -- PRODUCTS (RESERVED).

PART 3 -- EXECUTION (RESERVED).

END OF SECTION

SECTION 01 45 00

QUALITY CONTROL

PART 1 -- GENERAL

1.1 THE SUMMARY

- A. This section provides the CONTRACTOR's requirements and procedures for Quality Control.

1.2 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS

- A. Wherever reference is made to any published standards, codes or standard specifications, it shall mean the latest issue, at the time of Award of the Contract, of that standard, code, specification or tentative specification of the technical society, organization, or body referred to, which is in the Specifications by abbreviations in accordance with the list included in Section 01 42 13 – Abbreviations and Acronyms.
- B. When no reference is made to a code, standard or specification, the standard specifications for the ASTM, the ASA, the ASME, the AIEE, or the NEMA shall govern.

1.3 DEFINITIONS

- A. Specific quality control requirements for the WORK are indicated throughout the Contract Documents. Quality control provisions for manufacturer products are specified in individual work sections and in other related sections. The requirements of this Section are primarily related to performance of the WORK beyond furnishing of manufactured products. The term "Quality Control" includes inspection, sampling and testing, and associated requirements. Quality control and items not specifically listed shall conform to the Loxahatchee River District Environmental Control District Manual of Minimum Construction Standards and Technical Specifications (Latest Version).

1.4 INSPECTION AT PLACE OF MANUFACTURE

- A. Unless otherwise indicated, all products, materials, and equipment shall be subject to inspection by the ENGINEER at the place of manufacture.
- B. The presence of the ENGINEER at the place of manufacturer, however, shall not relieve the CONTRACTOR of the responsibility for providing products, materials, and equipment which comply with all requirements of the Contract Documents. Compliance is a duty of the CONTRACTOR and said duty shall not be avoided by any act or omission on the part of the ENGINEER.

1.5 SAMPLES/TESTS

- A. Unless otherwise indicated, all sampling and testing will be in accordance with the methods prescribed in the current standards of the ASTM, as applicable to the class and nature of the article or materials considered; however, the OWNER reserves the

right to use any generally-accepted system of sampling and testing which, in the opinion of the ENGINEER will assure the OWNER that the quality of the workmanship is in full accord with the Contract Documents.

- B. Any waiver by the OWNER of any specific testing or other quality assurance measures, whether or not such waiver is accompanied by a guarantee of substantial performance as a relief from the testing or other quality assurance requirements originally indicated, and whether or not such guarantee is accompanied by a performance bond to assure execution of any necessary corrective or remedial WORK, shall not be construed as a waiver of any requirements of the Contract Documents.
- C. Notwithstanding the existence of such waiver, the ENGINEER reserves the right to make independent investigations and tests, and failure of any portion of the WORK to meet any of the requirements of the Contract Documents, shall be reasonable cause for the ENGINEER to require the removal or correction and reconstruction of any such WORK in accordance with the Contract Documents.

1.6 INSPECTION AND TESTING SERVICE

- A. Inspection and testing laboratory service shall comply with the following:
 - 1. The CONTRACTOR will employ and pay for the services of an independent testing laboratory for foundation testing, concrete testing, and other testing as specified herein. The independent testing laboratory shall be approved by the OWNER.
 - 2. The laboratory testing WORK will include such inspections and testing required by the Contract Documents, existing laws, codes, ordinances, etc.
 - 3. The testing laboratory, regardless of whether engaged by the OWNER or the CONTRACTOR, will have no authority to change the requirements of the Contract Documents, nor perform or approve any of the CONTRACTOR's WORK.
 - 4. The WORK or actions of the testing laboratory shall in no way relieve the CONTRACTOR of its obligations under the Contract.
 - 5. The OWNER or independent firm will perform inspections, tests, and other services as required by the ENGINEER under Paragraph 1.5C above.
 - 6. Reports of testing, will be submitted to the ENGINEER, indicating observations and results of tests and indicating compliance or non-compliance with Contract Documents.
 - 7. The CONTRACTOR shall cooperate with the OWNER or independent firm and furnish samples of materials, design mix, equipment, tools, storage, and assistance as requested.

8. The CONTRACTOR shall notify ENGINEER a minimum of 48 hours prior to the expected time for operations requiring inspection and laboratory testing services.
9. Retesting required because of non-conformance to requirements shall be performed by the same independent firm on instructions by the ENGINEER. The CONTRACTOR shall bear all costs from such retesting.
10. The CONTRACTOR shall at all times allow the ENGINEER/OWNER ample time and opportunity for inspection and testing of materials, equipment and workmanship used in completing the WORK.
11. The CONTRACTOR shall advise the ENGINEER and OWNER promptly upon placing orders for materials and equipment so that arrangements may be made, if desired, for inspection before shipment from the place of manufacture.
12. The CONTRACTOR must anticipate that possible delays may occur in the execution of its WORK due to the necessity of materials and equipment being inspected.
13. The CONTRACTOR shall furnish, at its own expense, all samples of materials required by the ENGINEER and OWNER for testing, and shall make its own arrangements for providing labor, water, electric power, or fuel for the various inspections and tests of structures and equipment.
14. The CONTRACTOR shall furnish the services of representatives of the manufacturers of equipment specified in these Specifications.
15. The CONTRACTOR shall place orders for equipment on the basis that after the equipment has been tested and prior to final acceptance of the WORK, the manufacturer will furnish the ENGINEER and OWNER with certified statements that the equipment has been installed properly and is ready to be placed in full operation.
16. Tests and analyses required of equipment shall be paid for by the CONTRACTOR, unless specified otherwise in the appropriate Section of the Specifications which covers that particular item of equipment.
17. The OWNER will bear the cost of all tests, inspections, or investigations undertaken 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.
18. Whenever non-conformance is determined by the ENGINEER and OWNER as a result of such tests, inspections, or investigations, the CONTRACTOR shall bear the full cost of any additional tests and investigations which are ordered by the ENGINEER and OWNER to ascertain subsequent conformance with the Contract Documents.

19. No failure of test agencies, whether engaged by the OWNER or the CONTRACTOR, to perform adequate inspections of tests or to properly analyze or report results, shall relieve the CONTRACTOR of the responsibility for the fulfillment of the requirements of the Contract Documents.
20. It is recognized and acknowledged that the required inspection and testing program is intended to assist the CONTRACTOR, ENGINEER, OWNER, and governing authorities in the nominal determination of probable compliances with requirements for certain crucial elements of the WORK. The program is not intended to limit the CONTRACTOR in its regular quality control program, as needed for general assurance of compliance.

1.7 RIGHT OF REJECTION

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

PART 2 -- PRODUCTS - (RESERVED)

PART 3 -- EXECUTION

3.1 INSTALLATION

- A. Inspection:
 1. The CONTRACTOR shall inspect materials or equipment upon the arrival on the job site and immediately prior to installation and reject damaged and defective items.
 2. The CONTRACTOR shall verify all dimensions in the field and shall check field conditions continuously during construction. The CONTRACTOR shall be solely responsible for any inaccuracies built into the WORK due to its failure to comply with this requirement.

3. The CONTRACTOR shall inspect related and appurtenant WORK and shall report in writing to the ENGINEER and OWNER any condition(s) which will prevent proper completion of the WORK. Failure to report any such conditions shall constitute acceptance of all site conditions and any required removal, repair, or replacement caused by unsuitable conditions shall be performed by the CONTRACTOR within the scope of the Contract Documents.
- B. Measurements: The CONTRACTOR shall verify measurements and dimensions of the WORK, as an integral step of starting each installation.
- C. Manufacturer's Instructions: Where installations include manufactured products, the CONTRACTOR shall comply with manufacturer's applicable instructions and recommendations for installation, to whatever extent these are more explicit or more stringent than applicable requirements indicated in Contract Documents.

END OF SECTION

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SECTION 01 45 29

TESTING LABORATORY SERVICES

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section describes testing to be provided by an independent testing laboratory service.
- B. Related work:
 - 1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Division 01 - General Requirements of these Specifications.
 - 2. Requirements for specific tests will be described in various Sections of these Specifications.
- C. References – (Reserved).

1.2 SUBMITTALS

- A. Shop Drawing Submittals – (Reserved).
- B. Operation and Maintenance Manuals – (Reserved).
- C. Certificates and Guarantees – (Reserved).
- D. Spare Parts – (Reserved).

1.3 QUALITY ASSURANCE

- A. Provide the services of a testing laboratory approved by the Engineer.
- B. Upon completion of each test and/or inspection, promptly distribute copies of test or inspection reports to the Engineer, to governmental agencies requiring submission of such reports, and to such other persons as directed by the Engineer.

1.4 DELIVERY, STORAGE, AND HANDLING – (Reserved).

1.5 SITE CONDITIONS – (Reserved).

1.6 MAINTENANCE – (Reserved).

1.7 TESTING AGENCY DUTIES AND LIMITS OF AUTHORITY

- A. Cooperate with the Engineer and the Contractor; provide qualified personnel and equipment to perform the scope of testing work outlined.
- B. Acquaint the Engineer and the Contractor with testing procedures for special conditions encountered at the site.
- C. Perform specified monitoring, sampling, and testing of the materials and construction.
 - 1. Comply with specified standards, AASHTO, ASTM, other authorities, and as specified.
 - 2. Ascertain compliance with the Contract Documents.
 - 3. Obtain written acknowledgment of sampling or testing.
- D. Give prompt written notice to the Engineer and the Contractor of irregularities or deficiencies of work which are observed during performance of service.
- E. The Laboratory is not authorized to release, revoke, alter or enlarge the Contract requirements, nor to approve or accept any portion of the work, nor to perform the duties of the Contractor.

PART 2 - PRODUCTS

2.1 PAYMENT FOR TESTING

- A. Include within the Contract Price an amount sufficient to cover all testing required of the Contractor under pertinent Sections of these Specifications, and to cover all testing and inspecting required by governmental agencies having jurisdiction.
- B. When tests indicate noncompliance with the Contract Documents, all testing and subsequent retesting occasioned by the noncompliance shall be performed by the same testing laboratory and the costs thereof shall be paid by the Contractor.

PART 3 - EXECUTION

3.1 TAKING SPECIMENS

- A. Except as may be specifically otherwise approved by the Engineer, have the testing laboratory secure and handle all samples and specimens for testing.

3.2 COOPERATION WITH TESTING LABORATORY

- A. Provide access to the Work at all times and at all locations where the Work is in progress. Provide facilities for such access to enable the laboratory to perform its functions properly.

- B. Furnish casual labor and facilities:
 - 1. To obtain and handle samples at the site or at the source of the product to be tested.
 - 2. To facilitate testing operations.
 - 3. For laboratory's exclusive use for storage and curing of test samples on site.
- C. Notify the testing agency sufficiently in advance of operations to allow for assignment of personnel and scheduling of its operations.
- D. Provide the testing laboratory with copies of approved relevant shop drawings.

END OF SECTION

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SECTION 01 57 00 – TEMPORARY CONTROLS

PART 1 -- GENERAL

1.1 THE SUMMARY

- A. Furnish, install and maintain all methods, equipment and temporary utilities as required to provide controls over environmental conditions at the construction site and related areas under the CONTRACTOR's influence. Remove physical evidence of temporary facilities upon completion of the WORK.
- B. Providing of adequate facilities at every stage of performing the WORK is the CONTRACTOR's sole responsibility, and is not limited by the requirements hereof.
- C. Except as otherwise indicated, the costs of providing and using temporary utility services is to be included in the Contract Sum.
- D. Enforce strict discipline in the use of utility services. Limit availability to essential uses so as to minimize waste. Do not allow the installations to be abused or endangered.
- E. Maintain distinct markers for underground lines and protect from damage during excavation operations.
- F. Related sections:
 - 1. Section 01 14 13 – Access to Site

1.2 PERFORMANCE REQUIREMENTS

- A. Noise Controls:
 - 1. Between the hours of 5:00 P.M. and 7:30 A.M., Monday through Friday, noise levels shall not exceed ten (10) dbA above the ambient noise level, when measured within 50 feet of the noise source, without written permission of the OWNER.
 - 2. Between the hours of 5:00 P.M. Friday and 7:30 A.M. Monday, noise levels shall not exceed ten (10) dbA above the ambient noise level, when measured within 50 feet of the noise source, without written permission of the OWNER.
 - 3. Between the hours of 5:00 P.M. on the day prior to a recognized District Holiday to 7:30 A.M. on the day after such Holidays, noise levels shall not exceed ten (10) dbA above the ambient noise levels, when measured within 50 feet of the noise source, without written permission of the OWNER. District Holidays for the 2025 calendar year are herein defined as follows:
 - a. New Years Day.
 - b. Memorial Day.
 - c. Independence Day.

- d. Labor Day.
- e. Thanksgiving Day.
- f. The day after Thanksgiving Day.
- g. Christmas Eve.
- h. Christmas Day.

B. Dust Abatement

1. The CONTRACTOR shall prevent its operation from producing dust in amounts damaging to property, cultivated vegetation, or domestic animals, or causing a nuisance to persons living in or occupying buildings in the vicinity of the Site. The CONTRACTOR shall be responsible for any damage resulting from dust originating from its operations. Dust abatement measures shall be continued until the CONTRACTOR is relieved of further responsibility by the ENGINEER.
2. Storage Piles: Enclose, cover, water (as needed), or apply non-toxic soil binders according to manufacturer's specifications on material piles (i.e. gravel, sand, dirt) with a silt content of 5 percent or greater.
3. Active Areas of Site: Water active construction areas and unpaved roads as needed and as requested by ENGINEER.
4. Inactive Areas of Site: Apply non-toxic soil stabilizers according to manufacturer's specifications to inactive construction areas, or water as needed to maintain adequate dust control.
5. Vehicle Loads: Cover or maintain at least 2-feet of freeboard vertical distance between the top of the load and the top of the trailer sides on trucks hauling dirt, sand, soil, or other loose materials off of the Site.
6. Roads: When there is visible track-out onto a paved public road, install wheel washers where the vehicles exit and enter onto the paved roads and wash the undercarriage of trucks and any equipment leaving the Site on each trip. Sweep the paved street at the end of each shift with a Mobil Athey or similar water spray pick-up broom-type street sweeper as necessary or as directed.
7. Vehicle Speeds: If watering of unpaved roads is not sufficient to control dust, reduce vehicle speeds to 15 mph or less on such roads.

C. Rubbish Control

1. During the progress of the WORK, the CONTRACTOR shall keep the Site and other areas for which it is responsible in a neat and clean condition and free from any accumulation of rubbish. The CONTRACTOR shall dispose of rubbish and waste materials of any nature and shall establish regular intervals of collection and disposal of such materials and waste. The CONTRACTOR shall also keep its

haul roads free from dirt, rubbish, and unnecessary obstructions resulting from its operations. Disposal of rubbish and surplus materials shall be off the Site in accordance with local codes and ordinances governing locations and methods of disposal and in conformance with applicable safety laws and the particular requirements of Part 1926 of the OSHA Safety and Health Standards for Construction.

D. Sanitation

1. Toilet Facilities: Fixed or portable chemical toilets shall be provided wherever needed for the use of employees. Toilets shall conform to the requirements of Part 1926 of the OSHA Standards for Construction.
2. Sanitary and Other Organic Wastes: The CONTRACTOR shall establish a regular daily collection of sanitary and organic wastes. Wastes and refuse from sanitary facilities provided by the CONTRACTOR or organic material wastes from any other source related to the CONTRACTOR's operations shall be disposed of away from the Site in a manner satisfactory to the ENGINEER and in accordance with Laws and Regulations pertaining thereto.

E. Chemicals

1. Chemicals used on the WORK or furnished for facility operation, whether defoliant, soil sterilant, herbicide, pesticide, disinfectant, polymer, reactant, or of other classification, shall show approval of either the U.S. Environmental Protection Agency or the U.S. Department of Agriculture. Use of such chemicals and disposal of residues shall be in strict accordance with the printed instructions of the manufacturer. In addition, see the requirements set forth in the General Conditions.

F. Water Control:

1. Provide methods to control surface water to prevent damage to the project, the site, or to adjoining properties:
 - a. Control fill, grading and ditching to direct surface drainage away from excavations, trenches, pits 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.

G. Rodent Control:

1. Provide rodent control as necessary to prevent infestation of construction and storage areas.

- a. Employ methods and use materials which will not adversely affect conditions at the site or on adjoining properties.
- b. If the use of rodent control chemicals is considered necessary, submit an informational copy of the proposed program to the ENGINEER/OWNER. Clearly indicate:
 - 1) The area or areas to be treated.
 - 2) The rodent control chemicals 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 rodent control chemicals shall be in full accordance with the manufacturer's printed instructions and recommendations.

H. Pollution Control:

1. Provide methods, means and facilities required to prevent contamination of soil, water or air by the discharge of noxious substances from construction operations.
2. Provide equipment and personnel, perform emergency measures required to contain any spills, and to remove contaminated soils or liquids.
 - a. Excavate and suitably dispose of any contaminated earth off-site and replace with suitable compacted fill and topsoil.
3. Take special measures 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.

1.3 CULTURAL RESOURCES

- A. The CONTRACTOR's attention is directed to the National Historic Preservation Act of 1966 (16 U.S.C. 470) and 36 CFR 800 which provides for the preservation of potential historical architectural, archaeological, or cultural resources (hereinafter called "cultural resources").

- B. In the event potential cultural resources are discovered during subsurface excavations at the Site, the following procedures shall be instituted:
- C. The OWNER will issue a temporary Notice to Suspend Work directing the CONTRACTOR to cease construction operations at the location of such potential cultural resources find.
- D. The suspension Notice will contain the following:
 - 1. A clear description of the WORK to be suspended
 - 2. Instructions regarding issuance of further orders by the CONTRACTOR for material services
 - 3. Guidance as to the action to be taken on subcontracts
 - 4. Suggestions to the CONTRACTOR to minimize incurred costs
 - 5. Estimated duration of the temporary suspension.
- E. Such suspension shall be effective until such time as a qualified archeologist can assess the value of the potential cultural resources and make recommendations to the State Historic Preservation Office.
- F. The OWNER will implement appropriate actions as directed by the State Cultural Resources Officer or Project Manager. The CONTRACTOR shall cease WORK in the area of a discovery until appropriate actions have been determined in accordance with this paragraph.
- G. If human remains are discovered, WORK in the immediate vicinity of the find shall stop. The County Coroner shall be notified.
- H. If the archeologist determines that the potential find is a bona fide cultural resource, at the direction of the State Cultural Resources Officer, the OWNER will extend the duration of the suspension.
- I. Changes to the Contract Price and Contract Times for suspension due to discovery of a potential cultural resource will be made in the following manner:
 - 1. Contract Times
 - a. If the WORK temporarily suspended is on the "critical path", the total number of Days for which the suspension is in effect will be added to the Contract Times.
 - b. If a portion of WORK at the time of such suspension is not on the "critical path", but subsequently becomes WORK on the critical path, the Contract Times will be computed from the date such WORK is classified as on the critical path.

2. Contract Price

- a. If, as a result of a cultural resources suspension, the CONTRACTOR sustains a loss that could not have been avoided by judicious handling of forces and equipment or redirection of forces or equipment to perform other WORK on the contract, there will be paid an amount based on time and materials for the loss in accordance with the following:
 - 1) Idle Time of Equipment: Compensation for equipment idle time will be determined in accordance with the General Conditions for equipment time and equipment rental time.
 - 2) Idle Time of Labor: Compensation for idle time of workers will be determined in accordance with the General Conditions for labor.
- b. Costs of labor will be compensated only to the extent such cost was in fact caused by the suspension.
- c. Compensation for loss due to idle time of either equipment or labor will not include markup for profit.
- d. The hours for which compensation will be paid will be the actual normal working time during which such suspension lasts but will in no case exceed eight hours in any single Day.
- e. The days for which compensation will be paid exclude Saturdays, Sundays, and legal holidays during the suspension.

PART 2 -- PRODUCTS (RESERVED).

PART 3 -- EXECUTION (RESERVED).

END OF SECTION

SECTION 01 60 00

PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 THE SUMMARY

- A. Section Includes: Information on product workmanship, manufacturer's instructions, transportation and handling, storage and protection.
- B. Related Sections
 - 1. 01 33 00 – Submittal Procedures

1.2 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS

- A. Section 01 11 00 – Summary of Work
- B. Section 01 25 13 – Product Substitution Procedures
- C. Section 01 77 00 – Closeout Procedures

1.3 DEFINITIONS

- A. The word "Products," as used in the Contract Documents, is defined to include purchased items for incorporation into the WORK, regardless of whether specifically purchased for the project or taken from CONTRACTOR's stock of previously purchased products.
- B. The word "Materials," is defined as products which must be substantially cut, shaped, worked, mixed, finished, refined, or otherwise fabricated, processed, installed, or applied to form WORK.
- C. The word "Equipment" is defined as products with operational parts, regardless of whether motorized or manually operated, and particularly including products with service connections (wiring, piping, and other like items).
- D. Definitions in this paragraph are not intended to negate the meaning of other terms used in the Contract Documents, including "specialties," "systems," "structure," "finishes," "accessories," "furnishings," special construction," and similar terms, which are self-explanatory and have recognized meanings in the construction industry.
- E. Neither "Products" nor "Materials" nor "Equipment" includes machinery and equipment used for preparation, fabrication, conveying, and erection of the WORK.

1.4 CONTRACTOR SUBMITTALS

A. The CONTRACTOR shall submit the following:

1. Assembly instructions for parts shipped unassembled.
2. Manufacturer's instructions for unloading, handling, storage, and protection prior to installation, with each shipment of each product type.
3. Copy of manufacturer's notice of shipment for products critical to the project schedule.
4. Documentation of products in storage, submitted with each progress payment request.
5. Written agreement with property OWNER or lessee for storage of products, if offsite storage is necessary.

B. QA/QC SUBMITTALS

1. Source Limitations: To the greatest extent possible for each unit of WORK, the CONTRACTOR shall provide products, materials, and equipment of a singular generic kind from a single source.
2. Compatibility of Options: Where more than one choice is available as options for CONTRACTOR's selection of a product, material, or equipment, the CONTRACTOR shall select an option, which is compatible with other products, materials, or equipment. Compatibility is a basic general requirement of product, material and equipment selections.

1.5 PRODUCT DELIVERY AND STORAGE

- A. The CONTRACTOR shall deliver and store the WORK in accordance with manufacturer's written recommendations and by methods and means, which will prevent damage, deterioration, and loss including theft. Delivery schedules shall be controlled to minimize long-term storage of products at the Site and overcrowding of construction spaces. In particular, the CONTRACTOR shall ensure coordination to ensure minimum holding or storage times for flammable, hazardous, easily damaged, or sensitive materials to deterioration, theft, and other sources of loss.

1.6 PREPARATION FOR SHIPMENT

A. When practical, products shall be factory assembled.

1. Furnish assembly instructions for parts and products that are shipped unassembled.

2. Mark or tag the separate parts and assemblies for field assembly.
 3. Cover machined and unpainted parts that may be damaged by the elements with a strippable protective coating.
- B. Package or crate products to provide protection from damage during shipping, handling, and storage.
1. Mark or tag the outside of each package or crate to indicate its purchase order number, bill of lading number, contents by name, name of project and CONTRACTOR, equipment number, and approximate weight.
- C. Mark spare parts and special tools to identify the associated products by name, equipment, and part number.
- D. Package parts for protection against damage from the elements during shipping, handling, and storage.
- E. Ship in boxes or containers marked to indicate the contents as stated above.
- F. Deliver spare parts and special tools before the associated equipment is scheduled for the initial test run.
- G. The CONTRACTOR shall request a minimum 7-day advance notice of shipment from manufacturer.
- H. Where specified for specific products, factory test results shall be reviewed and accepted before such products are shipped.
- 1.7 TRANSPORTATION AND HANDLING
- A. Products shall be transported by methods to avoid damage and shall be delivered in undamaged condition in manufacturer's unopened containers and packaging.
- B. The CONTRACTOR shall provide equipment and personnel to handle products, materials, and equipment including those furnished by OWNER, by methods to prevent soiling and damage.
- C. The CONTRACTOR shall provide additional protection during handling to prevent scrapping, marring and otherwise damaging products, packaging, and surrounding surfaces.
- D. Handle products by methods to prevent bending or stressing
- E. Lift heavy components only at designated lifting points
- 1.8 RECEIVING, INSPECTION AND UNLOADING
- A. All OWNER furnished items, if applicable, will be picked up by the CONTRACTOR at the locations specified by the OWNER, and unloaded at the job site.

- B. The CONTRACTOR shall record the receipt of products at the jobsite.
- C. Upon receipt of products at the jobsite, the CONTRACTOR shall inspect for completeness and evidence of damage during shipment.
 - 1. The OWNER, ENGINEER, and MANUFACTURER's representative may be present for inspection.
 - 2. Should there appear to be any damage, notify the ENGINEER immediately and inform the MANUFACTURER and the transportation company.
 - 3. Expedite replacement of damaged, incomplete, or lost items.
- D. After completion of inspection, unload products per the MANUFACTURER's instructions.
- E. Do not unload damaged or incomplete products to be returned to the manufacturer for replacement, except as necessary to expedite return shipment.
- F. The CONTRACTOR shall certify that the materials and quantity received are suitable for installation in accordance with these Contract Documents.
- G. The CONTRACTOR shall assume full responsibility for the storage and control of all OWNER supplied materials.

1.9 STORAGE AND PROTECTION

- A. Products shall be stored in accordance with manufacturer's written instructions and with seals and labels intact and legible. Sensitive products shall be stored in weather-tight climate controlled enclosures and temperature and humidity ranges shall be maintained within tolerances required by manufacturer's recommendations.
- B. For exterior storage of fabricated products, products shall be placed on sloped supports above ground. Products subject to deterioration shall be covered with impervious sheet covering and ventilation shall be provided to avoid condensation.
- C. Loose granular materials shall be stored on solid flat surfaces in a well-drained area and shall be prevented from mixing with foreign matter.
- D. Storage shall be arranged to provide access for inspection. The CONTRACTOR shall periodically inspect to assure products are undamaged and are maintained under required conditions.
- E. Storage shall be arranged in a manner to provide access for maintenance of stored items and for inspection.
- F. During such periods of time as are designated by the U.S. Weather Bureau as being a hurricane warning or hurricane alert, construction materials or equipment shall be secured against displacement by wind forces.

- G. The CONTRACTOR shall document products in storage to facilitate inspection and to estimate progress payments for products delivered but not installed in the WORK.
 - H. Suitable storage facilities shall be furnished by the CONTRACTOR.
 - I. 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.
- 1.10 MAINTENANCE OF PRODUCTS IN STORAGE
- A. Stored products shall be periodically inspected on a scheduled basis. The CONTRACTOR shall maintain a log of inspections and shall make the log available on request.
 - B. The CONTRACTOR shall comply with manufacturer's product storage requirements and recommendations.
 - C. The CONTRACTOR shall maintain manufacturer-required environmental conditions continuously.
 - D. The CONTRACTOR shall ensure that surfaces of products exposed to the elements are not adversely affected and that weathering of finishes does not occur.
 - E. For mechanical and electrical equipment, the CONTRACTOR shall provide a copy of the manufacturer's service instructions with each item and the exterior of the package shall contain notice that instructions are included.
 - F. Products shall be serviced on a regularly scheduled basis, and a log of services shall be maintained and submitted as a record document prior to final acceptance by the OWNER in accordance with the Contract Documents.

PART 2 - PRODUCTS (RESERVED).

PART 3 - EXECUTION (RESERVED).

END OF SECTION

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ATTACHMENT 01 60 00-1

MANUFACTURER'S CERTIFICATE OF INSPECTION

Date of Inspection: _____

Project Name _____

Contractor: _____

Equipment Manufacturer: _____

Equipment Specification: _____

Equipment Type & Name: _____

This will certify that I, the manufacturer's representative, have completely checked and inspected the installation of this equipment and it has been properly installed in accordance with our instructions and requirements. I also certify that the equipment has been satisfactorily tested and is now ready for normal operation and use.

I have instructed the Owner's personnel in the proper operation and maintenance of the equipment which we have furnished for this project.

Manufacturer's Representative's Signature

Name and Title

Attendees:

Name and Title

Signature

Name and Title

Signature

Name and Title

Signature

Name and Title

Signature

Name and Title

Signature

Name and Title

Signature

ATTACHMENT 01 60 00-2

CONTRACTOR'S VERIFICATION OF EQUIPMENT INSPECTION

Date of inspection: _____

Project Name: _____

Contractor: _____

Equipment Manufacturer: _____

Equipment Specification: _____

Equipment Type & Name: _____

We, the Contractor for the subject project, hereby verify that the equipment manufacturer's serviceman has inspected and tested the installation of this equipment within the last 30 days and has certified that the equipment which we have furnished and installed for this project is now ready for normal operation and use by the Owner.

Contractor's Representative's Signature

Name and Title

ATTACHMENT 01 60 00-3

CONTRACTOR'S EQUIPMENT GUARANTEE

Date: _____
Project Name: _____

Contractor: _____
Equipment Manufacturer: _____
Equipment Specification: _____
Equipment Type & Name: _____

We, the Contractor for the subject project, hereby guarantee this equipment for a period of ____ years from the date of the Owner's acceptance and use of this equipment, and shall replace or repair the equipment or any parts thereof which become defective or do not function properly during normal operation and maintenance without any additional expense to the Owner for labor or materials.

Contractor's Representative's Signature

Name and Title

ACCEPTED this _____ day of _____, 20____, for Owner's use and initiation of Contractor's Equipment Guarantee. The Owner hereby accepts responsibility for operation and maintenance of said equipment as of this date.

Owner's Representative's Signature

Name and Title

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SECTION 01 66 00

PRODUCT STORAGE AND HANDLING REQUIREMENTS

PART 1 -- GENERAL

1.1 THE SUMMARY

- A. This section provides CONTRACTOR requirements for Product Storage and Handling Requirements.
- B. Related sections:
 - 1. Section 01 60 00 – Product Requirements

1.2 CONTRACTOR'S WORK AND STORAGE AREA

- A. The CONTRACTOR will arrange for and secure for its exclusive use in the immediate area of the project during the term of the Contract a storage area for its construction operations relative to this Contract. At completion of WORK, the CONTRACTOR shall return this area to its original condition, including grading and landscaping.
- B. The CONTRACTOR shall make its own arrangements for any necessary off-site storage or shop areas necessary for the proper execution of the WORK.
- C. Lands to be furnished by the OWNER for construction operations, concrete aggregate pits, roads, and other purposes are indicated. Should the CONTRACTOR find it necessary to use any additional land for its construction operations or for other purposes during the construction of the WORK, it shall arrange for the use of such lands at its own expense unless otherwise indicated by the OWNER in writing.
- D. Materials shall be suitably stored as required by the manufacturer to protect from damage and maintain product warranties. Utilize air conditioned, rat and insect proof storage as necessary.
- E. Provide temporary weathertight enclosures to protect products from damage by the elements.
- F. Provide protection for finished floor surfaces in traffic areas prior to allowing equipment or materials to be moved over such surfaces.
- G. Maintain finished surfaces clean, unmarred, and suitably protected until accepted by the OWNER.
- H. Do not store plant maintenance equipment, furniture, and laboratory equipment on site until they are needed by the OWNER or for progress of WORK.
- I. The CONTRACTOR shall construct and use a separate storage area for hazardous materials used in constructing the WORK.
 - 1. For the purpose of this paragraph, hazardous materials to be stored in the separate area are products labeled with any of the following terms: Warning,

Caution, Poisonous, Toxic, Flammable, Corrosive, Reactive, or Explosive. In addition, whether or not so labeled, the following materials shall be stored in the separate area: diesel fuel, gasoline, new and used motor oil, hydraulic fluid, cement, paints and paint thinners, 2 part epoxy coatings, sealants, asphaltic products, glues, solvents, wood preservatives, sand blast materials, and spill absorbent.

2. Hazardous materials shall be stored in groupings according to the Material Safety Data Sheets.
3. The CONTRACTOR shall develop and submit to the ENGINEER a plan for storing and disposing of the materials above.
4. The CONTRACTOR shall obtain and submit to the ENGINEER a single EPA number for wastes generated at the Site.
5. The separate storage area shall meet the requirements of authorities having jurisdiction over the storage of hazardous materials.
6. The separate storage area shall meet all the requirements of all authorities having jurisdiction over the storage of hazardous materials.
7. Hazardous materials that are delivered in containers shall be stored in the original containers until use. Hazardous materials delivered in bulk shall be stored in containers which meet the requirements of authorities having jurisdiction.

PART 2 -- PRODUCTS (RESERVED).

PART 3 -- EXECUTION (RESERVED).

END OF SECTION

SECTION 01 71 13

MOBILIZATION

PART 1 - GENERAL

1.1 THE SUMMARY

- A. This section covers the WORK necessary to move in and move out personnel and equipment, set up and remove testing equipment, locate temporary facilities, and clean site completely. CONTRACTOR shall mobilize as required for the proper performance and completion of the Work and in accordance with the Contract Documents.
- B. Related Sections:
 - 1. Section 01 57 00 – Temporary Controls
- C. REFERENCE SPECIFICATIONS, CODES AND STANDARDS
 - 1. Section 01 14 13 – Access To Site
- D. Mobilization shall include at least the following items:
 - 1. Moving onto the Site of CONTRACTOR's plant and equipment necessary for the first month of operations.
 - 2. Installing temporary construction power, wiring, and lighting facilities.
 - 3. Establishing fire protection system.
 - 4. Developing construction water supply.
 - 5. Incidentals to the project site and to maintain services.
 - 6. Providing on-Site sanitary facilities and potable water facilities.
 - 7. Arranging for and erection of CONTRACTOR 's Work and storage yards.
 - 8. Constructing and implementing security features and requirements complying with Section 01 14 13 – Access To Site.
 - 9. Obtaining required permits.
 - 10. Cost of bonds, insurance, survey layout, and clean up of site.
 - 11. Having OSHA required notices and establishing safety programs.

MOBILIZATION

01 71 13-1 (2401618.00)

12. Having the CONTRACTOR 's superintendent at the Site full time.
13. Submitting initial submittals.
14. Project meetings and meetings with residents and/or government agencies.
15. Coordination with contractors and subcontractors which may or may not be on site.

1.2 PAYMENT FOR MOBILIZATION

- A. The CONTRACTOR 's attention is directed to the condition that no payment for mobilization, or any part thereof, will be recommended for payment under the Contract until mobilization items listed above have been completed.
- B. Payment item for mobilization, insurance and bonds shall not exceed eight percent (8%) of the contract price.
 1. Should the bid price for mobilization, insurance and bonds exceed eight percent (8%) of the Contract amount, any amount over the eight percent (8%) will be paid with the Contractor's final payment application.

PART 2 - PRODUCTS

2.1 GENERAL EQUIPMENT REQUIREMENTS

- A. Provide all materials and equipment required to accomplish the Work as specified.

PART 3 - EXECUTION

3.1 GENERAL

- A. Set up equipment within the area designated on the Contract Documents. Accomplish all required WORK in accordance with applicable portions, of these Specifications.

3.2 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 if necessary, 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.

3.3 CONTAMINATION PRECAUTIONS

- A. Avoid contamination of the project area. Do not dump waste oil, rubbish, or other similar materials on the ground.

3.4 CLEANING

- A. Upon completion and acceptance of WORK, remove from the site all equipment, debris, unused materials, temporary construction buildings, and other miscellaneous items resulting from or used in the operations. Replace or repair any facility which has been damaged during the construction WORK. Restore the site as nearly as possible to its original condition.

END OF SECTION

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SECTION 01 71 23

FIELD ENGINEERING

PART 1 -- GENERAL

1.1 THE SUMMARY

- A. Provide and pay for all field engineering services required for the project, including but not limited to:
 - 1. Surveying work required in execution of the project.
 - 2. Civil, structural, geotechnical or other professional engineering services specified or required to execute the CONTRACTOR's construction methods.
- B. The OWNER will identify existing control points on the Contract Drawings, as required or will provide copies of roadway plans indicating the control points.
- C. The CONTRACTOR's Surveyor shall complete a survey within the first 30 calendar days to confirm all bearing angles, stations and distances between control points to prevent project delays.
- D. Construction staking shall include all the surveying work required to lay out the WORK and to control the location of the finished Project as shown on the Plans and as specified in these Specifications. The CONTRACTOR shall have the full responsibility for constructing the WORK to the correct horizontal and vertical alignment, as shown on the Plans, as specified in these Specifications, or as directed by the ENGINEER. The CONTRACTOR shall assume all costs associated with rectifying WORK constructed in the wrong location.
- E. The CONTRACTOR shall be responsible for setting reference points and/or offsets, establishing baselines and all other layouts, staking, and all other surveying required for the construction of the WORK.
- F. The CONTRACTOR shall be responsible for all damage done to reference points, stakes, grade marks, horizontal and vertical control points, baselines, center lines, and temporary bench marks, and shall bear the cost of re-establishing same if disturbed as a result of the CONTRACTOR's operations. Baselines shall be defined as the line to which the location of the WORK is referenced, i.e., edge of pavement, road centerline, property line, right-of-way, or survey line.
- G. The CONTRACTOR shall be responsible for staking out the permanent and temporary easements or the limits of construction to ensure that the WORK is not deviating from the limits indicated on the Contract Documents.
- H. Related sections:
 - 1. Section 01 11 00 – Summary of Work
 - 2. Section 01 77 00 – Closeout Procedures

1.2 CONTRACTOR SUBMITTALS

- A. Submit name and address of Surveyor and if required, Professional Engineer.
- B. On request of the OWNER, submit documentation to verify accuracy of field engineering work.

1.3 QUALITY ASSURANCE

- A. Qualifications: Qualified Professional Engineer and/or Registered Land Surveyor, acceptable to the OWNER
- B. Field Logs: Maintain a complete and accurate log of all control and survey work as it progresses.
- C. The CONTRACTOR shall furnish to the ENGINEER documentation, prepared by a surveyor currently registered in the State of Florida indicating that staking is being done to the horizontal and vertical alignment shown in the Plans. This requires that the CONTRACTOR hire, at the CONTRACTOR's own expense, a currently registered surveyor, acceptable to the OWNER, to provide ongoing construction staking or confirmation-of such.
- D. Any deviations to the Contract Documents shall be confirmed by the ENGINEER prior to construction of that portion of the WORK.

1.4 PROJECT SITE/CONDITIONS

- A. The Contract Documents provide the locations and/or coordinates of principal components of the Project. The alignment of some components of the Project may be indicated in these Specifications. The ENGINEER may direct changes to the locations of some of the components of the WORK or provide clarification to questions regarding the correct alignment.
- B. The survey points, control points, and baseline to be provided to the CONTRACTOR shall be limited to only that information which can be found on the Site of the WORK by the CONTRACTOR.

PART 2 -- PRODUCTS (RESERVED)

PART 3 -- EXECUTION

3.1 EXAMINATION

- A. Verify locations of survey control points prior to starting work. Promptly notify ENGINEER of any discrepancies discovered.

3.2 SURVEY REFERENCE POINTS

- A. Protect survey control points prior to starting site work; preserve permanent reference points during construction. Make no changes without prior written notice to ENGINEER.
- B. Promptly report to ENGINEER the loss or destruction of any reference point or relocation required because of changes in grades or other reasons. Replace dislocated survey control points based on original survey control.
- C. Provide affidavit from approved Florida Registered Surveyor that all survey control points were re-established following completion of construction.

3.3 SURVEY REQUIREMENTS

- A. ENGINEER will furnish CONTRACTOR with horizontal and vertical control information. Responsibility for construction of the WORK to correct dimensions, alignment and grade shall be CONTRACTOR's. Additional control points, as applicable, shall be provided for and established by surveyor.
- B. Establish and define all baselines. Provide necessary stationing along baseline. All ends and intersections of baselines shall be tied to a minimum of two permanent features.
- C. Establish locations of right-of-way lines and property lines as applicable and locations and elevations of proposed improvements. Locate and lay out by instrumentation and similar appropriate means:
 - 1. All utility improvements including locations and elevation.
 - 2. Major pipeline deflections/conflicts.
 - 3. The locations and elevations as applicable to fire hydrants, manholes, inlets, valves, fitting, services and connections to existing utilities.
 - 4. Alignment and cross section of roadway, driveway and sidewalk restorations. As applicable, roadways, driveways and sidewalks shall be reconstructed to existing horizontal and vertical dimensions, unless shown otherwise.
- D. Periodically verify layouts by same means indicated above.
- E. In the event that pipe or other mechanical feature cannot be left exposed for surveyor to obtain "as-built" information, CONTRACTOR shall place PVC pipe at 100 foot intervals, at all major changes in horizontal or vertical alignment and at all locations required that will be buried. PVC pipe shall be of a diameter suitable for the insertion of a surveyor's rod and shall extend from finish grade to the top center of pipe, fitting, location, etc.
- F. PVC pipe for survey data shall be removed by CONTRACTOR after survey data has been obtained.

- G. As-built information of all utilities installed within the limits of pavement must be obtained prior to initial backfilling of trench.

3.4 PROJECT RECORD DOCUMENTS DATA

- A. Maintain a complete and accurate log of control and survey data for project record documents as project progresses.
- B. Upon completion of the WORK or other intervals as requested by ENGINEER, submit certified "as-built" site survey data of the project improvements. Scale shall be same as ENGINEER's drawings and may be used as a base for surveyor's field data (redline markups).
- C. The following data (as applicable to project) shall be provided as a minimum:
 - 1. Location and elevation of all pressure pipe fittings and valves.
 - 2. Locations and elevations as required to define major horizontal/vertical pipe deflections/conflicts. Data shall include beginning and end of deflection/conflicts, all changes in elevations and alignment and the location and elevation of subject conflict item.
 - 3. Locations of all fire hydrant assemblies, valves and single and double water services. When locating fire hydrant assemblies, locate centerline of the hydrant tee and center of fire hydrant unless assembly differs from that shown in standard details, then define completely, as if installation were a water main.
 - 4. Location and elevation of all connections to existing systems.
 - 5. Locations and elevations at appropriate intervals along centerline of pressure pipe to limit distance between data points to no more than 100 feet.
 - 6. Locations, invert(s) and rim/grate elevations of all new storm sewer catch basins. Location to be center of catch basin. Length and diameter of storm pipe between catch basins.
 - 7. Locations, invert(s) and rim elevations of all new sanitary sewer manholes. Location to be center of manhole. Indicate whether manhole is a drop manhole.
 - 8. Locations of all single and double sanitary laterals and cleanouts.
 - 9. Cross sections of all repaved roadways at maximum 100-foot intervals.
 - 10. Locations and elevations as required to describe all other improvements.
 - 11. Horizontal coordinates shall be based on the Florida State Plane Coordinate System (East Zone), North American Datum 1983/1990 adjustment (N.A.D. 83/90) and provided to the hundredths place.
 - 12. Elevations shall be based on National Geodetic Vertical Datum of 1929 (NGVD 29) and provided to the hundredths place.

13. Horizontal and vertical information shall be tied to two existing Palm Beach County reference monuments.
- D. Submit final record drawings prior to final pay application at completion of project as specified in Section 01 33 00 – Submittal Procedures and 01 77 00 – Closeout Procedures.
 - E. Provide in tabular form, based on the obtained applicable field data, the final "As-Built" quantities for the project. "As-Built" quantities shall be referenced to the bid items and their units of measure as indicated in the CONTRACTOR's Bid Proposal.
- 3.5 SURVEYS FOR MEASUREMENT AND PAYMENT
- A. Final project record drawings with "as-built" information of the installed utility systems and all bid quantities shall be submitted and approved by ENGINEER prior to application for final payment.
 - B. "As-Built" quantity data shall be presented in tabular form and reference the individual bid items and their respective units of measure as given in the CONTRACTOR's Bid Proposal.
 - C. "As-Built" information shall be used by CONTRACTOR to prepare their final statement of accounts as specified in Section 01 33 00 – Submittal Procedures and 01 77 00 – Closeout Procedures.
 - D. Current "as-built" information shall be available for ENGINEER's use for evaluation of partial pay requests.

END OF SECTION

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SECTION 01 75 00

STARTING AND ADJUSTING

PART 1 - GENERAL

1.1 THE SUMMARY

- A. Prior to substantial completion of the WORK, CONTRACTOR shall, in accordance with the requirements set forth in the Contract Documents, attend the following items:
 - 1. Schedule equipment manufacturer's representative visits to project site to monitor installation.
 - 2. Schedule training sections, as required, for OWNER's O&M Personnel with manufacturer's representative(s).
 - 3. Furnish skilled personnel and equipment, as required, to conduct all equipment inspections.
 - 4. Schedule for Inspection, and Start-Up for Substantial Completion of the project. OWNER will prepare Punch List, if applicable. After correction of Punch List Items, if any, and prior to final completion of the project, CONTRACTOR shall Schedule for Final Inspection and Initial Operation of the System in the presence of the OWNER and Manufacturer's equipment representatives
- B. Perform specified services with CONTRACTOR's qualified personnel, or employ and pay for a qualified organization, pre-approved by the OWNER, to perform the specified services.
- C. Conduct all test, check out, startup, and related requirements indicated in the Contract Documents and provide documentation of same to the ENGINEER prior to requesting Substantial Completion from the ENGINEER. Where manufacturer onsite inspections are required before startup, the manufacturer shall furnish a written statement that the installation and check out is complete and proper and that the item(s) are ready for startup
- D. General requirements for startup activities are included in this Section. More specific requirements may also be included in other portions of the Contract Documents.
- E. Temporary facilities may be necessary. If so, CONTRACTOR shall design, provide, operate, and later decommission them.
- F. Related Sections:
 - 1. Section 01 31 13 – Project Coordination
 - 2. Section 01 32 16 – Construction Progress Schedule

3. Section 01 77 00 – Closeout Procedures

4. Section 01 79 00 – Owner Staff Training

1.2 DEFINITIONS

- A. “Startup” is defined as testing, demonstrations, and other activities as required to achieve Substantial Completion. Startup includes pre-commissioning and commissioning activities, manufacturer’s services, certifications of readiness for testing, and troubleshooting, checkout, and shakedown activities.
- B. “Pre-commissioning” is the systematic demonstration through testing and extended operation that major equipment and auxiliary systems, including related components, sub-systems, and systems operate properly and consistent with their intended function. Pre-commissioning involves balancing, adjustments, calibration, loop checks, and loop validation. Pre-commissioning shall simulate shutdown conditions, failure conditions, power fail and restart, bypass conditions, and failure resets. Pre-commissioning will not be considered complete until successful results and documentation of tests and manufacturer’s certifications required by the Contract Documents are submitted and accepted by the ENGINEER. Pre-commissioning of all portions of the WORK shall be successfully completed prior to starting Commissioning.
- C. “Commissioning” is the verification that the complete WORK functions on an extended basis in full conformance with the Contract requirements.

1.3 CONTRACTOR SUBMITTALS

- A. Preliminary:
 - 1. Submit three copies of documentation to confirm compliance with the following:
 - a. Organization supervisor, personnel training and qualifications.
 - b. Specimen copy of each of the report forms proposed for use.
- B. At least fifteen days prior to the Contractor's request for final inspection, submit three copies of final reports on applicable reporting forms for review:
 - 1. Each individual final reporting form must bear the signature of the person who recorded the data and that of the supervisor of the reporting organization.
 - 2. Identify all instruments that were used, and the last date of calibration of each.
- C. Schedule: The schedule for startup shall be submitted under Section 01 32 16 – Construction Progress Schedule.
- D. Startup Plan: Not less than 60 Days prior to startup, submit for review a detailed Startup Plan. The CONTRACTOR shall revise the Plan as necessary based on review comments. The Plan shall include:

1. Schedules for manufacturers' equipment certifications
 2. Schedules for submitting final Technical Manuals,
 3. Schedule for training the OWNER's personnel,
 4. Description of temporary facilities and schedule for installation and decommissioning them
 5. List of OWNER and CONTRACTOR-furnished supplies
 6. Detailed schedule of operations to achieve successful pre-commissioning and commissioning.
 7. Checklists and data forms for each item of equipment
 8. Address coordination with the OWNER's staff.
 9. Designate a representative of the CONTRACTOR who has the authority to act in matters relating to startup and has experience in testing hydraulic gates. The Plan shall also designate the roles and responsibilities of any Subcontractors that may be involved in startup activities.
 10. Safety, startup, and testing procedures and proposed inspection and certification forms and records.
- E. System Outage Requests: Request for shutdown of existing systems as necessary to test or start up new facilities.
- F. Records and Documentation
1. Where required by the specifications, submit equipment installation certifications under those Sections.
 2. Records of startup as indicated below.
- G. Prior to final inspection and start-up of the system, CONTRACTOR shall submit to the OWNER certification in writing from the manufacturer's representative stating that the installation and testing of the equipment has satisfactorily been completed, and that the OWNER's operating personnel have been instructed in the operation, maintenance and lubrication of the equipment.
- H. Prior to final payment, in addition to the Warranty Certificates, and O&M Manuals, the CONTRACTOR shall submit to the OWNER certification in writing from the MANUFACTURER's representative stating that the equipment has passed final testing and is ready for operation and use.

1.4 QUALITY ASSURANCE

A. Qualifications

1. The organization which performs the testing shall, prior to testing, provide their qualifications or demonstrate their ability to perform the services to the satisfaction of the ENGINEER.

1.5 PROJECT/SITE CONDITIONS

A. Prior to the start of the testing, verify that required "Job Conditions" are met:

1. System or system element installation is complete.
2. All required materials, instruments, tools, and equipment are on hand.
3. All other preparations are completed.

1.6 SYSTEM STARTUP

A. General

1. The bid prices for all the equipment furnished by the CONTRACTOR shall include the cost of providing the services of a manufacturer's Engineer or competent representative to supervise the installation, adjustment, and testing of the equipment and to instruct the OWNER's Operation and Maintenance personnel in the operation and maintenance of such equipment. The supervision may be divided into two or more time periods, or as required by the ENGINEER. Refer to each individual product Specifications.

B. Preparations

1. The CONTRACTOR shall coordinate a schedule for various equipment and systems, and shall notify the ENGINEER five (5) working days prior to the start-up of each item.
2. The CONTRACTOR shall verify that each piece of equipment or system has been checked for proper lubrication, drive rotation, belt tension, control sequence, or other conditions which may cause damage. Verify that tests, meter readings, and specified electrical characteristics agree with those required by the equipment or system. Verify wiring and support components.
3. Execute start-up of individual pieces of equipment under supervision of responsible manufacturer's representative, and qualified CONTRACTOR's personnel in accordance with manufacturer's instructions. When specified in individual specification Sections, require manufacturer to provide authorized representative to be present at the site to inspect, check and approve equipment or system installation prior to start-up, and to supervise placing equipment or system in operation.

1.7 INSTRUCTIONS

- A. The instruction sessions by equipment manufacturer's representatives shall be in accordance with the CONTRACTOR's training program established for training of OWNER's personnel.
- B. Training of OWNER's personnel shall be provided per Section 01 79 00 – Owner Staff Training.

1.8 PERFORMANCE REQUIREMENTS

- A. Manufacturer's Representative(s) Requirements.
 - 1. CONTRACTOR shall schedule manufacturer's representatives to be present for installation, testing and start-up of equipment or systems, and for the instruction of the OWNER's Operating and Maintenance Personnel.
 - 2. In addition to the Services of Manufacturer's Representative specified in each individual equipment specifications, the 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 the CONTRACTOR. This additional service shall be provided at no cost to the OWNER.

PART 2 - PRODUCTS (RESERVED)

PART 3 - EXECUTION

3.1 MALFUNCTIONS

- A. During the extended operational demonstrations, all components, subsystems, systems, and equipment must properly run continuously 24 hours per day at rates indicated by the ENGINEER throughout the test period. Unless indicated otherwise, if any item fails or malfunctions during the test, the item shall be repaired and the test restarted at time zero with no credit given for the operating time before the failure or malfunction. Malfunctions satisfying all 3 of the following conditions will allow the demonstration period to resume at the elapsed time when the malfunction started:
 - 1. Malfunction did not cause any interruption of the continuous operation of any other components, subsystems, systems, and equipment.
 - 2. Malfunction was corrected without causing or requiring any components, subsystems, systems, and equipment to cease operations.
 - 3. Malfunction was corrected within one hour of the time the malfunction was detected (the one-hour period includes the time required to locate the cause of the malfunction, beginning upon CONTRACTOR's notification from the ENGINEER that a malfunction has occurred and ending when the item is corrected and the system is successfully placed back into operation).

- B. The CONTRACTOR shall arrange for manufacturer's representatives to visit the Site as often as necessary to correct malfunctions.

3.2 PREREQUISITES

- A. Pre-commissioning and commissioning activities shall be scheduled according to Section 01 32 16 – Construction Progress Schedule. The 7 Day demonstrations and the 8 Day demonstration shall start prior to midday on a Monday, Tuesday, or Wednesday. Testing periods shall not include holidays, based on the OWNER's calendar.
- B. The following shall be completed before pre-commissioning begins.
 - 1. All Technical Manual information required by the Contract Documents has been submitted.
 - 2. Safety equipment, emergency shower and eyewash units, fire extinguishers, gas detectors, protective guards and shields, emergency repair kits, safety chains, handrails, gratings, safety signs, and valve and piping identification required by the Contract Documents are provided. Devices and equipment shall be fully functional, adjusted, and tested.
 - 3. Manufacturer's certifications of proper installation have been accepted.
 - 4. Leakage tests, electrical tests, and adjustments have been completed.
 - 5. The ENGINEER has approved the Startup Plan.
 - 6. Temporary facilities are functional, adjusted, and ready for use.
 - 7. Individual instrumentation loops (analog, status, alarm, and control) have been verified functionally.
 - 8. Pressure switches, flow switches, timing relays, level switches, vibration switches, temperature switches, RTD monitors, pressure regulating valves, and other control devices to the settings determined by the ENGINEER or the equipment manufacturer have been adjusted for accuracy.
 - 9. Individual interlocks between the field-mounted control devices and the motor control circuits, control circuits of variable-speed controllers, and packaged system controls have been verified.

3.3 GENERAL

- A. Supplies:
 - 1. The CONTRACTOR shall furnish:
 - a. Oil and grease.
 - b. Other necessary materials not listed for the OWNER to furnish.

- B. Startup Records: The CONTRACTOR shall maintain the following during testing and startup and submit originals to ENGINEER:
1. Lubrication and service records for each mechanical and electrical equipment item
 2. Hours of daily operation for each mechanical and electrical equipment item
 3. Equipment alignment and vibration measurement records
 4. Factory and field equipment settings
 5. Log of problems encountered and remedial action taken
 6. Other records, logs, and checklists as required by the Contract Documents

3.4 PRE-COMMISSIONING

- A. After individual equipment items and subsystems have been tested and certified as required by the Technical Specifications, tests of systems comprised of single or multiple equipment items with appurtenant equipment and instruments and controls shall be conducted. Items of equipment shall be tested as part of a system to the maximum extent possible.
- B. Subject to the malfunction criteria above, each system shall be demonstrated for a continuous, 7 Day, 24 hour/day period. If any system malfunctions, the item or equipment shall be repaired and the test restarted at time zero with no credit given for the elapsed time before the malfunction.
- C. The CONTRACTOR shall demonstrate the manual and automatic modes of operation to verify proper control sequences, software interlocks, proper operation of software logic and controllers, etc. System testing shall include the use of water or other process media, as applicable, to simulate the actual conditions of operation.
- D. Systems testing activities shall follow the detailed procedures and checklists in the Testing and Startup Plan. Completion of systems shall be documented by a report.
- E. The CONTRACTOR shall demonstrate utility, chemical feed, safety equipment, and other support systems before whole process systems.
- F. Furnish the ENGINEER at least 10 Days written notice confirming the start of pre-commissioning. The OWNER's staff will observe pre-commissioning.

3.5 COMMISSIONING

- A. The CONTRACTOR shall start up the wastewater treatment plant and operate it without malfunction for a continuous 8 Day, 24 hour/day period. The ENGINEER will determine the operational parameters.

- B. Defects that appear shall be promptly corrected. Time lost for wiring corrections, control point settings, or other reasons that interrupt the test may, at the judgment of the ENGINEER, be cause for extending the demonstration an equal amount of time.
- C. Commissioning shall not begin until leakage tests, equipment field tests, and system tests have been completed to the satisfaction of the ENGINEER.
- D. The OWNER will furnish certified treatment plant operators during the startup period. Certified operators will be under the direct supervision of and be responsible to the CONTRACTOR.
- E. During commissioning, the CONTRACTOR shall:
 - 1. Lubricate and maintain equipment in accordance with the manufacturers' recommendations.

END OF SECTION

SECTION 01 76 10

PROTECTION OF EXISTING FACILITIES

PART 1 -- GENERAL

1.1 THE SUMMARY

- A. The CONTRACTOR shall assume full responsibility for the protection of all existing buildings, structures, poles, signs, services to buildings, hydrants, drains, ductbanks and electric and telephone cables, whether or not they are shown on the Contract Documents. The CONTRACTOR shall carefully support and protect all such structures and utilities from injury of any kind. Any damage resulting from the CONTRACTOR's operations shall be repaired by the CONTRACTOR at CONTRACTOR's expense.
- B. Protection and temporary removal and replacement of existing facilities shall be a part of the WORK under the Contract and all costs in connection therewith shall be included in the Lump Sum Bid Price.
- C. The CONTRACTOR shall verify the exact locations and depths of all existing utilities, and the CONTRACTOR shall make exploratory excavations of all utilities that may interfere with the WORK.
- D. All such exploratory excavations shall be performed as soon as practicable after award of the Contract and a sufficient time in advance of construction to avoid possible delays to the CONTRACTOR's WORK.
- E. When such exploratory excavations show the utility location as shown on the Drawings to be in error, the CONTRACTOR shall notify the ENGINEER.
- F. The number of exploratory excavations required shall be that number which is sufficient to determine the alignment and grade of the utility.
- G. Related Sections:
 - 1. Section 01 11 00 – Summary of Work
 - 2. Section 01 14 00 – Work Restrictions
- H. EXISTING UTILITIES AND IMPROVEMENTS
- I. General
 - 1. The CONTRACTOR shall protect underground utilities and other improvements which may be impaired during construction operations, regardless of whether or not the Utilities are indicated on the Drawings.

PROTECTION OF EXISTING FACILITIES

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2. It shall be the CONTRACTOR's responsibility to ascertain the actual location of all existing utilities and other improvements that will be encountered in its construction operations, and to see that such utilities or other improvements are adequately protected from damage due to such operations.
3. The CONTRACTOR shall take all possible precautions for the protection of unforeseen utility lines to provide for uninterrupted service and to provide such special protection as may be deemed necessary.
4. Except where the Contract Documents indicate Utilities have been field located during design or certain Utility locations shall be exposed as part of the WORK, the CONTRACTOR shall be responsible for exploratory excavations as it deems necessary to determine the exact locations and depths of Utilities which may interfere with its work. All such exploratory excavations shall be performed as soon as practicable after Notice to Proceed and, in any event, a sufficient time in advance of construction to avoid possible delays to the CONTRACTOR's progress. When such exploratory excavations show the Utility location as shown on the Drawings to be in error, the CONTRACTOR shall so notify the ENGINEER.

J. Utilities to be Moved:

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

K. Temporary Removal and/or Relocation:

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

L. Owner's Right of Access:

1. The right is reserved to the OWNER and to the owners of public utilities and franchises to enter at any time upon any public street, alley, right-of-way, or easement

for the purpose of making changes in their property made necessary by the WORK of this Contract.

M. Underground Utilities Indicated:

1. Existing utility lines that are indicated or the locations of which are made known to the CONTRACTOR prior to excavation and that are to be retained, and all utility lines that are constructed during excavation operations shall be protected from damage during excavation and backfilling and, if damage, shall be immediately repaired or replaced by the CONTRACTOR.

N. Underground Utilities Not Indicated:

1. In the event that the CONTRACTOR damages existing Utility lines that are not indicated or the locations of which are not made known to the CONTRACTOR prior to excavation, a verbal report of such damage shall be made immediately to the damaged Utility Owner and ENGINEER and a written report thereof shall be made promptly thereafter.
2. If directed by the ENGINEER, repairs shall be made by the CONTRACTOR under the provisions for changes and extra work contained in the General Conditions.

O. All costs of locating, repairing damage not due to failure of the CONTRACTOR to exercise reasonable care, and removing or relocating such utility facilities not shown on the Contract Documents with reasonable accuracy, and for equipment on the project which was actually working on that portion of the work which was interrupted or idled by removal or relocation of such utility facilities, and which was necessarily idled during such work will be paid for as extra work in accordance with the provisions for changes and extra work contained in the General Conditions.

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

1. All oil and gasoline pipelines, power, and telephone or the communication cable ducts, gas mains, water mains, irrigation lines, sewer lines, storm drainage, poles, and overhead power and communication wires and cables encountered along the line of the work shall remain continuously in service during all the operations under the Contract, unless other arrangements satisfactory to the ENGINEER are made with the OWNER(s) of said pipelines, ducts, main, irrigation lines, sewers, storm drains, poles, wires or cables.
2. The CONTRACTOR shall be responsible for and shall repair all damage due to its operations, and the provisions of this Section shall not be abated even in the event such damage occurs after backfilling or is not discovered until after completion of the backfilling.

1.2 TREES WITHIN PROJECT LIMITS

A. General:

1. The CONTRACTOR shall exercise all necessary precautions so as not to damage or destroy any trees or shrubs, including those lying within street right-of-way and project limits, and shall not trim or remove any trees unless such trees have been approved for trimming or removal by the jurisdictional agency or OWNER.
2. All existing trees and shrubs which are damaged during construction shall be trimmed or replaced by the CONTRACTOR or a certified tree company under permit from the jurisdictional agency and/or OWNER.
3. Tree trimming and replacement shall be accomplished in accordance with the following paragraphs.

B. Trimming:

1. Symmetry of the tree shall be preserved; no stubs or splits or torn branches left; clean cuts shall be made close to the trunk or large branch.
2. Spikes shall not be used for climbing live trees.
3. Cuts over 1 1/2 inches in diameter shall be coated with a tree paint product that is waterproof, adhesive, and elastic, and free from kerosenes, coal tar, creosote, or other material injurious to the life of the tree.

C. Replacement:

1. The CONTRACTOR shall immediately notify the jurisdictional agency/or OWNER if any tree is damaged by the CONTRACTOR's operations.
2. If, in the opinion of said agency or the OWNER, the damage is such that replacement is necessary, the CONTRACTOR shall replace the tree at its own expense.
3. The tree shall be of a like size and variety as the tree damaged, or, if of a smaller size, the CONTRACTOR shall pay to the OWNER of said tree a compensatory payment acceptable to the tree owner, subject to the approval of the jurisdictional agency or the OWNER.
4. The size of the trees shall be not less than 1-inch diameter, nor less than six feet (6') in height.

1.3 NOTIFICATION BY THE CONTRACTOR

- A. Prior to any excavation in the vicinity of any existing underground facilities, including all water, sewer, storm drain, gas, petroleum products, or other pipelines; all buried electric power, communications, or television cables; all traffic signal and street lighting facilities;

and all roadway and state highway rights-of-way the CONTRACTOR shall notify the respective authorities representing the owners or agencies responsible for such facilities not less than three (3) days nor more than seven (7) days prior to excavation so that a representative of said owners or agencies can be present during such work if they so desire.

- B. The CONTRACTOR shall also notify "SUNSHINE UNDERGROUND UTILITIES NOTIFICATION CENTER" at 1-800-432-4770 at least three (3) days, but not more than ten (10) days prior to such excavation.

PART 2 -- PRODUCTS (RESERVED).

PART 3 -- EXECUTION (RESERVED).

END OF SECTION

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SECTION 01 77 00

CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 THE SUMMARY

- A. Closeout procedures will include, but are not limited to, final site cleanup/restoration, submittal of warranties, operation and maintenance manuals, record drawings, bonds, and final inspections.
- B. Related Sections:
 - 1. Section 01 31 13 – Project Coordination
 - 2. Section 01 33 00 – Submittal Procedures
 - 3. Special Conditions – Article 9.43 Project Closeout

1.2 DEFINITIONS

- A. Closeout is defined to include the general requirements near the end of the Contract Time, which is between Substantial Completion and final acceptance of the Contract.

1.3 SCHEDULING

- A. The CONTRACTOR shall establish dates for equipment testing, acceptance periods, and on-site instructional periods (as required under the Contract Documents). Such dates shall be established not less than one week prior to beginning any of the foregoing items, to allow the OWNER, the ENGINEER, and their authorized representatives sufficient time to schedule attendance at such activities.

1.4 PREREQUISITES FOR SUBSTANTIAL COMPLETION:

- A. General: Prior to requesting OWNER's inspection for certification of substantial completion, as required by the General Conditions (for either the entire work or portions thereof), the CONTRACTOR shall complete the following and list known exceptions in request:
 - 1. Submit last progress payment request, with sworn statement showing percent completion of the work, complete with associated warranty of title releases, consents and supports.
 - 2. Submit statement showing changes to the Contract Sum.
 - 3. Obtain and submit occupancy permits, operating certificates, final inspection/test certificates, and similar releases enabling OWNER's full and unrestricted use of the work and access to services and utilities.
 - 4. Submit maintenance manuals, final project photographs, damage or settlement survey, property survey and similar final record information.

5. Provide all contractually required operational and maintenance manuals, training and start-up services.
6. Deliver tools, spare parts, extra stocks of materials, and similar physical items to OWNER.
7. Conduct an inspection with the ENGINEER and the OWNER to develop a list of WORK to be completed or corrected.
8. All components of the WORK successfully tested.
9. Restore areas disturbed by construction activities.

1.5 PREREQUISITES FOR FINAL ACCEPTANCE:

- A. General: Prior to requesting OWNER's final inspection for certification of final acceptance and final payment, as required by the General Conditions, complete the following and list known exceptions (if any) in request:
 1. Submit final payment request with final warranty of title, consent of surety for final payment, final releases and supports not previously submitted and accepted. Include certificates of insurance for products and completed operations.
 2. Submit updated final statement of accounts for additional charges to the Contract Sum.
 3. Submit signed and sealed record drawings.
 4. Complete the final cleaning.
 5. Submit certified copy of OWNER's final punch list of itemized work to be completed or corrected, stating that each item has been completed or otherwise resolved for acceptance, endorsed and dated by the OWNER's.
 6. Submit final meter readings for utilities, measured record of stored fuel, and similar data as of the time of substantial completion or when OWNER's take possession of and responsibility for corresponding elements of the work.
 7. Submit special guarantees, warranties, workmanship bonds, maintenance agreements, final certifications and similar documents.
 8. Change over utilities to the OWNER's name.
 9. Touch up and otherwise repair and restore marred exposed finishes.
 10. Provide equipment list and details as required.
 11. Correct and/or replace defective WORK including completion of items previously overlooked or WORK which remains incomplete, all as evidenced by the Engineers "Punch List".

12. Specified cleaning and restoration has been accomplished to the satisfaction of the OWNER or other governmental agencies.

1.6 CONTRACTOR SUBMITTALS

A. FINAL SUBMITTALS

1. The CONTRACTOR, prior to requesting final payment, shall obtain and submit the following items to the ENGINEER for transmittal to the OWNER:
 - a. Written guarantees, where required.
 - b. Technical Manuals and instructions.
 - c. New permanent cylinders and key blanks for all locks.
 - d. Maintenance stock items; spare parts; special tools.
 - e. Completed record drawings (Refer Section 01 33 00 - Submittal Procedures).
 - f. Bonds for maintenance, etc., as required.
 - g. Certificates of inspection and acceptance by local governing agencies having jurisdiction.
 - h. Releases from all parties who are entitled to claims against the subject project, property, or improvement pursuant to the provisions of law.
 - i. OWNER's Equipment Data Sheets – See Attachment A

1.7 MAINTENANCE AND GUARANTEE

- A. The CONTRACTOR shall comply with the maintenance and guarantee requirements contained in Article 9 of the General Conditions.
- B. Replacement of earth fill or backfill, where it has settled below the required finish elevations, shall be considered as a part of such required repair work, and any repair or resurfacing constructed by the CONTRACTOR which becomes necessary by reason of such settlement shall likewise be considered as a part of such required repair work unless the CONTRACTOR shall have obtained a statement in writing from the affected private owner or public agency releasing the OWNER from further responsibility in connection with such repair or resurfacing.
- C. The CONTRACTOR shall make all repairs and replacements promptly upon receipt of written order from the OWNER. If the CONTRACTOR fails to make such repairs or replacements promptly, the OWNER reserves the right to do the WORK and the CONTRACTOR and its surety shall be liable to the OWNER for the cost thereof.

1.8 BOND

- A. The CONTRACTOR shall provide a bond to guarantee performance of the provisions contained in Paragraph "Maintenance and Guarantee" above, and Article 9 of the General Conditions.

PART 2 - PRODUCTS (RESERVED).

PART 3 - EXECUTION

3.1 FINAL CLEANUP

- A. The CONTRACTOR shall promptly remove from the vicinity of the completed WORK, all rubbish, unused materials, concrete forms, construction equipment, and temporary structures and facilities used during construction. Final acceptance of the WORK by the OWNER will be withheld until the CONTRACTOR has satisfactorily performed the final cleanup of the Site.
- B. Clean project site, including landscape, development areas of litter and foreign substances. Sweep paved areas to a broom clean condition; remove stains, petrochemical spills and other foreign deposits. Rake grounds which are neither planted nor paved, to a smooth, even textured surface.
- C. Clean and lubricate all finish hardware after adjustment for proper operation.
- D. Touch up marks or defects in painted surfaces and touch up any similar defects in factory finished surfaces.
- E. Remove all stains, marks, fingerprints, soil, spots and blemishes from all finish surfaces.
- F. Restore all areas disturbed by construction operations to conditions equal to or better than which existed prior to the WORK.
- G. Time of Final Cleaning: Following OWNER's certification of "Substantial Completion," and immediately before his "Final Acceptance" inspection.
- H. Removal of Protection: Except as otherwise indicated or requested by OWNER's, remove temporary protection devices and facilities which were installed during the course of the work to protect previously completed work during the remainder of the construction period.

- I. Compliances: Comply with safety standards and governing regulations for cleaning operations. Do not burn waste materials at the site, or bury debris or excess materials, or discharge volatile or other harmful or dangerous materials into drainage systems; remove waste materials from the site and dispose of in a lawful manner.
- J. Where extra materials of value remaining after completion of the associated work have become the OWNER's property, dispose or store at the site as directed by the OWNER.

END OF SECTION

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SECTION 01 78 23

OPERATION AND MAINTENANCE DATA

PART 1 -- GENERAL

1.1 THE SUMMARY

A. Section Includes:

1. CONTRACTOR Requirements:

- a. Compile product data and related information appropriate for the OWNER's maintenance and operation of products specified.
 - 1) Prepare operating and maintenance data as specified in this Section and as referenced in other pertinent Sections of these Specifications.
 - 2) Provide data for the grease interceptor.
- b. Product data shall be specific to the items furnished.
- c. Operating and maintenance data is to be sufficiently detailed to provide a full understanding of the equipment furnished. Include an equipment part number and description for all component parts.
- d. Instruct the OWNER's personnel in the maintenance of products and in the operation of equipment and systems.
- e. Prepare a complete and detailed Operation and Maintenance Manual (manual) for each type and model of equipment or product furnished and installed under this Contract.
- f. Prepare manuals in the form of an instruction manual for the OWNER. The manuals are to be suitable for use in providing the operation and maintenance instructions required by Section 01 75 00 – Starting and Adjusting.
- g. Provide complete and detailed information specifically for the products or systems provided for this Project. Include the information required to operate and maintain the product or system.
- h. Manuals are in addition to any information packed with or attached to the product when delivered. Remove information packed with or attached to the product and include as an attachment to the manual.

B. Related sections:

1. Section 01 31 13 – Project Coordination
2. Section 01 33 00 – Submittal Procedures
3. Section 01 75 00 – Starting and Adjusting
4. Section 01 77 00 – Closeout Procedures

1.2 CONTRACTOR SUBMITTALS

- A. Submit manuals in accordance with Section 01 33 00 – Submittal Procedures.
- B. Provide one preliminary electronic copy of the manual to the OWNER for review within 15 days after review of any equipment submittal.
- C. Provide one (1) electronic copy and three (3) printed copies of the final manual after:
 1. Preliminary manuals have been approved;
 2. Field test records have been incorporated into the manual; and
 3. Record Documents per Section 01 31 13 – Project Coordination have been approved and have been incorporated in the final manual.
- D. Provide copies of the manufacturer's warranties, guarantees, or service agreements in accordance with Section 01 77 00 – Closeout Procedures.

1.3 QUALITY ASSURANCE

- A. Qualifications:
 1. Preparation of data shall be done by factory personnel:
 - a. Trained and experienced in the maintenance and operation of the described products.
 - b. Familiar with the requirements of this Section.
 - c. Skilled as a technical writer to the extent required to communicate essential data.
 - d. Skilled as a draftsman competent to prepare required diagrams, schematics and drawings.
 - e. Familiar with Operation and Maintenance Manual requirements.

PART 2 -- PRODUCTS

2.1 MATERIALS

- A. Print manuals on heavy, first quality paper.
 - 1. Paper shall be 8-1/2 x 11 paper.
 - a. Reduce drawings and diagrams to 8-1/2 x 11 paper size.
 - b. When reduction is not practical, fold drawings and place each separately in a clear, super heavy weight, top loading polypropylene sheet protector designed for ring binder use. Provide a typed identification label on each sheet protector.
 - 2. Punch paper for standard three-ring binders.
- B. Place manuals in Wilson Jones 385 Line D-Ring Dublock Presentation Binders or approved equal.
 - 1. Binders are to have clear front, back, and spine covers.
 - 2. Sheet lifters are to be provided.
 - 3. Minimum size is 2-inch capacity. Maximum size is 3-inch capacity.
- C. Provide tab indexes for each section of the manual.
 - 1. Indexes are to be constructed of heavy-duty paper with a reinforced binding edge and punched with 9/32-inch holes to fit the binders.
 - 2. Index is to have clear tabs for a typed insert.

2.2 ELECTRONIC MANUAL FORMAT

- A. Provide individual electronic files for each manual.
 - 1. Maximum file size is 75 MB. If manual is greater than maximum allowable file size, provide individual files for each major section of manual.
 - 2. Acceptable file types for written documents are Portable Document File (PDF). Provide drawings in native format and PDF format. All files shall be compatible with the latest software version available.
 - 3. Filename shall identify the equipment location, equipment manufacturer, and date equipment placed in service, i.e. JCC1-Pump Room-Manufacturer-200503.pdf.
 - 4. Each electronic file shall contain a table of contents at the beginning of the file which includes hypertext links or bookmarks to navigate the file contents per section/chapter.

5. Scanned images of written documents are not acceptable. Document must allow character selection. Text within a file shall be transferable to other documents.
6. Drawing files shall have the ability to turn on/off drawing layers within the file.

PART 3 -- EXECUTION

3.1 MANUAL ORGANIZATION AND CONTENTS

- A. Provide a Table of Contents listing each section of the manual for each product or system.
 1. Assign a number and letter to each section in the manual.
 - a. Assign a number to each product or system. The number is to correspond to the OWNER's equipment numbering system or other system designated in the Contract Documents.
 - b. The letter assigned will represent the part of the manual, consistent with the manual contents as required by Paragraphs 3.2, 3.3, and 3.4.
 2. Provide index tabs for each section in the manual.
 3. The designation on each index tab is to correspond to the number and letter assigned in the Table of Contents.
- B. Include only the information that pertains to the product described. Annotate each sheet to:
 1. Clearly identify the specific product or component installed;
 2. Clearly identify the data applicable to the installation; and
 3. Delete references to inapplicable information.
- C. Supplement manual information with drawings as necessary to clearly illustrate relations of component parts of equipment and systems, and control and flow diagrams.
- D. Identify each manual by placing a printed cover sheet in the front cover of the binder and as the first page in the manual. The first page is to be placed in a clear polypropylene sheet protector. The information on first page and the cover page are to include:
 1. Name of OWNER;
 2. Project Name;
 3. Volume number;

4. Table of Contents for that volume; and
 5. Supplier's name and telephone number.
- E. Manuals for several products or systems may be provided in the same binder.
1. Sections for each product or system must be included in the same binder.
 2. Sections must be in numerical order from volume to volume.
- F. Correlate the data into related groups when multiple binders are used.
- G. Fill binders to only three-fourths of its indicated capacity to allow for addition of information by the OWNER.
- 3.2 EQUIPMENT AND SYSTEMS MANUAL CONTENT
- A. Provide the following information in the first tabbed section of each manual:
1. A description of the unit and component parts and how it functions.
 2. Operating instructions for pre-startup, startup, normal operations, regulation, control, shutdown, emergency conditions, and limiting operating conditions.
 3. The sequence of operation by the controls manufacturer. Provide control diagrams, electrical schematic and electrical interconnection diagrams by the manufacturer, modified to reflect the as-built, as-installed condition.
 4. Include general assembly contract drawings, sections, and photographic views as necessary to completely depict and properly identify the equipment. Indicate the dimensions, weight, capacity, and design conditions for the equipment.
- B. Include detailed information to allow for the proper installation, calibration, testing, preventative, and corrective maintenance procedures in the second section of the manual or of each section of the manual information if the manual covers a multi-component equipment system:
1. Maintenance instructions including assembly, installation, alignment, clearances, tolerances, and interfacing equipment requirements, adjustment, and checking instructions. Include any special rigging required to place the equipment into place, and any special test equipment required to place the equipment in service.
 2. A safety subsection which shall address all safety and tag-out procedures necessary to safely operate and maintain the equipment.
 3. Lubrication schedule and lubrication procedures. Include a cross reference for recommended lubrication products.

4. Troubleshooting guide.
 5. Provide a table showing the schedule of routine maintenance requirements and seasonal work which is not performed at a set frequency. Preventative maintenance tasking shall address:
 - a. Daily/weekly inspections performed by operations personnel;
 - b. Routine preventative maintenance scheduled weekly, monthly, quarterly, semi-annually, or annually through major overhauls by maintenance personnel; and
 - c. Predictive maintenance work such as alignment, analysis of the equipment, vibration, flow, oil sampling, etc.
 6. Description of sequence of operation by the control manufacturer.
 7. Warnings for detrimental maintenance practices.
 8. Include detailed corrective maintenance procedures.
 - a. Detail equipment for complete disassembly and assembly
 - b. Provide cross-sectional drawings or exploded views with all parts numbered to correspond with the numbers in the parts list to permit identification of the various parts
 - c. Provide a table of normal clearances, diameters, thickness of new parts, and limits permissible for wearing parts.
 - d. List torque settings for nuts, bolts, and fasteners when critical to the equipment's performance.
- C. Include all necessary diagrammatic piping and wiring diagrams (including electrical schematics and electrical interconnection diagrams) and miscellaneous contract drawings and equipment in the third section of the manual or of each section of the manual if the manual covers a multi-component equipment system.
- D. Provide spare parts information in the fourth section of the manual including:
1. Part numbers for ordering new parts;
 2. Assembly illustrations showing an exploded view of the complex parts of the product;
 3. Predicted life of parts subject to wear;
 4. List of the manufacturer's recommended spare parts, current prices with effective date, and number of parts recommended for storage;

5. Directory of a local source of supply for parts with company name, address, and telephone number;
 6. Complete nomenclature and list of commercial replacement parts; and
 7. Complete list of spare parts, spare equipment, tools, and materials that are turned over to the OWNER.
- E. Provide statistical information from the original equipment manufacturer as to performance such as pump curves, flow charts insulation resistance, calibration, or test data sheets in the fifth section of the manual, including all field testing records used to verify actual performance.
- F. Provide equipment name plate data installed on equipment and valves and equipment data sheets as required and furnished by the OWNER in the sixth section of the manual.
- G. Provide a copy of warranties and the date the warranty expires for equipment in the seventh section of the manual.
- 3.3 ELECTRICAL AND ELECTRONICS SYSTEMS MANUAL
- A. Provide all of the information listed in Paragraph 3.2 as appropriate and include the following information:
1. Control schematics and point to point wiring diagrams prepared for field installation;
 2. Circuit directories of panel boards and terminal strips and as installed color coded wiring diagrams; and
 3. Other information as may be required by the individual Sections of the Specifications.
- 3.4 ARCHITECTURAL PRODUCTS MANUAL
- A. Provide the following information:
1. Information required for ordering replacement products;
 2. Instructions for care and maintenance;
 3. List of the manufacturer's recommended lubricants;
 4. The manufacturer's recommendations for types of cleaning agents and methods;
 5. Cautions against cleaning agents and methods that are detrimental to the product; and
 6. Recommended maintenance and cleaning schedule.

- B. Final balancing reports for mechanical systems.
 - C. Other information as may be required by the individual Sections of the Specifications.
- 3.5 LIST OF SERVICE ORGANIZATIONS
- A. Provide a directory of authorized service organizations with company name, address, telephone number, email address, and the contact person for warranty repair.

END OF SECTION

SECTION 02 41 53

DEMOLITION, REMOVAL, AND ABANDONMENT

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section describes demolition and removal of structures and parts of structures, removal of above grade and underground improvements, and abandonment of underground structures and pipelines as shown on the Drawings and specified in this Section.
- B. Related work:
 - 1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Division 01 - General Requirements of these Specifications.
- C. References – (Reserved).

1.2 SUBMITTALS

- A. Shop Drawing Submittals – (Reserved).
- B. Operation and Maintenance Manuals – (Reserved).
- C. Certificates and Guarantees – (Reserved).
- D. Spare Parts – (Reserved).

1.3 QUALITY ASSURANCE

- A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Comply with pertinent provisions of Section 01 66 11.

1.5 SITE CONDITIONS – (Reserved).

1.6 MAINTENANCE – (Reserved).

1.7 DEFINITIONS

- A. Demolish – Raze and dispose of above grade structures; including, but not limited to walls, roofs, ceilings, and ground floor slabs and floors. Raze and dispose of all equipment, piping and plumbing, electrical and communications conduit, wires and cables, furniture, furnishings, windows, and doors in above grade and below grade structures.
- B. Remove – Excavate structure foundations, tanks, underground pipes, etc. in their entirety.
- C. Dispose – Transport or haul materials and equipment of any and all types to off-site location(s).
- D. Abandon – Remove structure foundations, tanks, and underground pipes, etc. within the following limits
 - 1. 5 feet horizontally from any proposed structure or pipe, and
 - 2. 3 feet vertically below the proposed finished grade or the outside edges of any proposed structure or pipe.
- E. This work includes breaking up of below grade foundation slabs and sealing of underground pipes with mechanical plugs and/or concrete plugs.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Provide materials, not specifically described but required for proper completion of the work of this Section, as selected by the Contractor subject to the approval of the Engineer.

PART 3 - EXECUTION

3.1 SURFACE CONDITIONS

- A. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.

3.2 PROTECTION

- A. Protect existing utilities indicated or made known.

- B. Protect trees and shrubs, where indicated to remain, by plank wrappers securely wired in place or by providing a fence around the tree or shrub of sufficient distance away and of sufficient height so trees and shrubs will not be damaged in any way as part of this Work.
 - 1. Do not permit any equipment to operate within 5 feet of any trees or shrubs that are to remain or in a manner as to harm overhanging branches.
- C. Protection of persons and property:
 - 1. Barricade open depressions and holes occurring as part of this Work, and post warning lights on property adjacent to or with public access.
 - 2. Operate warning lights during hours from dusk to dawn each day and as otherwise required.
 - 3. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by operations under this Section.
- D. Use means necessary to prevent dust becoming a nuisance to the public, to neighbors, and to other work being performed on or near the site.
- E. Maintain access to the site at all times.

3.3 DEMOLITION

- A. General:
 - 1. By careful study of the Contract Documents and visiting the site, determine the location and extent of demolition to be performed.
 - 2. In all activities, comply with pertinent regulations of governmental agencies having jurisdiction.
- B. Demolition of existing structures:
 - 1. Demolish and remove existing structures, piping and equipment or parts thereof in a manner such as not to damage corresponding items which are to remain.
 - 2. In those areas in which structures or piping to be demolished and removed now occupy space to be used for proposed structures, remove the existing structure or piping in total unless other instructions are included on the Drawings.
- C. Existing equipment:
 - 1. Existing mechanical or electrical equipment, miscellaneous metals, pipe, fittings, valves, furniture, cabinets, and other materials of whatever nature are, and shall remain, the property of the Contractor upon demolition or removal.
 - a. Legally dispose of all removed items.

3.4 DISPOSAL

- A. General:
 - 1. Dispose of all debris from demolition work.
 - 2. Dispose away from the site in a legal manner.
 - 3. Do not store or accumulate debris at the job site.
- B. Do not burn debris at the site.
- C. Prepare documentation identifying the hauler, generator, place of origin of debris or soil, the weight or volume of debris or soil, and the location, owner, and operator of the facility where debris or soil was transferred, disposed, recycled or treated. Maintain documentation for three years.

3.5 UTILITIES

- A. Coordinate with utility companies and agencies as required.
- B. Where utility cutting, capping, or plugging is required, pay utility company to do the work, or perform such work in accordance with requirements of the utility company or governmental agency having jurisdiction.

END OF SECTION

SECTION 03 01 30

MAINTENANCE OF CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 SUMMARY

- A. Perform concrete repair work and other incidental and collateral work, as shown on the Drawings, as specified herein, and as needed for a complete and proper installation.
- B. Related work:
 - 1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Division 01 - General Requirements of these Specifications.

1.2 SUBMITTALS

- A. Shop Drawings:
 - 1. Submit manufacturer's data to prove compliance with the specifications for the following products:
 - a. Hydraulic repair mortar.
 - b. Polyurethane grout.
 - 2. Submit manufacturer's material preparation and installation instructions for the following products:
 - a. Hydraulic repair mortar.
 - b. Polyurethane grout.
 - 3. Submit written description of equipment proposed for concrete removal and surface preparation.
- B. Comply with pertinent provisions of Section 01 33 00 – Submittal Procedures.

1.3 QUALITY ASSURANCE

- A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Comply with pertinent provisions of Section 01 66 00 – Product Storage and Handling Requirements.
- B. Package hydraulic repair mortar products in moisture resistant bags, pails, or bulk bags.

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- C. Deliver, store, and handle repair materials in accordance with manufacturer's printed instructions.

PART 2 - PRODUCTS

2.1 HYDRAULIC REPAIR MORTAR

- A. Furnish one-component, cement-based, fast-setting water-stop repair mortar.
- B. Physical properties:
 - 1. Compressive Strength, ASTM C109:
 - a. 120 min.: 1,800 psi minimum.
 - b. 1 day: 4,000 psi minimum.
 - c. 7 days: 5,000 psi minimum.
 - d. 28 days: 5,500 psi minimum.
 - 2. Flexural Strength, ASTM C348:
 - a. 7 days: 600 psi minimum.
 - b. 28 days: 1,500 psi minimum.
 - 3. Tensile Strength, ASTM C190:
 - a. 7 days: 300 psi minimum.
 - b. 28 days: 350 psi minimum.
- C. Acceptable product:
 - 1. Sika Corporation, SikaSet Waterplug.
 - 2. Or equal.

2.2 POLYURETHANE GROUT

- A. Provide water reactive, low-viscosity, elastic, solvent-free polyurethane grout suitable for pressure injection to seal leaking cracks in concrete.
- B. Furnish material with the following physical properties for uncured material:
 - 1. Density: 1.00 kg/l for part A and 1.07 kg/l for part B.
 - 2. Viscosity: 100 mPa·s.
- C. Furnish materials with the following performance properties for cured material:
 - 1. Shore A hardness: 43 at 7 days.
 - 2. Modulus of elasticity in flexure: 2 MPa.
 - 3. Tensile strain at break: 35%.
- D. Acceptable products:
 - 1. Sika Corporation, Sika Injection-201 CE.
 - 2. Or equal.

2.3 WATER

- A. Clean and free from oil, acid, alkali, organic matter, or other deleterious

substances, meeting federal drinking water standards.

2.4 OTHER MATERIALS

- A. Provide other materials, not specifically described but required for a complete and proper installation, as selected by the Contractor subject to the approval of the Engineer.

PART 3 - EXECUTION

3.1 SURFACE CONDITIONS

- A. Examine the area and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.
- B. Protect adjacent surfaces and equipment from dust and repair mortar spillage.

3.2 POLYURETHANE GROUT INJECTION

- A. Inject and seal cracks and joints in concrete using polyurethane grout injection as shown on the Drawings, as specified herein, and as directed by the Engineer.
- B. Clean area to be repaired, drill offset holes for injection and clean holes with compressed air, install injectors, flush crack with water, pressure inject polyurethane grout, remove injectors and excess surface grout and patch injector holes with hydraulic repair mortar in strict accordance with the manufacturer's recommendations.

3.3 HYDRAULIC REPAIR MORTAR APPLICATION

- A. Rout or cut out the crack or joint at least $\frac{3}{4}$ -inch wide and $\frac{3}{4}$ -inch deep, slightly undercutting if possible.
- B. Flush away all loose debris, dust and dirt with clean water.
- C. Add just enough water to mix repair mortar rapidly by hand to a stiff, low-slump, putty consistency. Mix no longer than 30 seconds.
- D. Force repair mortar into the prepared crack or joint with a round tool or margin trowel until a set is fully achieved and smooths out to form a cove at corners.

3.4 CLEANING

- A. Remove excess repair materials as work proceeds. Remove waste materials, material removed from structure, and water used in preparation of repair areas, finishing, and curing, and dispose offsite.

3.5 REMEDIAL WORK

- A. Repair or replace deficient work as directed by the Engineer and at no additional cost to the Owner.

END OF SECTION

SECTION 03 30 00

CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 SUMMARY

- A. Provide cast-in-place concrete, including formwork and reinforcement, as shown on the Drawings, as specified herein, and as needed for a complete and proper installation.
- B. Related work:
 - 1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Division 01 - General Requirements of these Specifications.
- C. References – (Reserved).

1.2 SUBMITTALS

- A. Shop Drawing Submittals:
 - 1. Prior to placing concrete on the project, submit the following to the Engineer for approval:
 - a. Testing laboratory reports for each proposed concrete mix, design proportions and sieve analysis, and soundness tests for fine and coarse aggregates.
 - b. Test results for strength, slump, and entrained air content in accordance with the latest requirements of ASTM C39 and ASTM C192 on trial mix or field-testing records completed within previous 24 months. Perform strength tests on two test cylinders after 7 days curing and on two cylinders after 28 days curing.
 - c. Evidence of compliance with ASTM specifications for materials proposed to be used in the concrete mix.
 - d. Detailed reinforcing bar fabrication drawings prepared in accordance with ACI 315 including location of bar splices proposed by the Contractor in addition to those shown on the Drawings.
 - e. Casting plan indicating the location of construction joints which are proposed by the Contractor in addition to those shown on the Drawings.
 - 2. Submit, within 10 days of testing, duplicate copies of each laboratory report for concrete tests on samples taken at the jobsite, including the following information in each test report:
 - a. Project name.
 - b. Description of concrete work.
 - c. Quantity of concrete placed.
 - d. Dates of samples and testing.

- e. Slump.
- f. Total air content.
- g. Compressive strength.
- h. Air temperature at time of sampling.
- 3. Submit manufacturer's data to prove compliance with the specifications for the following products:
 - a. Non-shrink grout.

B. Operation and Maintenance Manuals – (Reserved).

C. Certificates and Guarantees – (Reserved).

D. Spare Parts – (Reserved).

E. Comply with pertinent provisions of Section 01 33 01.

1.3 QUALITY ASSURANCE

A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

B. Comply with "Specifications for Structural Concrete for Buildings," ACI 301, except as may be modified herein.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Comply with pertinent provisions of Section 01 66 00.

B. Provide proper storage for reinforcing steel at the project site, including protective covering and blocking to keep steel off the ground.

1.5 SITE CONDITIONS – (Reserved).

1.6 MAINTENANCE – (Reserved).

PART 2 - PRODUCTS

2.1 FORMS

A. Use smooth, clean plywood or metal lined panels in good condition for forming exposed concrete surfaces including interior and exterior walls, beams, columns, and slabs. Coat the forms with a non-staining, non-reactive mineral oil.

B. Provide 3/4-inch chamfers on exposed corners.

- C. When reusing lumber for formwork, remove nails, thoroughly clean, and fill and finish holes to produce smooth concrete surfaces free of defects.
- D. Provide temporary openings at the base of column and wall forms and elsewhere as required to facilitate cleaning and final inspection prior to concrete placement.
- E. Form Ties: Factory-fabricated steel snap-off or coil tie assemblies designed to resist the lateral pressure of fresh concrete on forms and to prevent spalling of concrete on removal.
 - 1. Furnish tie assemblies that will leave no metal or other material except concrete within 1½ inches of the formed surface when forms, inserts and tie ends are removed.
 - 2. Furnish tie assemblies that provide cone-shaped depressions in the forms at the surface, at least 1-inch in diameter and 1½ inches deep, to allow filling and patching.
 - 3. Provide ties with integral steel or neoprene waterstop at midpoint for liquid containment structures, sludge storage structures, spill containment areas and below grade structures with accessible spaces.
 - 4. Do not use common wire for form ties.

2.2 REINFORCEMENT

- A. Comply with the following:
 - 1. Bars: Deformed billet steel conforming to ASTM A615, grade 60, unless otherwise shown on the Drawings.
 - 2. Welded wire reinforcement: Sheets of longitudinal and transverse cold drawn smooth steel wires electrically welded together at intersections, conforming to ASTM A185.
 - 3. Tie wire: 16 gauge annealed steel wire.
- B. Fabricate reinforcement in accordance with the latest provisions of ACI 318 "Building Code Requirements for Structural Concrete".
- C. Shop fabricate bars by cold bending to the dimensions and shapes shown on the detail shop drawings unless otherwise shown on the Drawings or approved by the Engineer.
- D. Use bars that are free from paint, oil, dirt, scale, or excessive rust which will destroy or reduce the bond when embedded in concrete.

2.3 CONCRETE

- A. Comply with the following:
 - 1. Portland cement: ASTM C150, Type I or II.
 - 2. Aggregate, general:
 - a. ASTM C33, uniformly graded and clean;
 - b. 35 to 50 percent ratio of fine aggregate to total aggregate by weight of surface dry materials.

3. Aggregate, coarse: Pass a 1.500-inch sieve.
 4. Aggregate, fine: Pass a 0.375-inch sieve.
 5. Water: Fresh, clean, and free of oils, acids, alkalies, organic matter and deleterious substances.
- B. Provide concrete with the following properties:
1. Minimum 28-day compressive strength: 4,000 psi.
 2. Maximum water-cement ratio: 0.45 by weight.
 3. Minimum cement content: 520 pounds per cubic yard.
 4. Minimum slump: 1-inch.
 5. Maximum slump: 4 inches.
- C. Use air-entrained concrete except for interior slabs not exposed to freezing and thawing or deicing chemicals. Provide a total air content of 4 to 7 percent by volume.

2.4 GROUT

- A. Grout for non-structural fillets: One part Portland Cement, three parts fine aggregate, and sufficient water to obtain a consistency for easy placing and finishing.
- B. Non-shrink grout:
1. Furnish pre-mixed, non-metallic, non-staining, non-corrosive, non-gas liberating, cement-based grout specifically recommended by the manufacturer for interior and exterior applications and complying with U.S. Corps of Engineers' Specification CRD C-621 and ASTM C1107.
 2. Acceptable products:
 - a. Multipurpose Grout, Dayton Superior Corporation.
 - b. Or equal.

2.5 CONCRETE ADMIXTURES

- A. Air-entraining admixtures: Conform to the latest requirements of ASTM C260.
- B. Water reducing admixtures:
1. Conform to the latest requirements of ASTM C494.
 2. Type A (normal setting type) for all concrete.
 3. Type D (retarding setting type) or Type E (accelerating setting type) when approved by the Engineer.
- C. Fly ash admixtures (when approved by the Engineer):
1. Maximum sulfur trioxide content: 5 percent.
 2. Maximum loss of ignition: 5 percent.
- D. Do not add calcium chloride, salts, or chemical antifreeze compounds to concrete.

2.6 ANCHORING ADHESIVE

- A. Provide a cartridge type, two-component, high solids acrylic-based adhesive system dispensed and mixed through a static mixing nozzle supplied by the manufacturer.
- B. Furnish material suitable for anchorage of reinforcing bars and threaded rods in cracked and uncracked concrete to resist long-term sustained loading, tested and qualified in accordance with the International Code Council Acceptance Criteria for Post-installed Adhesive Anchors in Concrete Elements (AC308).
- C. Acceptable products:
 - 1. Hilti Inc., HIT-HY 200.
 - 2. Simpson Strong-Tie, AT-XP.
 - 3. No substitution permitted.

2.7 OTHER MATERIALS

- A. Cement mortar: One part Portland Cement, 2½ parts fine aggregate, and sufficient water to obtain a maximum slump of 6 inches.
- B. Bonding grout: One part cement, one part fine aggregate, and sufficient water to obtain the consistency of thick cream.
- C. Patching mortar: One part cement, 2½ parts fine aggregate, and sufficient water to obtain a maximum slump of 1-inch.
- D. Expansion joint filler material: Asphalt type conforming to the latest requirements of ASTM D994.
- E. Dissipating curing compound: Water based, hydrocarbon resin liquid membrane-forming dissipating curing compound complying with ASTM C309, Type 1, Class B.
 - 1. Maximum VOC content: 100 g/L.
 - 2. Acceptable products:
 - a. W. R. Meadows, 1100-CLEAR.
 - b. Or equal.
- F. Provide other materials, not specifically described but required for a complete and proper installation, as selected by the Contractor subject to the approval of the Engineer.

PART 3 - EXECUTION

3.1 SURFACE CONDITIONS

- A. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.

3.2 FORMS

- A. Design, erect, support, brace, and maintain formwork to safely support vertical and lateral loads until such loads can be supported safely by the concrete structure.
- B. Assemble forms with tight flush joints securely clamped to prevent leakage of mortar. Brace forms to safely support concrete without deformation under load.
- C. Construct forms within the tolerance limits of permissible variations from lines, grades, and dimensions shown on the Drawings, in accordance with ACI 347 "Recommended Practice for Concrete Formwork".
- D. Construct forms to the exact sizes, shapes, lines, and dimensions shown, and as required to obtain accurate alignment, location, grades, and level and plumb work in the finished structure.
- E. Notify the Engineer when formwork is complete so that a proper check may be made at least 24 hours prior to concrete placement.
- F. Carefully remove forms, ensuring complete protection of the structure.
- G. Remove forms for vertical sides of walls, beams, girders, columns, and other similar structural members 24 hours minimum after placement of concrete, provided the concrete has hardened sufficiently and will not be damaged.
- H. Do not remove forms and bracing for slabs, beams, girders, and similar structural members until the concrete structural members have attained sufficient strength to safely support their own weight and any construction or storage load.

3.3 REINFORCING

- A. Comply with the following, as well as the specified standards, for details and methods of reinforcing placement and supports.
 - 1. Clean reinforcement and remove loose dust and mill scale, earth, and other materials that reduce bond or destroy bond with concrete.
 - 2. Accurately place and secure reinforcing steel within the tolerances required by ACI 318 using tie bars, chairs, bolsters, wire, clips or other devices approved by the Engineer.
 - 3. Provide plastic protected bar supports for slab reinforcing.

4. Place bar supports for grade beams and slabs on bearing plates or blocks to prevent displacement into the earth subgrade.
5. Place reinforcement to obtain the following clear concrete coverage for protection, within tolerance limits specified in ACI 318 "Building Code Requirements for Structural Concrete":
 - a. Concrete cast against and permanently exposed to earth: 3 inches.
 - b. Concrete exposed to earth, liquid, weather, or bearing on work mat or slabs supporting earth.
 - (1) Slabs and joists: 2 inches.
 - (2) Walls: 2 inches.
 - (3) Footings and base slabs:
 - i. Formed surfaces: 2 inches.
 - ii. Top of footings and base slabs: 2 inches.
6. Provide the following minimum clear distances between parallel reinforcing bars, between adjacent contact splices, and between a contact splice and an adjacent bar: 1-inch, one bar diameter, or 1.33 times the maximum size of coarse aggregate, whichever is larger.
7. Reinforcing bar splices:
 - a. Use contact lap splices securely tied to adjacent bars and installed with lap lengths shown on the Drawings.
8. Stagger splices in adjacent reinforcing bars unless otherwise shown on the drawings. Install welded wire reinforcement in lengths as long as practicable, lapping adjoining pieces two full mesh panels minimum.

3.4 EMBEDDED ITEMS

- A. Provide for the proper placement and support of fittings, inserts, fixtures, and sleeves to be built into the concrete work under other sections of the Specifications.
- B. Shop paint non-ferrous metal surfaces of embedded items as described in Section 05 50 00 of these Specifications.

3.5 MIXING CONCRETE

- A. Project site batched-mixed concrete:
 1. Mix in accordance with ACI 318, Chapter 5.8.1 and 5.8.3.
- B. Ready-mixed concrete:
 1. Pre-mix and transport to project site in accordance with ASTM C94.
 2. Record time of departure from the mixing plant and batch weights of cement and water on the delivery tickets.
 3. Water may be added to the ready-mixed concrete once after delivery, only if the maximum water cement ratio and slump will not be exceeded.
 4. Reject concrete not in place within 60 minutes after introducing water to the mix when transported in agitator trucks or within 30 minutes after introducing water to the mix when transported in nonagitator trucks.

3.6 PLACING CONCRETE

- A. Preparation:
 - 1. Remove hardened concrete and foreign material from conveying equipment.
 - 2. Remove foreign matter and excess water accumulated in forms.
 - 3. Rigidly close temporary openings left in formwork.
 - 4. Thoroughly sprinkle earth subgrades for structural slabs without vapor barrier protection to eliminate moisture absorption.
 - 5. Before depositing new concrete on or against concrete which has hardened:
 - a. Thoroughly clean hardened concrete and saturate with water.
 - b. Thoroughly cover hardened concrete surface with a 1/8-inch thick coating of neat cement mortar and place new concrete before the mortar has attained its initial set.
 - 6. Use only clean tools.
- B. Conveying:
 - 1. Convey concrete from the mixer to place of final deposit as rapidly as practical by methods which will prevent separation or loss of ingredients and assure the required quality of concrete.
 - 2. Deposit concrete as nearly as practicable to its final location to avoid separation due to rehandling and flowing.
 - 3. Do not allow free fall of concrete to exceed 5 feet.
 - 4. Do not use concrete which becomes non-plastic and unworkable, or does not meet required quality control limits, or has been contaminated by foreign materials.
 - 5. Remove rejected concrete from job site.
- C. Placing concrete in forms:
 - 1. Deposit concrete continuously or in layers so that no concrete will be placed on concrete which has hardened sufficiently to cause cold joints in the work.
 - 2. If necessary, add construction joints, approved by the Engineer.
 - 3. Remove temporary spreaders, screeds, etc. as they become unnecessary.
- D. Placing concrete slabs:
 - 1. Deposit and consolidate concrete slabs in a continuous operation, within limits of construction joints, until placing of a panel or section is completed.
 - 2. Bring slab surfaces to correct level with a straightedge and then strike off.
 - 3. Use bullfloats or darbies to smooth the surface, leaving it free of bumps and hollows.
 - 4. Do not sprinkle water on plastic surface. Do not disturb slab surface prior to start of finishing operations.
- E. Do not begin placement of concrete in supported structural members until concrete previously placed in columns and walls is no longer plastic.

3.7 CONSOLIDATION

A. General:

1. Consolidate each layer of concrete immediately after placing, by use of mechanical vibrators supplemented by hand spading, rodding, or tamping so that the concrete is thoroughly worked around reinforcement, embedded items, and into corners of the forms, eliminating all air or stone pockets which may cause honeycomb, pitting, or planes of weakness.
2. Use mechanical vibrators with a minimum frequency of 7,000 revolutions per minute.
3. Insert vibrator at points approximately 18 inches apart for approximately 5 to 15 seconds at each point, sufficient to consolidate concrete, but not to cause segregation.
4. Do not overvibrate or use vibrators to transport concrete inside forms.
5. Provide a spare vibrator and auxiliary power source at the site during placement operations.

3.8 JOINTS

A. Construction joints:

1. Do not relocate construction joints shown on the Drawings or add construction joints, unless approved by the Engineer.
2. Form construction joints perpendicular to main reinforcement and near quarter points of slabs.
3. Locate horizontal wall and column construction joints at the top of footings and grade slabs and the underside of slabs, beams, and girders.
4. Continue reinforcing steel across construction joints as shown on the Drawings or as required by the Engineer.
5. Form keyways in construction joints a minimum of 1½ inches deep and 3½ inches wide unless otherwise shown on the Drawings.

3.9 CONCRETE FINISHING

- A. Finish concrete work to smooth, clean surfaces of uniform color with no roughness or imperfections.
- B. Remove roughness, projections, honeycomb, and other defects in formed concrete surfaces to sound concrete.
- C. Patch depressions and tie holes immediately after form removal.
1. Thoroughly wet areas to be patched to prevent absorption of water from patching mortar.
 2. Thoroughly brush bonding grout on areas to be patched.
 3. Consolidate patching mortar into place and strike off to leave a patch slightly higher than surrounding concrete surface to allow for initial shrinkage.
 4. Leave patch area undisturbed for at least one hour before final finishing.

5. Prepared proprietary compounds for bonding grout and patching mortar may be used in lieu of or in addition to the above patching procedure, if approved by the Engineer.
- D. Unless otherwise shown on the Drawings, provide the following finishes at the indicated locations:
1. Float finish:
 - a. Monolithic slab surfaces that are to receive trowel finish and other slab finishes specified herein.
 2. Trowel finish:
 - a. Monolithic slab surfaces that are to be exposed to view, unless otherwise shown.
 3. Smooth rubbed grout finish:
 - a. Exposed concrete surfaces including walls, beams, columns, and other vertical and inclined surfaces.
 - b. Tops and vertical or inclined surfaces of walls, inside tanks, reservoirs, basins, and chambers.
 - c. Apply finish to freshly hardened concrete as soon as possible after removal of forms.
 - d. Apply grout slurry, consisting of one part cement to 1½ parts fine aggregate mixed with water, uniformly over a predampened surface with clean burlap pads or with sponge-rubber or cork floats.
 - e. Rub grout surface with carborundum stone or similar abrasive to produce a uniform color and texture.
 - f. Remove excess grout with a dry burlap pad or a brush.

3.10 CONCRETE CURING

- A. Protect fresh concrete and grout surfaces from premature drying and excessively hot or cold temperatures.
- B. Cure fresh concrete and grout surfaces in a moist condition at a relatively constant temperature for at least 7 days after placement of Type I Portland Cement concrete, or longer if necessary for hydration and proper hardening of the concrete.
- C. Perform curing by one of the following methods:
 1. Ponding or continuous water spraying on concrete surface.
 2. Covering concrete surfaces with continuously wetted burlap, cotton, or other absorptive mats or fabric.
 3. Covering concrete surfaces with impervious waterproof paper or polyethylene film having 4-inch tape-sealed laps at common edges and taped-sealed and weighted perimeter.
 4. Applying curing compound on concrete surfaces to which additional concrete will not be bonded in strict accordance with manufacturer's instructions:
 - a. For horizontal surfaces, apply uniform coat of dissipating curing compound when the surface water disappears and the concrete surface will not be marred by walking workers.

- b. For vertical surfaces, apply uniform coat of dissipating curing compound promptly after removal of forms.
- D. Maintain temperature of fresh concrete between 50 degrees and 70 degrees F for the required curing period.
- E. Provide and erect necessary facilities for heating, covering, insulating, or housing the concrete work for cold weather protection.

3.11 CONCRETE TESTING

- A. Provide equipment and services required for sampling and testing concrete.
- B. Include the cost of testing in the total amount of the contract price for concrete work.
- C. Sample concrete in accordance with ASTM C172.
- D. Slump testing:
 - 1. Perform in accordance with ASTM C143.
 - 2. Perform one test minimum for each 50 cubic yards of concrete placed in one operation to check and maintain the required consistency of concrete.
 - 3. Perform whenever required by the Engineer.
- E. Air content testing:
 - 1. Perform concurrently with the taking of the concrete compression test cylinder specimens.
 - 2. Perform in accordance with one of the following methods:
 - a. ASTM C231 pressure method.
 - b. ASTM C173 volumetric method.
 - c. ASTM C138 gravimetric method.
- F. Compression testing:
 - 1. Make and cure compression test cylinder specimens in accordance with ASTM C31.
 - 2. Take one set of four (4) 6-inch x 12-inch cylinders or six (6) 4-inch x 8-inch cylinders for every concrete pour for structural slabs, walls, beams, girders, footings, and columns, and additional sets for each 100 cubic yards of concrete placed in one operation.
 - 3. Take test cylinder specimens as directed by the Engineer to obtain representative samples of the concrete materials.
 - 4. Cure the specimens on the job site under the same field conditions as the concrete work they represent for a minimum of 72 hours after sampling.
 - 5. Test half of each set of concrete test cylinder specimens for compressive strength at 7 days and at 28 days in accordance with ASTM C39 (testing to be performed by an independent testing laboratory approved by the Engineer).

6. In any case where test results of concrete cylinder specimens fail to meet minimum compressive strength requirements, make additional tests in accordance with ASTM C42 or perform load tests in accordance with ACI 318, as required by the Engineer.
7. If these alternate strength tests show that concrete work does not meet minimum strength requirements, remove unsatisfactory concrete and reconstruct the work.

3.12 CUTTING AND PATCHING OF EXISTING CONCRETE

- A. Provide neat and smooth finished exposed surfaces.
- B. Provide 1-inch deep (minimum) saw cuts.
- C. Cut off exposed reinforcing bars a minimum of 1½-inch back of finished surface and fill remaining cavity with patching mortar.
- D. Provide straight and square lines at finished openings and ¾-inch chamfers at exposed corners.
- E. Core drill openings for new pipes and conduits and patch with non-shrink grout.
- F. Grind exposed finished surfaces flush to meet and match existing surfaces.

3.13 ANCHORING WITH ADHESIVE

- A. Drill holes, prepare surface, dispense and mix adhesive through a static mixing nozzle supplied by the manufacturer, and set reinforcement bars and threaded rod anchors in accordance with the manufacturer's recommendations where shown on the Drawings.
 1. Identify position of reinforcing steel and other embedded items prior to drilling holes. Do not cut or damage reinforcing steel, prestressed steel tendons, piping, conduits or other embedded items. Notify the Engineer if reinforcing steel or other embedded items are encountered during drilling.
 2. Use rotary impact hammer drills with carbide-tipped bits of diameters as specified by the adhesive manufacturer.
 3. Drill holes perpendicular to surface of concrete after has achieved full design strength.
 4. Clean holes to remove loose material and drilling dust prior to installation of adhesive.
 5. Follow manufacturer's recommendations to ensure proper mixing of adhesive components.
 6. Inject adhesive into holes proceeding from the bottom of the hole and progressing toward the surface in such a manner as to avoid introduction of air pockets in the adhesive.

7. Inject sufficient adhesive in the hole to ensure that the annular gap is filled to the surface. Remove excess adhesive from the surface. Shim anchors with suitable device to center the anchor in the hole. Do not disturb or load anchors before manufacturer specified cure time has elapsed.
8. Observe manufacturer's recommendations with respect to installation temperatures.

3.14 REMEDIAL WORK

- A. Repair or replace deficient work as directed by the Engineer and at no additional cost to the Owner.

END OF SECTION

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SECTION 05 50 00
METAL FABRICATIONS

PART 1 - GENERAL

1.1 SUMMARY

- A. Provide miscellaneous metal work as shown on the Drawings, as specified herein, and as needed for a complete and proper installation.
- B. Related work:
 - 1. Documents affecting work under this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Division 01 - General Requirements of these Specifications.
- C. References – (Reserved).

1.2 SUBMITTALS

- A. Shop Drawing Submittals – (Reserved).
- B. Operation and Maintenance Manuals – (Reserved).
- C. Certificates and Guarantees – (Reserved).
- D. Spare Parts – (Reserved).
- E. Comply with pertinent provisions of Section 01 33 00.

1.3 QUALITY ASSURANCE

- A. Perform shop and/or field welding required in connection with the work of this Section in strict accordance with pertinent recommendations of the American Welding Society.
 - 1. Structural Welding Code Steel: D1.1.
 - 2. Structural Welding Code Aluminum: D1.2.
 - 3. Structural Welding Code Sheet Steel: D1.3.
 - 4. Structural Welding Code Stainless Steel: D1.6.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Comply with pertinent provisions of Section 01 66 00.

1.5 SITE CONDITIONS – (Reserved).

1.6 MAINTENANCE – (Reserved).

METAL FABRICATIONS
05 50 00-1 (2401618.00)

PART 2 - PRODUCTS

2.1 MATERIALS

- A. In fabricating items which will be exposed to view, limit materials to those which are free from surface blemishes, pitting, rolled trade names, and roughness.
- B. Comply with pertinent provisions of the following standards, latest edition.
 - 1. Aluminum castings: ASTM B26.
 - 2. Aluminum sheet and plate: ASTM B209, Alloy 6061-T6.
 - 3. Aluminum drawn seamless tubes: ASTM B210, Alloy 6063-T5.
 - 4. Aluminum extrusions: ASTM B221, Alloy 6063-T6.
 - 5. Aluminum seamless pipe: ASTM B241, Alloy 6061-T6.
 - 6. Aluminum forgings: ASTM B247, Alloy 6061-T6.
 - 7. Aluminum structural shapes: ASTM B308, Alloy 6061-T6.
 - 8. Aluminum structural pipe and tube: ASTM B429, 6061-T6.
 - 9. Aluminum tread plate: ASTM B632, Alloy 6061-T6.
 - 10. Steel W-shapes: ASTM A992.
 - 11. Steel M-shapes, S-shapes, C-shapes, MC shapes: ASTM A36.
 - 12. Steel rectangular and round hollow structural sections (HSS): ASTM A500, Grade B.
 - 13. Steel angles, plates, and bars: ASTM A36.
 - 14. Steel plates to be bent or cold-formed: ASTM A283, Grade C.
 - 15. Cold-finished steel bars: ASTM A108.
 - 16. Cold-rolled carbon steel sheets: ASTM A1008.
 - 17. Galvanized carbon steel sheets: ASTM A653, with G90 zinc coating.
 - 18. Stainless steel bars, angles and shapes: ASTM A276, Type 316 (Type 316L for welded connections).
 - 19. Welded stainless steel mechanical tubing: ASTM A554, Type 316 (Type 316L for welded connections).
 - 20. Stainless steel fasteners: ASTM F593 and F594, Type 316.
 - 21. Stainless steel wire fabric, sheet and plates: ASTM A240, Type 316 (Type 316L for welded connections).
 - 22. Gray iron castings: ASTM A48.
 - 23. Malleable iron castings: ASTM A47.
 - 24. Steel pipe: ASTM A53, Grade B, Schedule 40, black finish unless otherwise noted.
 - 25. Concrete inserts: Threaded or wedge type galvanized ferrous castings of malleable iron complying with ASTM A27.

2.2 ANCHORS AND FASTENERS

- A. Provide Type 316 stainless steel anchor bolts, threaded rods, bolts, nuts, screws, staples, washers, rivets, lock nuts, nails, pins, hooks, clamps, and all other metal fasteners.

- B. Post installed mechanical anchors:
 - 1. Provide Type 316 stainless steel wedge, sleeve and drop-in expansion anchors of size and number required for the particular use.
 - 2. Furnish anchors suitable for installation in cracked and uncracked base materials to resist short and long-term sustained loading.
 - 3. Acceptable manufacturers:
 - a. Simpson Strong-Tie Company, Inc.
 - b. Hilti, Inc.
 - c. ITW Redhead.
 - d. Or equal.
- C. Post installed adhesive anchors:
 - 1. Provide Type 316 stainless steel threaded rods set in place with a cartridge type, two-component, high solids adhesive system dispensed and mixed through a static mixing nozzle supplied by the manufacturer.
 - 2. Concrete base material: Furnish material suitable for anchorage of threaded rods in cracked and uncracked concrete to resist long-term sustained loading, tested and qualified in accordance with the International Code Council Acceptance Criteria for Post-installed Adhesive Anchors in Concrete Elements (AC308).
 - a. Acceptable products:
 - (1) Hilti Inc., HIT-HY 200.
 - (2) Simpson Strong-Tie, AT-XP.
 - (3) No substitution permitted.
- D. Provide Type 304 stainless steel screw anchors of size and number required for the particular use.
 - 1. Acceptable products:
 - a. Powers Fasteners, Tapper Screw Anchor.
 - b. Or equal.

2.3 OTHER MATERIALS

- A. Provide other materials, not specifically described but required for a complete and proper installation, as selected by the Contractor subject to the approval of the Engineer.

2.4 FABRICATION

- A. Except as otherwise shown on the Drawings or the approved Shop Drawings, use materials of size, thickness, and type required to produce reasonable strength and durability in the work of this Section.
- B. Fabricate with accurate angles and surfaces which are true to the required lines and levels, grinding exposed welds smooth and flush, forming exposed connections with hairline joints, and using concealed fasteners wherever possible.

- C. Prior to shop painting or priming, properly clean metal surfaces as required for the applied finish and for the proposed use of the item.
- D. On surfaces inaccessible after assembly or erection, apply two coats of the specified primer. Change color of second coat to distinguish it from the first.

2.5 CAST IRON FRAMES AND COVERS

- A. Provide gray cast iron frames and covers as follows unless otherwise indicated on the Drawings.
 - 1. Trench frames and covers: Heavy duty, Neenah R-4990 series, or equal, with side and end frame sections.
 - a. Grate covers: 24-inch long, Type A.
- B. Provide machined bearing surfaces for all frames, covers, grates, and adjusting rings.

PART 3 - EXECUTION

3.1 SHOP TREATMENT OF METAL SURFACES

- A. Clean ferrous metal surfaces, except stainless steel and work to be galvanized, by sandblasting to bare metal in accordance with the Steel Structures Painting Council Specifications (SSPC) SP-10 and shop prime.
 - 1. Do not shop prime or paint contact surfaces which are to be field bolted or welded.
- B. Clean cast iron surfaces by sandblasting to bare metal in accordance with SSPC SP-6 and shop paint with a two-coat system of bituminous paint using Tnemec 46-465 Heavy Duty Black, or equal.
- C. Clean stainless steel surfaces to remove oil, grease, hand and finger prints, and any other surface contaminants after fabrication and passivate in a 20 percent nitric acid solution.
 - 1. Protect polished stainless steel surfaces with removable plastic coatings or coverings during delivery, handling, and installation.
- D. Provide standard mill finish for aluminum surfaces unless clear anodized or color finish is otherwise specified.
 - 1. Provide caustic etch and anodic oxide treatment for aluminum surfaces to be anodized, conforming to the Aluminum Association Standard AA-M12C22A.
- E. Properly clean copper and bronze metal surfaces and shop coat with a high quality clear finishing lacquer.

- F. Shop paint non-ferrous metal surfaces which will contact dissimilar metals, mortar, concrete, plaster, or any other corrosive material with one heavy coat of bituminous paint, using Tnemec 46-465, or equal.

3.2 COORDINATION

- A. Coordinate as required with other trades to assure proper and adequate provision in the work of those trades for interface with the work of this Section.

3.3 INSTALLATION

- A. General:
 1. Set work accurately into position, plumb, level, true, and free from rack.
 2. Anchor firmly into position.
 3. Where field welding is required, comply with AWS recommended procedures of manual-shielded metal-arc welding for appearance and quality of weld and for methods to be used in correcting welding work.
 4. Grind exposed welds smooth and touch-up shop prime coats.
 5. Do not cut, weld, or abrade surfaces which have been hot-dip galvanized after fabrication and which are intended for bolted or screwed field connections.
 6. Immediately after erection, clean the field welds, bolted connections, and abraded areas of shop priming. Paint the exposed areas with same material used for shop priming.
- B. Post installed anchors:
 1. Perform anchor installation in accordance with manufacturer's instructions.
 2. Identify location of reinforcing steel and other embedded items prior to drilling holes for anchors. Do not cut or damage reinforcing steel, prestressed steel tendons, piping, conduits or other embedded items. Notify the Engineer of reinforcing steel or other embedded items encountered during drilling.
 3. Use drill type, bit type and diameter recommended by the anchor manufacturer.
 4. Drill holes perpendicular to surface of concrete or masonry after concrete, mortar or grout has achieved full design strength.
 5. Clean holes to remove loose material and drilling dust prior to installation of anchors.
 6. Mechanical anchors:
 - a. Protect threads from damage during anchor installation.
 - b. Use a torque wrench to set anchors to manufacturer's recommended torque.
 7. Adhesive anchors:
 - a. Install screen tubes for anchorage of threaded rods in hollow masonry base materials.
 - b. Follow manufacturer's recommendations to ensure proper mixing of adhesive components.

- c. Inject adhesive into holes proceeding from the bottom of the hole and progressing toward the surface in such a manner as to avoid introduction of air pockets in the adhesive.
 - d. Inject sufficient adhesive in the hole to ensure that the annular gap is filled to the surface. Remove excess adhesive from the surface. Shim anchors with suitable device to center the anchor in the hole. Do not disturb or load anchors before manufacturer's specified cure time has elapsed.
 - e. Observe manufacturer's recommendations with respect to installation temperatures.
8. Provide the following minimum embedment, edge distance and spacing unless indicated otherwise by the anchor manufacturer's instructions or shown otherwise on the Drawings:

Anchor Type	Min Embedment (Bolt Diameters)	Min Edge Distance (Bolt Diameters)	Min Spacing (Bolt Diameters)
Wedge	9	6	10
Sleeve	4	6	12
Drop-In	4	6	12
Adhesive	9	9	14

END OF SECTION

SECTION 31 23 39

EXCAVATING, BACKFILLING, AND COMPACTING

PART 1 - GENERAL

1.1 SUMMARY

- A. Excavate, backfill, compact, and grade the site to the elevations shown on the Drawings, as specified herein, and as needed to meet the requirements of the construction shown in the Contract Documents.
- B. Related work:
 - 1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Division 01 - General Requirements of these Specifications.
- C. References – (Reserved).

1.2 SUBMITTALS

- A. Shop Drawing Submittals – (Reserved).
- B. Operation and Maintenance Manuals – (Reserved).
- C. Certificates and Guarantees – (Reserved).
- D. Spare Parts – (Reserved).

1.3 QUALITY ASSURANCE

- A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.
- B. Use equipment adequate in size, capacity, and numbers to accomplish the work of this Section in a timely manner.
- C. Comply with requirements of governmental agencies having jurisdiction.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Comply with pertinent provisions of Section 01 66 11.

1.5 SITE CONDITIONS – (Reserved).

1.6 MAINTENANCE – (Reserved).

PART 2 - PRODUCTS

2.1 FILL AND EXCAVATED BACKFILL MATERIALS

- A. Provide excavated backfill materials free from organic matter, rubble, or frozen material, containing no rocks or lumps over 6 inches, and with not more than 15 percent of the rocks or lumps larger than 2 inches.
- B. Fill material is subject to the approval of the Engineer, and is that material removed from excavations or imported from off-site borrow areas, predominantly granular, non-expansive soils free from organic matter and other foreign matter.
- C. Do not permit rocks having a dimension greater than 1-inch in the upper 12 inches of fill or embankment.
- D. Satisfactory soil materials are defined as those complying with ASTM D 2487 soil classification groups GW, GP, SW, and SP.
- E. Unsatisfactory soil materials are defined as those complying with ASTM D2487 soil classification groups GC, GM, SC, SM, ML, MH, CL, CH, OL, OH, and PT.
- F. Course Aggregate shall conform to Section 901 of FDOT "Standard Specifications".
- G. Fine Aggregate shall conform to Section 902 of FDOT "Standard Specifications".

2.2 TOPSOIL

- A. Obtain topsoil from sources within the project limits, or provide imported topsoil obtained from sources outside the project limits, or from both sources.

2.3 STRUCTURAL BACKFILL MATERIAL

- A. Provide well graded, 100 percent crushed gravel or crushed stone aggregate free of clay, loam, dirt, calcareous or other foreign matter, conforming to the FDOT "Standard Specifications" gradation No. 57 with the following gradation:

Sieve Size

Percent Passing

1.500-inch	100%
1.000-inch	95-100%
0.500-inch	25-60%
No. 4	0-10%
No. 16	0-5%

PART 3 - EXECUTION

3.1 SURFACE CONDITIONS

- A. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.

3.2 GENERAL CONSTRUCTION REQUIREMENTS

- A. Protection of existing facilities, persons, and property:
 1. Unless shown to be removed, protect existing structures, conduits, active utility lines and all other facilities shown on the Drawings or otherwise made known to the Contractor. If damaged, repair or replace to a condition equal to or better than the original condition at no additional cost to the Owner.
 2. Notify all persons, firms, corporations, or agencies owning or using any existing structures, conduits, or utilities which may be affected by the Work prior to the start of construction.
 3. Make arrangements to locate, maintain, protect, and/or relocate facilities in order to complete the Work.
 4. If existing utilities are found to interfere with the permanent facilities being constructed under this Section, immediately notify the Engineer and secure his instructions.
 5. Do not proceed with permanent relocation of utilities until written instructions are received from the Engineer.
 6. Barricade open holes and depressions occurring as part of the Work, and post warning lights on property adjacent to or with public access.
 7. Operate warning lights during hours from dusk to dawn each day and as otherwise required.
 8. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, washout, and other hazards created by operations under this Section.
- B. Dewatering:
 1. Remove all water, including rain water, encountered during trench and sub-structure work to an approved location by pumps, drains, and other approved methods.

2. Keep excavations and site construction area free from water.
 - a. Whenever during construction operations any loose material is deposited in the flow line of gutters, drainage structures, or ditches such that the natural flow line of water is obstructed, remove this loose material at the close of each working day. At the conclusion of construction operations, keep all drainage structures and flow lines free from dirt and debris.
- C. Use means necessary to prevent dust becoming a nuisance to the public, to neighbors, and to other work being performed on or near the site.
- D. Maintain access to adjacent areas at all times.

3.3 EXCAVATING

- A. Perform excavating of every type of material encountered within the limits of the Work to the lines, grades, and elevations indicated and specified herein.
- B. Satisfactory excavated materials:
 1. Transport to, and place in, fill or embankment areas within the limits of the Work.
- C. Unsatisfactory excavated materials:
 1. Excavate to a distance below grade as directed by the Engineer, and replace with satisfactory materials.
 2. Include excavation of unsatisfactory materials, and replacement by satisfactory materials, as parts of the work of this Section.
- D. Surplus materials:
 1. Dispose of unsatisfactory excavated material, and surplus satisfactory excavated material, away from the site at disposal areas arranged and paid for by the Contractor.
- E. Topsoil materials:
 1. Strip and stockpile topsoil materials from areas to be excavated and regraded for use in final grading.
- F. Excavate and backfill in a manner and sequence that will provide proper drainage at all times.
- G. Borrow:
 1. Obtain material required for fill or embankment in excess of that produced within the grading limits of the Work from borrow areas selected and paid for by the Contractor and approved by the Engineer.
- H. Ditches and gutters:
 1. Cut accurately to the cross-sections, grades, and elevations shown.

2. Maintain excavations free from detrimental quantities of leaves, sticks, trash, and other debris until completion of the Work.
 3. Dispose of excavated materials as shown on the Drawings or directed by the Engineer; except do not, in any case, deposit materials less than 3'-0" from the edge of a ditch.
- I. Unauthorized excavation:
1. Unauthorized excavation consists of removal of materials beyond indicated subgrade elevations or dimensions without specific instruction from the Engineer.
 2. Under footings, foundations, or retaining walls:
 - a. Fill unauthorized excavations by extending the indicated bottom elevation of the footing or base to the excavation bottom, without altering the required top elevation.
 - b. When acceptable to the Engineer, lean concrete fill may be used to bring the bottom elevation to proper position.
 3. Elsewhere, backfill and compact unauthorized excavations as specified for authorized excavations, unless otherwise directed by the Engineer.
- J. Stability of excavations:
1. Slope sides of excavations to 1:1 or flatter, unless otherwise directed by the Engineer.
 2. Shore and brace where sloping is not possible because of space restrictions or stability of the materials being excavated.
 3. Maintain sides and slopes of excavations in a safe condition until completion of backfilling.
- K. Sheeting and bracing:
1. Design, provide, and install sheeting and bracing as may be necessary for safety of personnel, protection of work, and compliance with requirements of governmental agencies having jurisdiction.
 2. Maintain sheeting and bracing in excavations regardless of the time period excavations will be open.
 3. Remove sheeting and bracing after the excavation has been backfilled to an elevation which will prevent caving of exposed side banks.
 4. Fill voids left by the withdrawal of sheeting with compacted sand.
 5. Leave sheeting and bracing in place whenever necessary to protect adjacent facilities or property.
- L. Excavating for structures:
1. Conform to elevations and dimensions shown within a tolerance of 0.10 ft., and extending a sufficient distance from footings and foundations to permit placing and removing concrete formwork, installation of services, other construction required, and for inspection.
 2. In excavating for footings and foundations, take care not to disturb bottom of excavation:
 - a. Excavate by hand tools to final grade just before concrete is placed.

- b. Trim bottoms to required lines and grades to leave solid base to receive concrete.
 - 3. Excavate for footings and foundations only after general site excavating, filling, and grading are complete.
 - 4. Allowable net soil bearing pressure: 2500 psf minimum unless otherwise required on the Drawings.
 - a. Provide equipment and services of an independent geotechnical testing laboratory to determine allowable net soil bearing pressure complying with pertinent provisions of Section 01 45 29.
 - b. Include cost of the testing in the total amount of the contract price for excavating, backfilling, and compacting work.
 - c. Check every 500 square feet with minimum of two (2) tests per foundation or as directed by the Engineer.
- M. Excavating for pavements:
 - 1. Cut surface under pavements to comply with cross-sections, elevations, and grades.
- N. Cold weather protection:
 - 1. Protect excavation bottoms against freezing when atmospheric temperature is less than 35 degrees F.

3.4 FILLING AND BACKFILLING

- A. General:
 - 1. For each classification listed below, place acceptable soil material in layers to required subgrade elevations.
 - 2. In excavations:
 - a. Use satisfactory excavated backfill or borrow fill materials.
 - 3. Under concrete or bituminous pavements:
 - a. Use subbase materials as specified in the structural drawings.
 - 4. Under slabs, footings, conduits and other structures and facilities:
 - a. Use structural backfill material wrapped in filter fabric meeting Section 985 of the FDOT "Standard Specifications".
- B. Backfill excavations as promptly as progress of the Work permits, but not until completion of the following:
 - 1. Acceptance of construction below finish grade including, where applicable, dampproofing and waterproofing.
 - 2. Inspecting, testing, approving, and recording locations of underground utilities.
 - 3. Removing concrete formwork.
 - 4. Removing shoring and bracing, and backfilling of voids with satisfactory materials.
 - 5. Removing trash and debris.
 - 6. Placement of horizontal bracing on horizontally supported walls.
- C. Ground surface preparation:

1. Remove vegetation, debris, unsatisfactory soil materials, obstructions, and deleterious matter from ground surface prior to placement of fills.
 2. Plow, strip, or break up sloped surfaces steeper than one vertical to four horizontal so that fill material will bond with existing surface.
 3. When existing ground surface has a density less than that specified under "compacting" for the particular area, break up the ground surface, pulverize, moisture condition to the optimum moisture content, and compact to required depth and percentage of maximum density.
- D. Placing and compacting:
1. Place excavated backfill and fill materials in layers not more than 12 inches in loose depth.
 2. Place structural backfill material in layers not more than 6 inches in loose depth.
 3. Compact each layer to the required density for the area.
 4. Do not place backfill or fill material on surfaces that are muddy, frozen, or containing frost or ice.
 5. Place backfill and fill materials evenly adjacent to structures, to required elevations.
 6. Take care to prevent wedging action of backfill against structures by carrying the material uniformly around the structure to approximately the same elevation in each lift.
 7. Where the construction includes basement or other underground walls having structural floors over them, do not backfill such walls until the structural floors are in place and have attained sufficient strength to support the walls.
 8. Compact each layer of structural backfill material with vibratory rollers, pneumatic tampers, or other compacting equipment approved by the Engineer.

3.5 GRADING

- A. General:
1. Uniformly grade the areas within limits of grading under this Section, including adjacent transition areas.
 2. Smooth the finished surfaces within specified tolerance.
 3. Compact with uniform levels or slopes between points where elevations are shown on the Drawings, or between such points and existing grades.
- B. Grading around structures:
1. Grade areas adjacent to structures to achieve drainage away from the structures, and to prevent ponding.
 2. Finish the surfaces to be free from irregular surface changes, and:
 - a. Shape the surface of areas scheduled to be under walks to line, grade, and cross-section, with finished surface not more than 0.10 ft. above or below the required subgrade elevation.

- b. Shape the surface of areas scheduled to be under pavement to line, grade, and cross-section, with finished surface not more than 0.05 ft. above or below the required subgrade elevation.

3.6 COMPACTING REQUIREMENTS

- A. Control soil compaction during construction to provide the minimum percentage of density specified for each area as determined according to ASTM D1557 or AASHTO T-180.
 - 1. Provide equipment and services of an independent geotechnical testing laboratory for density tests complying with pertinent provisions of Section 01 45 29.
 - 2. Include the cost of the testing in the total amount of the contract price for excavating, backfilling, and compacting work.
 - 3. Test density of each lift for every 2,500 square feet of compacted backfill and fill placed.
- B. Provide not less than the following maximum density of soil material compacted at optimum moisture content for the actual density of each layer of soil material in place, and as approved by the Engineer.
 - 1. Structures:
 - a. Compact each layer of fill material or backfill material at 98 percent of maximum density.
 - 2. Lawn and unpaved areas:
 - a. Compact filled areas or natural soils exposed by excavating, at 95 percent of maximum density.
 - 3. Walks:
 - a. Compact each layer of fill material or backfill material at 98 percent of maximum density.
 - 4. Pavements:
 - a. Compact each layer of fill material or backfill material at 98 percent of maximum density.
- C. Moisture control:
 - 1. Where subgrade or layer of soil material must be moisture-conditioned before compacting, uniformly apply water to surface of subgrade or layer of soil material to prevent free water appearing on surface during or subsequent to compacting operations.
 - 2. Remove and replace, or scarify and air dry, soil material that is too wet to permit compacting to the specified density.
 - 3. Soil material that has been removed because it is too wet to permit compacting may be stockpiled or spread and allowed to dry. Assist drying by discing, harrowing, or pulverizing.

3.7 MAINTENANCE

- A. Protection of newly graded areas:
 - 1. Protect newly graded areas from traffic and erosion, and keep free from trash and weeds.
 - 2. Repair and reestablish grades in settled, eroded, and rutted areas to the specified tolerances.
- B. Where completed compacted areas are disturbed by subsequent construction operations or adverse weather, scarify the surface, reshape, and compact to the required density prior to further construction.

END OF SECTION

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SECTION 31 23 79

TRENCHING, BACKFILLING, AND COMPACTING

PART 1 - GENERAL

1.1 SUMMARY

- A. Trench, backfill, and compact as specified herein and as needed for installation of underground pipelines and utilities associated with the Work.
- B. Related work:
 - 1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Division 01 - General Requirements of these Specifications.
- C. References – (Reserved).

1.2 SUBMITTALS

- A. Shop Drawing Submittals – (Reserved).
- B. Operation and Maintenance Manuals – (Reserved).
- C. Certificates and Guarantees – (Reserved).
- D. Spare Parts – (Reserved).

1.3 QUALITY ASSURANCE

- A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.
- B. Use equipment adequate in size, capacity, and numbers to accomplish the work in a timely manner.
- C. Comply with requirements of governmental agencies having jurisdiction.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Comply with pertinent provisions of Section 01 66 11.

1.5 SITE CONDITIONS – (Reserved).

1.6 MAINTENANCE – (Reserved).

PART 2 - PRODUCTS

2.1 GRANULAR PIPE BEDDING AND COVERING MATERIALS

- A. Provide excavated backfill materials free from organic matter, rubble, or frozen material, containing no rocks or lumps over 6 inches, and with not more than 15 percent of the rocks or lumps larger than 2 inches.
- B. Fill material is subject to the approval of the Engineer, and is that material removed from excavations or imported from off-site borrow areas, predominantly granular, non-expansive soils free from organic matter and other foreign matter.
- C. Do not permit rocks having a dimension greater than 1-inch in the upper 12 inches of fill or embankment.
- D. Satisfactory soil materials are defined as those complying with ASTM D 2487 soil classification groups GW, GP, SW, and SP.
- E. Unsatisfactory soil materials are defined as those complying with ASTM D2487 soil classification groups GC, GM, SC, SM, ML, MH, CL, CH, OL, OH, and PT.
- F. Course Aggregate shall conform to Section 901 of FDOT "Standard Specifications".
- G. Fine Aggregate shall conform to Section 902 of FDOT "Standard Specifications".

2.2 EXCAVATED BACKFILL MATERIALS

- A. Provide soil materials free from organic matter, rubble, or frozen material, containing no rocks or lumps over 6 inches, and with not more than 15 percent of the rocks or lumps larger than 2 inches.

2.3 GRANULAR BACKFILL

- A. Provide either sand, pit run gravel, granular material, or excavated granular materials.
 - 1. Sand: Well graded, free from organic matter, cohesionless, complying with the Section 902 of the FDOT "Standard Specification"6.
 - 2. Pit run gravel: Free from organic matter, cohesionless granular material obtained from natural deposits of sand and gravel, passing 3/4-inch sieve, and not more than 15 percent passing the No. 200 sieve.
 - 3. Granular material: Use 100 percent crushed stone or gravel complying with Section 901 of the FDOT "Standard Specifications" gradation No. 57.
 - 4. Excavated granular materials: A mixture of sand and gravel, free from organic matter, clay, loam, dirt, and other foreign material, passing the 1½-inch sieve, and not more than 15 percent passing the No. 200 sieve.

2.4 FLOWABLE FILL TRENCH BACKFILL MATERIALS

- A. Contractor may utilize flowable fill for trench backfill in areas that are difficult to compact due to the size of excavation and volume of buried utilities.
 - 1. Comply with Section 121 of the FDOT "Standard Specification" for Flowable Fill.
 - 2. Flowable fill may be utilized within the trench from pipe bed to the base rock.
 - 3. Contractor shall prevent the floatation of pipes and structures during the installation of flowable fill.
 - 4. Flowable fill shall be excavatable with a 28 compressive strength of 100 psi.

2.5 GEOTEXTILE FABRIC

- A. Provide geotextile fabric for separation of granular material and native soil in areas where trench is over-excavated to remove unsuitable materials.
 - 1. Acceptable manufacturers:
 - a. Mirafi: 160N.
 - b. Synthetic Industries: 601.
 - c. Or equal.

2.6 GROUT FOR FILLING OF ABANDONED PIPES

- A. Cellular grout:
 - 1. Low density cellular concrete capable of being mixed on site and pumped into place through a 2-inch hose.
 - 2. Foaming agent complying with ASTM C869.
 - 3. Portland Cement: ASTM C150, Type I or Type II.
 - 4. Contents: Cement, fly ash, water and foaming agent.
 - 5. Minimum net density: 80 pcf.
 - 6. Acceptable manufacturers:
 - a. Mearl Geofoam Liquid Concentrate.
 - b. Geofill-Lite by "MixOnSite".
 - c. Or equal.

2.7 PIPE TRACER WIRE

- A. General:
 - 1. Provide wire to be used for electronic locating of PVC, HDPE, or other pipe installed by the open cut method.
 - 2. Pipes for stormwater use do not require trace wire.
- B. Materials:
 - 1. Wire: No. 10 AWG, single strand, single conductor, insulated copper wire, colored per code requirements.
 - 2. Type: PE (45 mils) or UF (60 mils), 600 volt.
 - 3. Tape: Polyethylene coated duct tape.

2.8 PIPE MARKING TAPE

- A. General:
 - 1. Provide marking tape manufactured for use in underground locations to be installed in open cut trenches.
 - 2. Provide tape labeled with message that indicates what type of pipe is below, such as "Caution – Buried Water Line Below".
- B. Materials (Detectable):
 - 1. Provide solid color, organic virgin polyethylene film with a 0.00035" solid aluminum foil core, with clear film reverse printed and laminated to aluminum foil.
 - 2. Thickness: 5.0 mil. ASTM D2103
 - 3. Tensile strength: 15,000 psi ASTM D882
 - 4. Elongation: 80% ASTM D882-75B
 - 5. Adhesives: AV1257/CA1001
 - 6. Colors: APWA code for sewer and water
 - 7. Printability: 45 Dynes ASTM D2578
 - 8. Width: 6.0 inches
- C. Acceptable product:
 - 1. Pro-Line Safety Products by Pro-Line Safety Product Company.
 - 2. Or approved equal.

PART 3 - EXECUTION

3.1 SURFACE CONDITIONS

- A. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.

3.2 GENERAL CONSTRUCTION REQUIREMENTS

- A. Protection of existing facilities:
 - 1. Unless shown to be removed, protect existing structures, conduits, active utility lines and all other facilities shown on the Drawings or otherwise made known to the Contractor. If damaged, repair, replace, or restore to a condition equal to or better than the original condition at no additional cost to the Owner.
 - 2. Notify all persons, firms, corporations, or agencies owning or using any existing structures, conduits, or utilities which may be affected by the Work prior to the start of construction.
 - 3. Make arrangements to locate, maintain, protect, and/or relocate facilities in order to complete the Work.
 - 4. Make such exploration as is necessary to determine the exact location of underground utilities.

5. Exercise care during the progress of work in the area to prevent damage to the utilities.
6. Whenever it becomes necessary to relocate underground gas mains, telephone conduit, or electrical lines or support or relocate utility poles, the utility company involved will make such relocation or provide pole support. Notify the utility company promptly.
7. Whenever it becomes necessary to relocate water or other pipes or conduits in direct conflict with the proposed pipe (exclusive of culverts) which are not shown on the Drawings, obtain the direction from the Engineer for the relocation. Compensation will be allowed only for such quantities as directed by the Engineer.
8. Do not block or obstruct sidewalks, streets, and pavements.
9. Whenever during construction operations any loose material is deposited in the flow line of gutters, drainage structures, or ditches such that the natural flow line of water is obstructed, remove this loose material at the close of each working day. At the conclusion of construction operations, keep all drainage structures and flow lines free from dirt and debris.
10. Do not obstruct accessibility of fire hydrants.
11. Maintain access to adjacent areas at all times.

B. Protection of Trees and Shrubs:

1. Protect trees and shrubs from damage.
2. Do not remove trees or shrubs unless indicated on the Drawings or authorized in the field by the Engineer.
3. Where trees which are to remain interfere with normal excavation operations, use the following procedures:
 - a. Prior to excavation, carefully remove trees with trunk diameters of less than 4 inches, shrubs, and other plantings in the way of construction.
 - b. Do not machine excavate within a distance of three trunk diameters or 12 inches (whichever is greater) of any tree, and do not cut roots over 2-inch diameter unless approved by the Engineer.
 - c. Excavate by hand when closer than three tree trunk diameters or 12 inches (whichever is greater).
 - d. Tree tunneling where necessary to be determined by the Engineer.
 - e. Tie back shrubs and tree limbs to prevent loss or damage.
 - f. Prune damaged limbs and branches.
 - g. Provide plank wrappers wired in place to protect tree trunks from being damaged by trench machinery, tractors, or trucks; remove protective planking as soon as practical after work in vicinity has been completed.
 - h. Remove spoil banks from around trees by hand to prevent damage to trunks by construction machinery.
4. Replace trees and shrubs which cannot be protected or are damaged during construction:
 - a. Replant or replace with stock of like character, quality, variety, size, shape, color and condition upon completion of the construction.

TRENCHING, BACKFILLING, AND COMPACTING

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- b. Replace 4-inch diameter and larger trees with one 4-inch diameter size tree for each 6" of original tree diameter or fraction thereof.
 - c. Replace trees smaller than 4-inch diameter and shrubs with same kind and type.
 - d. As an option, replant trees smaller than 2-inch diameter or shrubs which are not damaged.
 - 5. Remove and replace trees and shrubs which do not survive in good condition for a period of 18 months after time of planting.
- C. Work on private property:
- 1. Construct work on private property within easements obtained by the Owner or as approved by private property owner as shown on the Drawings.
 - a. The Contractor will be permitted construction privileges within construction easement lines as shown on the Drawings.
 - b. Perform the work in a manner such as to minimize damage to lawns, shrubs, trees and other plantings, driveways, sidewalks, fences, outbuildings, and any other miscellaneous improvements, using proper size and type of equipment.
 - c. The Engineer has the authority to prohibit the use of any equipment which in his judgment is too large or otherwise unsuitable for the conditions of the work on private property.
 - 2. Remove and replace fences, outbuildings and other miscellaneous improvements in the way of construction to the satisfaction of the property owner.
 - 3. When working in cultivated fields or gardens, remove original topsoil to a depth of 12 inches prior to excavation, and replace the topsoil to its original depth and grade upon completion of trench backfill.
 - 4. Restore the private property to its original condition or better, free of debris, stones and excess materials.

3.3 TRENCHING

- A. Do not advance trench excavation more than 50 feet ahead of completed pipe installation except as approved by the Engineer.
- B. Provide and maintain sheeting, shoring, and bracing necessary for protection of the Work, adjacent property, and for the safety of personnel.
 - 1. Remove temporary sheeting and bracing after backfilling to an elevation which will prohibit caving of exposed sidebanks.
 - 2. Fill voids left by the withdrawal of sheeting with compacted sand.
 - 3. The Engineer may direct that supports in trenches be cut off at any specific elevation to protect adjacent facilities or property. Compensation for support left in place will be negotiated.
 - 4. No extra payment will be made for the supports left in place without the direction of the Engineer.
 - 5. Do not leave supports within 4 feet of the ground or pavement surface in place without the permission of the Engineer.

- C. Provide pumping, bailing, wellpointing, and construct ditches and dikes required to dewater and drain ground water, sewage, or stormwater to keep the excavation and site dry for the completion of the Work.
- D. Excavation:
1. Excavate by open cut unless otherwise indicated on the Drawings.
 2. Excavate trenches to the depths and grades necessary for the pipelines with allowances for bedding material.
 - a. Comply with the following minimum depth of cover unless otherwise noted on the Drawings.
 - b. Water pipelines: 3 feet.
 - c. Sewage and sludge pressure piping: 5 feet.
 - d. Air and gas piping: 3 feet.
 - e. Electrical or wiring conduits and cables: 30 inches.
 3. Over-excavate organic, soft, spongy, or otherwise unsuitable soils found at or below the bottom of the trench to meet firm subsoil or as indicated on the Drawings or directed by the Engineer.
 4. Comply with the following maximum trench widths at the top of pipelines:

Nominal Pipe Sizes (inches)	Trench Widths (inches)
12 or smaller	30
14 - 18	36
20 - 24	42
27 - 30	48
33 and larger	1-1/3 times pipe OD

3.4 EXCAVATION FOR APPURTENANCES

- A. Excavate for manholes and similar structures to the depths as shown on the Drawings and to a distance sufficient to leave at least 12 inches clear between outer surfaces and the embankment or shoring that may be used to hold and protect the banks.
- B. Over-depth excavation beyond depths indicated on the Drawings that has not been directed will be considered unauthorized. Fill with sand, gravel, or lean concrete as directed by the Engineer, and at no additional cost to the Owner. Granular material used for backfill shall be encased in filter fabric.
- C. Unsuitable soils encountered shall be excavated a minimum of 2 feet below and 2 feet around the structure with filter fabric separating the unsuitable material from clean backfill, this work is considered incidental to installation of the pipe.

3.5 BEDDING AND COVERING OF PIPE

A. General:

1. Bedding is defined as the shaped and tamped material which supports the pipes. Covering is defined as the compacted material which protects and covers the pipes.
2. Provide continuous bedding and covering for underground pipelines, except where concrete encasement, concrete cradles, boring or jacking are indicated.

B. Pipe bedding:

1. Provide compacted granular pipe bedding and covering material with a minimum thickness of 4 inches under pipe barrels and 2 inches under bells.
2. Wherever the trench is over-excavated due to the removal of unsuitable material, refill the excavated area to the bottom of the pipe bedding with material conforming to Section 31 23 39 subsection 2.3.
 - a. Removal and replacement of material, or unsuitable material, to a depth of 2 feet below the bottom and 2 feet from the sides of the pipe barrel and separating the unsuitable material from the clean material with geotextile fabric, this work is considered incidental to installation of the pipe.
3. Wherever the trench is over-excavated to remove unsuitable material, install geotextile fabric between native soil and granular material:
 - a. Install fabric to cover bottom and sides of trench to heights as follows:
 - (1) For all flexible pipe and rigid pipe 24-inch and smaller: to envelop entire bedding (minimum 24 inches away from pipe side and bottom) and covering material and overlap 1-foot at the top.
 - (2) For rigid pipe 27-inch and larger: to cover bedding material and from sides of trench (minimum 24 inches away from pipe side and bottom) to edge of pipe.
 - (3) Where undercut is of a depth that requires more than one piece of fabric to provide envelope, provide sewn seams between sections of fabric.
4. Wherever two or more pipes or conduits are placed in the same trench or excavated area, backfill the trench with granular pipe bedding and covering material to support the uppermost pipe or conduit.
5. Provide sand bedding with a minimum thickness of 3 inches under electrical and wiring conduits and cables.

C. Pipe covering:

1. Following placement of pipe and inspection of joints, provide compacted granular pipe bedding and covering material for the full width of the trench to the following levels unless otherwise shown on the Drawings:
 - a. For pipes sizes 24-inch and smaller, except flexible thermoplastic pipe: To 4 inches above the top of the pipe.

- b. For pipes sizes 27-inch and larger, except flexible thermoplastic pipe: To the horizontal centerline of the pipe.
 - c. For flexible thermoplastic pipes, including ABS and PVC composite pipe, PVC plastic pipe, and other flexible type pipe: To 12 inches above the top of the pipe.
 - d. If compacted excavated materials are used for backfilling under the pavement as indicated on the Drawings: To 12 inches above the top of the pipe for all pipe sizes.
- 2. Place granular pipe bedding and covering material in uniform loose layers not exceeding 6 inches thick.
 - a. Compact each layer firmly by ramming or tamping with tools approved by the Engineer in such a manner as not to disturb or injure the pipe to yield a minimum density of 98 percent of maximum dry density as determined according to ASTM D1557 or AASHTO-T180.
 - 3. Where trench is widened by installation of structures, jacking pits, or tunnel shafts, extend bedding and covering materials to total width of excavations and compact as noted in following section.
 - a. As a contractor's option, to eliminate compacting of the material, replace bedding and covering material with flowable fill at no additional cost to Owner.

3.6 TRENCH BACKFILLING AND COMPACTING

- A. General:
 - 1. Backfill trench from the top of pipe cover to topsoil, paving subgrade, or foundation level.
 - 2. If trenches settle during the period of construction and within the guarantee period of the work, fill trench back to the surrounding grade, and restore the surfaces.
- B. For trench in lawns, parkways, and other improved areas not subject to vehicular traffic and unimproved areas and cultivated fields:
 - 1. Backfilling:
 - a. Backfill with excavated materials in uniform loose layer not exceeding 6 inches thick.
 - 2. Compacting requirements:
 - a. Compact each layer of trench backfill materials to yield a minimum of 98 percent of maximum dry density as determined according to ASTM D1557 or AASHTO-T180.
 - b. Determine the density of compacted backfill at intervals of not more than 400 feet per 6 inch thick layer at locations selected by the Engineer.
 - c. Provide the services of an independent testing laboratory for the density tests complying with the pertinent provisions of Section 01 45 29.

- C. For trench in streets, parking areas, driveways, sidewalks, curb and gutter, or within 2 feet of any proposed curb and gutter, sidewalk, or other paved areas:
 - 1. Backfilling with granular backfill materials:
 - a. Place in uniform loose layer not exceeding 6 inches thick and compact with vibrating roller or equivalent.
 - b. Fill the top of trenches with temporary aggregate pavement material to the depth(s) required to provide aggregate base and pavement base, binder and surface courses of the depths(s) shown in the Details in the Drawings.
 - 2. Compacting requirements:
 - a. Compact each layer of trench backfill materials to yield a minimum density of 98 percent of maximum dry density as determined according to ASTM D1557 or AASHTO T-180.
 - b. Determine the density of compacted backfill at intervals of not more than 400 feet per 6 inch thick layer at locations selected by the Engineer.
 - c. Provide the services of an independent testing laboratory for the density tests complying with the pertinent provisions of Section 01 45 29.
 - 3. Maintain temporary aggregate pavement level with adjoining pavement surfaces until the permanent pavement is placed.
- D. For trench in streets or difficult to compact situations:
 - 1. Backfill with flowable fill mixture.
 - 2. Comply with Section 121 of the FDOT "Standard Specifications" for Flowable Fill (excavatable).

3.7 BACKFILL AND BEDDING FOR APPURTENANCES

- A. Provide 3 inches of sand or granular bedding material unless otherwise shown on the Drawings.
- B. Do not backfill until new concrete has properly cured, and any required tests have been accepted.
- C. Backfill in lawns and landscaped areas with excavated materials.
- D. Backfill in pavement around manholes, catch basins, inlets, valve vaults, and other structures as directed by the Engineer with granular backfill materials.

3.8 FINISH GRADING

- A. General:
 - 1. Provide finish grading and filling to achieve the lines and grades.
 - 2. Slope grades to drain away from structures.
 - 3. Replace culverts damaged during the construction with new culverts of the same size and type unless instructed differently in other sections of these Specifications.

- B. Finish grading:
 - 1. Except where mounding over trenches is specified, grade smooth areas of the Work including previously grassed areas that have been disturbed, and adjacent transition areas.
 - 2. Fill and compact depressions from settlement and round tops of embankments and breaks in grade.
 - 3. Protect newly graded areas from traffic and erosion. Repair settlement or washing away that may occur prior to surface restoration and re-establish grades to the required elevations at no additional cost to the Owner.
- C. Disposal of waste excavated material:
 - 1. Remove unsuitable and surplus excavated materials not used for backfilling from the project site.
 - 2. Do not deposit on public or private property without written permission from property owner or authorized representative of appropriate public agency.

3.9 TEMPORARY HOT-MIX PAVEMENT SURFACE

- A. Provide a premixed hot-mix asphalt wearing surface for use during the period between backfilling the trench and constructing the permanent pavement surface at locations of all excavations in paved roadway surfaces.
- B. Remove the temporary pavement surface at the time of permanent pavement construction.

3.10 WATER MAIN REPAIR

- A. Whenever existing water mains and water service pipes are damaged during construction, stop the pipe installation work and immediately repair the damaged portion of the existing piping.
- B. Contact the Engineer and Owner immediately to report the location and extent of the damage.
- C. Utilize only materials of repair as noted in the products section of this specification, meeting existing materials damaged during construction, or as dictated by the Owner.
- D. Where water services have been stripped or pulled from the water main, replace the corporation stop as instructed by the Engineer and Owner, and replace the water service pipe to a point as directed by the Owner.
- E. Comply with disinfection requirements as dictated by the Owner.
- F. Do not cover the repair until work is inspected and approved by Owner.

3.11 PIPE TRACER WIRE

- A. Place tracer wire on top of pipe and secure to pipe with tape at maximum intervals of 10 feet.
- B. Continue wire through valve boxes, valve vaults, or other structures.
- C. Extend wire up to top of valve boxes, vaults, structures, fire hydrants, or marker posts, if marker posts are included with project.
- D. Where tracer wire terminates, make hard-wire connections, acceptable to Engineer, to ductile iron or other traceable pipe, or to tracer wire on pipe installed by other methods.
- E. Install tracer wire test station per manufacturer's direction.

3.12 PIPE MARKING TAPE

- A. General:
 - 1. Install marking tape in trench directly above pipe to be marked.
 - 2. Protect tape during backfill procedures.
 - 3. Continue tape through vaults or structures.
- B. Depth:
 - 1. Install tape 18 inches below finished grade unless different depths are noted on the drawings or in other sections of these Specifications.

END OF SECTION

SECTION 31 25 00

EROSION AND SEDIMENTATION CONTROLS

PART 1 - GENERAL

1.1 SUMMARY

- A. Provide soil erosion and sediment controls as shown on the Drawings, as specified herein, and as needed for a complete and proper installation.
- B. References:
 - 1. "NPDES Generic Permit for Stormwater Discharge for Large and Small Construction Activities", Florida Department of Environmental Protection (FDEP), latest revision.

1.2 SUBMITTALS

- A. Shop Drawing Submittals – (Reserved).
- B. Operation and Maintenance Manuals – (Reserved).
- C. Certificates and Guarantees – (Reserved).
- D. Spare Parts – (Reserved).

1.3 QUALITY ASSURANCE

- A. Provide adequate numbers of skilled workers who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and methods needed for proper performance of the work of this Section.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Comply with pertinent provisions of Section 01 66 11.

1.5 SITE CONDITIONS – (Reserved).

1.6 MAINTENANCE – (Reserved).

PART 2 - PRODUCTS

2.1 GENERAL

- A. Provide soil erosion and sediment controls in accordance with the FDOT "Standard Specifications".
- B. Provide manufacturer's certification that product meets the minimum specified value, if requested by the Engineer.

2.2 TEMPORARY EROSION AND SEDIMENT CONTROL SYSTEMS

- A. Silt fence:
 - 1. Material: Geotechnical fabric of woven or nonwoven filaments of polypropylene, polyester, or polyethylene meeting the requirements of Section 104 of the FDOT "Standard Specifications".
 - 2. Support posts:
 - a. Type:
 - (1) Treated wood: 2-inch by 4-inch or 3.0 square inch cross section.
 - (2) Steel: Standard "T" or "U" sections weighing not less than 1.00 pound per linear foot.
 - b. Length: 4-1/2 feet minimum.
 - c. Interval: 5 feet (typical).
 - d. Use existing fence posts where available, if approved by Engineer.
 - 3. Use metal staples, nails, or wire to fasten fabric to posts.
- B. Ditch check (manufactured):
 - 1. Rolled Erosion Control Products: products consisting primarily of totally encased straw or excelsior.
 - a. Acceptable products:
 - (1) Curlex 12-inch Sediment Log, American Excelsior.
 - (2) Curlex 20-inch Sediment Log, American Excelsior.
 - (3) AEC Premier 12-inch Straw Wattle, American Excelsior.
 - (4) AEC Premier 20-inch Straw Wattle, American Excelsior.
 - (5) Stenlog 12-inch, Erosion Control Blanket.com.
 - (6) Aspen Xcel Excelsior Log, Western Excelsior.
 - (7) BioD-SiltCheck, RoLanka International, Inc.
 - (8) WS-12, North American Green.
 - (9) Ditch Chexx, Filtrexx.
 - (10) Or equal.
 - 2. Urethane Foam Geotextiles: inner core of urethane foam with an outer lining of geotextile fabric.
 - a. Acceptable products:
 - (1) Triangular Silt Dikey, ACF Environmental.
 - (2) Or equal.
 - 3. Other: use posts, staples, and other materials as recommended by manufacturer.

- C. Ditch check (rock):
 - 1. Rubble meeting Section 530 of the FDOT "Standard Specifications".
 - 2. Filter fabric shall meet the requirements of Section 985 of the FDOT "Standard Specifications".
- D. Inlet Protection Filter:
 - 1. Provide filter fabric meeting Section 985 of the FDOT "Standard Specifications" over inlets to prevent sediment transportation through stormwater systems.
- E. Silt bag:
 - 1. Provide filter or silt bags for dewatering pump discharge hoses that are utilized at well points or on dewatering pumps used to lower the water table and allow trench work or structure installation.
 - 2. Utilize bags made of non-woven geotextile material.
 - 3. Acceptable products:
 - a. Silt Bag by Layfield.
 - b. Dirtbag by Geo-Synthetics.
 - c. Or equal.
- F. Compost filter sock:
 - 1. Provide compost filter socks consisting of a compost material placed inside a geotextile bag, and held in place with wood support posts/stakes.
 - a. Socks shall be minimum 12" diameter, unless otherwise shown on Drawings.
 - b. Compost shall meet Material Specification 806, Coarse Compost, as described in the Illinois Urban Manual.
 - c. Geotextile bags consisting of photodegradable or biodegradable knitted material with openings of 3/8 inches to contain the compost/wood chip material, but not limiting water infiltration.
 - 2. Provide support posts consisting of wood stakes with minimum dimensions of 2-inch x 2-inch, with a minimum length of 28 inches for 12-inch diameter compost filter logs.
 - 3. Acceptable products:
 - a. Filtrex Silt Soxx.
 - b. Or equal.

2.2 EROSION CONTROL BLANKET OR MAT

- A. Excelsior blanket:
 - 1. Machine-produced mat of wood excelsior from wood properly cured to produce adequately curled and barbed fibers.
 - a. Fiber length: 80 percent minimum at 6 inches or longer.
 - 2. Properties:
 - a. Width: 24 inches minimum.
 - b. Weight: 0.9 pounds per square yard minimum.
 - c. Length of roll: 150 feet minimum.

3. Cover the top side of the blanket with a 60-day photodegradable, extruded plastic mesh netting or 12-month biodegradable natural (jute fiber) mesh netting.
 - a. Minimum opening: 5/8-inch by 5/8-inch.
 - b. Maximum opening: 2 inches by 2 inches.
 4. Acceptable products:
 - a. American Excelsior Company.
 - b. North American Green.
 - c. Or equal.
- B. Knitted straw mat:
1. Machine-assembled blanket of clean, weed-free straw from agricultural crops, of approximately 1/2-inch loose thickness.
 2. Cover the top side of the mat with a photodegradable plastic (polypropylene) or biodegradable natural (jute fiber) mesh netting with 3/8-inch by 3/8-inch square openings.
 - a. Attach mesh to the mat with photodegradable or biodegradable knitting thread.
 3. Supply blanket in protected rolled mat form of 6'-6" width, with a dry weight of 0.70 pounds per square yard minimum.
 4. Acceptable products:
 - a. S150BN by North American Green.
 - b. Curlex 1 by American Excelsior.
 - c. Or equal.
- C. Straw/coconut fiber mat:
1. Machine-assembled blanket of clean, weed-free 70 percent straw from agricultural crops and 30 percent coconut fiber, of approximately 1/4-inch thickness.
 2. Cover the top side of the mat with a photodegradable plastic (polypropylene) or biodegradable natural (jute fiber) mesh netting with 3/8-inch by 3/8-inch square openings.
 - a. Attach mesh to the mat with photodegradable or biodegradable knitting thread.
 3. Supply blanket in protected rolled mat form of 6'-6" width, with a dry weight of 0.50 pounds per square yard minimum.
 4. Acceptable products:
 - a. SC150BN by North American Green.
 - b. Or equal.
- D. Coconut fiber blanket:
1. Machine-assembled mat of 100 percent coconut fiber, of approximately 1/4-inch thickness.
 2. Cover the top side of the mat with a photodegradable plastic (polypropylene) or biodegradable natural (jute fiber) mesh netting with 3/8-inch by 3/8-inch square openings.
 - a. Attach mesh to the mat with photodegradable or biodegradable knitting thread.

3. Supply blanket in protected rolled mat form of 6'-6" width, with a dry weight of 0.50 pounds per square yard minimum.
4. Acceptable products:
 - a. C125BN by North American Green.
 - b. Or equal.

E. Staples: 11-gage wire, 6 inches long.

2.4 RIPRAP

A. Bedding material:

1. Conform to Section 901 of FDOT "Standard Specification" with gradations meeting the following:

Type of Riprap	Bedding Stone
Type A	ASTM C33 Size No. 57
Type B	ASTM C33 Size No. 357
Type C	ASTM C33 Size No. 2
Type D	ASTM C33 Size No. 1

2. Material shall be composed of tough, durable particles, shall be reasonably free from thin, flat and elongated pieces, and shall contain neither organic matter nor soft, friable particles in quantities considered objectionable by the Engineer.

B. Riprap:

1. Stones shall consist of durable, sound, hard, angular rock meeting the following requirements for durability absorption ratio, soundness test, and abrasion:

Durability Absorption Ratio
Greater than 23

10 to 23

Less than 10

Acceptability
Passes

Pass only if Durability Index is 52 or greater

Fails

Durability Absorption Ratio = $\frac{\text{Durability Index (Coarse)}}{\% \text{ absorption} + 1}$

2. Riprap Gradation:

Type A (6-Inch Average Size)	
Sieve Size	Percent Passing

Maximum	Minimum	By Weight
12"	9"	100
8"	7"	50
6"	5"	15

Type B (12-Inch Average Size)		
Sieve Size		Percent Passing By Weight
Maximum	Minimum	
21"	15"	100
14"	12"	50
11"	8"	15

Type C (18-Inch Average Size)		
Sieve Size		Percent Passing By Weight
Maximum	Minimum	
30"	22"	100
20"	18"	50
16"	12"	15

Type D (24-Inch Average Size)		
Sieve Size		Percent Passing By Weight
Maximum	Minimum	
48"	31"	100
28"	24"	50
22"	17"	15

3. Material shall not contain organic matter nor soft, friable particles in quantities considered objectionable by the Engineer.
- C. Filter fabric:
1. Geotechnical fabric of non-woven filaments of polypropylene, polyester, or polyethylene meeting Section 985 of the FDOT "Standard Specifications".

2.5 CELLULAR CONFINEMENT

- A. Cellular system:
 - 1. Material: Polymer with a carbon black content of ± 2 percent.
 - 2. Height: 8 inches minimum.
 - 3. Seams tensile Peel Strength: 450 lbs. minimum.
 - 4. Welds per seam: 7 minimum.
 - 5. Stakes: #3 or #4 J-hook rebar.
- B. Acceptable products:
 - 1. Geoweb Cellular Confinement System by Presto Products, Inc.
 - 2. Or equal.

2.6 COFFERDAM

- A. Provide flexible water diversion system to provide a dry work area for the purpose of constructing the proposed improvements.
- B. Provide a system that is composed of modern synthetic fabrics and materials that complies with Federal Section 404 and Water Quality Standard requirements.
- C. Provide a system that stands or lays on the existing bed of river, pond, or other body of water and does not require excavation of bed or driving of sheet piling into bed.
- D. Materials:
 - 1. Support system: Welded tubular steel.
 - 2. Water barrier: Flexible waterproof membrane, or water-filled flexible membrane container.
- E. Acceptable manufacturers:
 - 1. Portadam, Inc.
 - 2. Dam-It Dams, Inc.
 - 3. Or approved equal.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Prepare subgrade for the installation of erosion and sediment control systems to the lines and grades shown on the Drawings or as necessary to satisfy permit requirements.
 - 1. Repair eroded or washed out areas prior to the installation of erosion and sediment control systems.

3.2 SILT FENCE

- A. Install silt fence where shown on the Drawings, as directed by the Engineer or as necessary to satisfy permit requirements.
 - 1. Perform maintenance as needed.
 - 2. Remove material when it reaches 1/3 of the fence height, and as directed by Engineer.
 - 3. Replace fence where it is torn or otherwise damaged.
 - 4. Retrench or replace fence that is not properly entrenched or anchored.
 - 5. Remove fence upon completion of Work, or as directed by Engineer.

3.3 DITCH CHECK

- A. Install ditch check where shown on the Drawings, as directed by the Engineer or as necessary to satisfy permit requirements. in accordance with manufacturer's recommendations.
 - 1. Maintain ditch check during course of the Work.
 - a. Remove trapped sediment.
 - b. Clean fabric periodically, and after each rainfall.
 - 2. Remove ditch check upon completion of Work, or as directed by Engineer.

3.4 INLET PROTECTION FILTER

- A. General:
 - 1. Inspect and clean filters weekly and after every rainfall.
 - 2. Dispose of debris removed at an approved location.
 - 3. Remove filter fabric as directed by the Engineer.
 - 4. The drainage structure inlet filter fabric will remain the property of the Contractor.

3.5 SILT BAG

- A. Provide protection from sedimentation to storm sewers, streams, ponds, or wetlands during well pointing or trench dewatering by the use of silt bags or silt socks at the hose or pipe discharge points.
- B. Dispose of collected silt or sediment offsite or at locations approved by the appropriate permitting authority.

3.6 COMPOST FILTER SOCK

- A. Install compost filter socks at locations shown, or as indicated by notes, on Drawings.
- B. Stake compost filter socks in place with wood support posts.
 - 1. Drive wood stakes through logs with at least 12 inches of the stake in the ground and 3 inches of the stake above the filter log. Install stakes every 10 feet along each log unless conditions warrant closer spacing.

- a. Where more than one log is needed to achieve planned lengths, ends shall be overlapped at least 12 inches with both ends staked into place.
- C. Perform maintenance as needed. Remove collected silt or sediment when silt/sediment reaches one-half the height of filter sock(s).
- D. Remove compost filter socks upon completion of Work, or as directed by Engineer. If compost filter logs are intended to be left as a permanent filter, or part of the natural landscape, seed the logs as part of permanent seeding requirements.

3.7 EROSION CONTROL MATTING OR FABRIC

- A. Install erosion control matting or fabric where shown on the Drawings, in accordance with manufacturer's recommended installation procedures, and as directed by the Engineer.
- B. Immediately after rolling seeded area, place erosion control matting or fabric on slopes steeper than 3 horizontal to 1 vertical.
 - 1. Unless otherwise specified, place erosion control matting or fabric at sides and bottoms of ditches, swales, and areas within 10 feet of catch basins in seeded areas.

3.8 RIPRAP

- A. Filter fabric:
 - 1. Install filter fabric as shown on the Drawings, and in accordance with manufacturer's recommended installation procedures.
 - 2. Protect filter fabric from punching, cutting, or tearing.
 - a. Repair damage by placing another piece of fabric over the damaged area, or by completely replacing the fabric.
 - 3. Overlap filter fabric a minimum of one (1) foot.
- B. Riprap:
 - 1. Install riprap where shown on the Drawings, in accordance with FDOT Section 530, and as directed by the Engineer, except as modified herein.
 - 2. Spread bedding material uniformly on filter fabric to neat lines as shown on the Drawings.
 - a. Place bedding material by methods that will not segregate particle sizes within the bedding.
 - b. Repair damage to bedding surface before proceeding with work.
 - c. Finish bedding material to an even surface free of mounds, windrows, or depressions.
 - 3. Place riprap stone on the bedding layer to the lines and grades shown on the Drawings.
 - a. Provide minimum voids and maximum interlocking of rock.
 - b. Place the stone riprap to its full thickness in one operation.

- c. Place stones at lower elevations first, then progress up the slope, and from the center outward.
- d. Distribute larger stones evenly through the entire mass.

3.9 SEDIMENT TRAP

- A. Construct sediment trap where shown on the Drawings.
- B. Inspect after each rain and repair as needed.
- C. Remove sediment when silt has accumulated to 1/2 of the design depth of the trap.
- D. Remove trap when drainage area has been properly stabilized.

3.10 CELLULAR CONFINEMENT SYSTEM

- A. Install cellular confinement system where indicated on the Drawings.
 - 1. Install, stake, fill, compact and position system per manufacturer's recommendations.
- B. Extend confinement system longitudinally 2 feet below riprap where the two systems abut.
- C. Extend confinement system horizontally a minimum of 4 feet each side of disturbed trench areas.
- D. Position system such that the top of the cells are approximately 2 inches below final surface, leaving room for final topsoil.
- E. Compact fill areas below cellular system to 95 percent standard Proctor Density.
- F. In-fill cellular system with topsoil material compacted to 95 percent Standard Proctor Density.
- G. Areas of confinement system indicated on the Drawings is approximate only, and the final area will be determined in the field at time of construction.

3.11 COFFERDAM

- A. Install cofferdam at location indicated on the Drawings.
 - 1. Provide cofferdam of a size large enough to protect the work area.
 - 2. Install system in a manner that requires no driving of sheet piles or other disturbance of bed material.
- B. Provide pumping equipment, power, and all necessary equipment to dewater the work area and maintain a dry work site for the duration of construction.

- C. Comply with all governmental and local permitting requirements regarding installation and maintenance of cofferdam and pumping of water.
- D. Remove cofferdam only when removal is approved by Engineer.

END OF SECTION

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SECTION 33 31 43
SANITARY SEWER SYSTEM

PART 1 - GENERAL

1.1 SUMMARY

- A. Provide sanitary sewer system as shown on the Drawings, as specified herein, and as needed for a complete and proper installation.
- B. Related work:
 - 1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Division 01 - General Requirements of these Specifications.
- C. References – (Reserved).

1.2 SUBMITTALS

- A. Shop Drawing Submittals – (Reserved).
- B. Operation and Maintenance Manuals – (Reserved).
- C. Certificates and Guarantees – (Reserved).
- D. Spare Parts – (Reserved).

1.3 QUALITY ASSURANCE – (Reserved).

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Comply with pertinent provisions of Section 01 66 11.
- B. Protect flexible thermoplastic pipes from direct sunlight.

1.5 SITE CONDITIONS – (Reserved).

1.6 MAINTENANCE – (Reserved).

PART 2 - PRODUCTS

2.1 PIPE AND FITTINGS

- A. PVC plastic sewer pipe:
 - 1. For pipe and fittings 4-inch through 15-inch:
 - a. Comply with ASTM D3034 for Type PSM polyvinyl chloride (PVC) sewer pipe and fittings of minimum wall thickness SDR 26.
 - b. Joints: Use either the solvent-weld type complying with ASTM D2564 and ASTM D2855, or the elastomeric gasket type complying with ASTM F477 and ASTM D3212.
 - c. Fittings in sizes through 8-inch: Molded in one piece with elastomeric joints and minimum socket depths as specified in Section 6.2 and 7.3.2 of ASTM D3034.
 - d. Fittings 10-inch and larger: Molded or fabricated in accordance with Section 7.11 of ASTM D3034, with manufacturer's standard pipe bells and gaskets.
 - e. Gaskets for fittings and joints: Provide minimum cross-sectional area of 0.20 square inches complying with ASTM F477.
 - 2. Branch fittings: Use either factory fabricated type with attached main line coupling, or solvent welded saddle type attached to the pipe with cement and held in place with stainless steel bands.
 - a. Branch fittings: SDR 26.
 - (1) Acceptable manufacturers:
 - i. GPK Products.
 - ii. LASCO Fittings, Inc.
 - iii. Multi Fittings.
 - iv. Plastic Trends.
 - v. Sealtite Sewer Saddles by Geneco.
 - vi. Or equal.
 - 3. Risers and service pipe and fittings: Use SDR 26, solid wall type complying with ASTM D3034 for PVC pipe.

2.2 GREASE INTERCEPTOR

- A. Precast:
 - 1. Provide precast reinforced concrete sections complying with ASTM C585 unless otherwise indicated on Drawings.
 - 2. Design flat slab top for HS20-44 loading.
 - 3. Construction shall be watertight.
- B. Concrete:
 - 1. Provide 5000 psi concrete and steel reinforcement per ASTM A-615 grade 60.
- C. Precast top section or lid:
 - 1. The interceptor structure shall include a precast concrete top section that brings the access manholes to grade.

- D. Joints for precast sections:
 - 1. Provide tongue and groove joints with either flexible watertight rubber gaskets or preformed bituminous plastic gaskets consisting of a homogeneous blend of refined hydrocarbon resins and plasticizing compound reinforced with inert mineral filler.
 - a. Acceptable preformed gasket products:
 - (1) K. T. Snyder Co., RAM-NEK.
 - (2) Concrete Sealants, Type CS-102.
 - (3) Or equal.
- E. Frames and covers:
 - 1. See plans for Owner's Cover Detail.
- F. Flexible pipe connectors:
 - 1. Provide flexible rubber gasket collar for connecting pipe to the manhole.
 - a. Comply with ASTM C-923.
 - b. For pipe 24-inch and smaller, use PSX gasket system by Press-Seal Gasket Corporation, or equal.
 - c. For pipe 27-inch and larger, use resilient gasket by A-LOK Products, Inc., or equal.

PART 3 - EXECUTION

3.1 SURFACE CONDITIONS

- A. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.

3.2 FIELD MEASUREMENTS

- A. Make necessary measurements in the field to assure precise fit of items in accordance with the Drawings.

3.3 PIPE INSTALLATION

- A. General:
 - 1. Trench, backfill, and compact for the work of this Section in strict accordance with pertinent provisions of Section 31 23 79 of these Specifications.
 - 2. Install pipe in accordance with pipe manufacturer's recommendations.
 - 3. Lay pipe by proceeding upgrade with the spigot ends of bell-and-spigot pipe pointing in direction of flow.
 - 4. Lay each pipe accurately to the indicated line and grade, aligning so the sewer has a uniform invert.
 - 5. Continually clear interior of the pipe free from foreign material.

6. Before making pipe joints, clean and dry all surfaces of the pipe to be joined.
7. Use lubricants, primers, and adhesives recommended for the purpose by the pipe manufacturer.
8. Comply with ASTM D2321 for flexible thermoplastic sewer pipe installation.
9. Comply with ASTM C-12 Bedding Class B for rigid pipe installation.

3.4 TESTING AND INSPECTING

- A. Test sewers and service connections for watertightness by the exfiltration, or infiltration method as selected by the Engineer.
- B. Leakage tests:
 1. Infiltration and Exfiltration Testing Method:
 - a. Comply with ASTM C969 (latest revision).
 - b. Provide all temporary plugs, materials, water, equipment, and labor necessary to conduct tests.
 - c. Make tests in presence of Owner, and, notify Owner a minimum of 48 hours in advance of test(s).
 - d. If structure fails test, repair structure and retest until satisfactory test is obtained.
 - e. Maximum allowable leakage: 200 gal./inch dia./mile/24 hr.

END OF SECTION

APPENDIX A

LOXAHATCHEE RIVER DISTRICT ENVIRONMENTAL CONTROL DISTRICT MANUAL OF MINIMUM CONSTRUCTION STANDARDS AND TECHNICAL SPECIFICATIONS

CAN BE DOWNLOADED AT

<https://loxahatcheeriver.org/wp-content/uploads/2025/02/2025-Construction-Standards-and-Technical-Specifications.pdf>

APPENDIX B

CONTRACTOR PERFORMANCE 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	TO
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 our 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

APPENDIX C

STANDARD OPERATING 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 and/or bypass shall be done under one work order specific to the system shutdown and/or bypass, not the work requiring the system shutdown and/or bypass. 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.
5. 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: _____
6. 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**.

7. 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.
- i. Contractor Representative In-Charge: _____ cell #: _____
of Contractor's supporting staff: _____
 - b. District Representative In-Charge: _____ cell #: _____
 - i. # of District supporting staff: _____
8. 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**.

9. 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**.
10. 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**.
11. 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 D

**TOPOGRAPHIC
SURVEY**

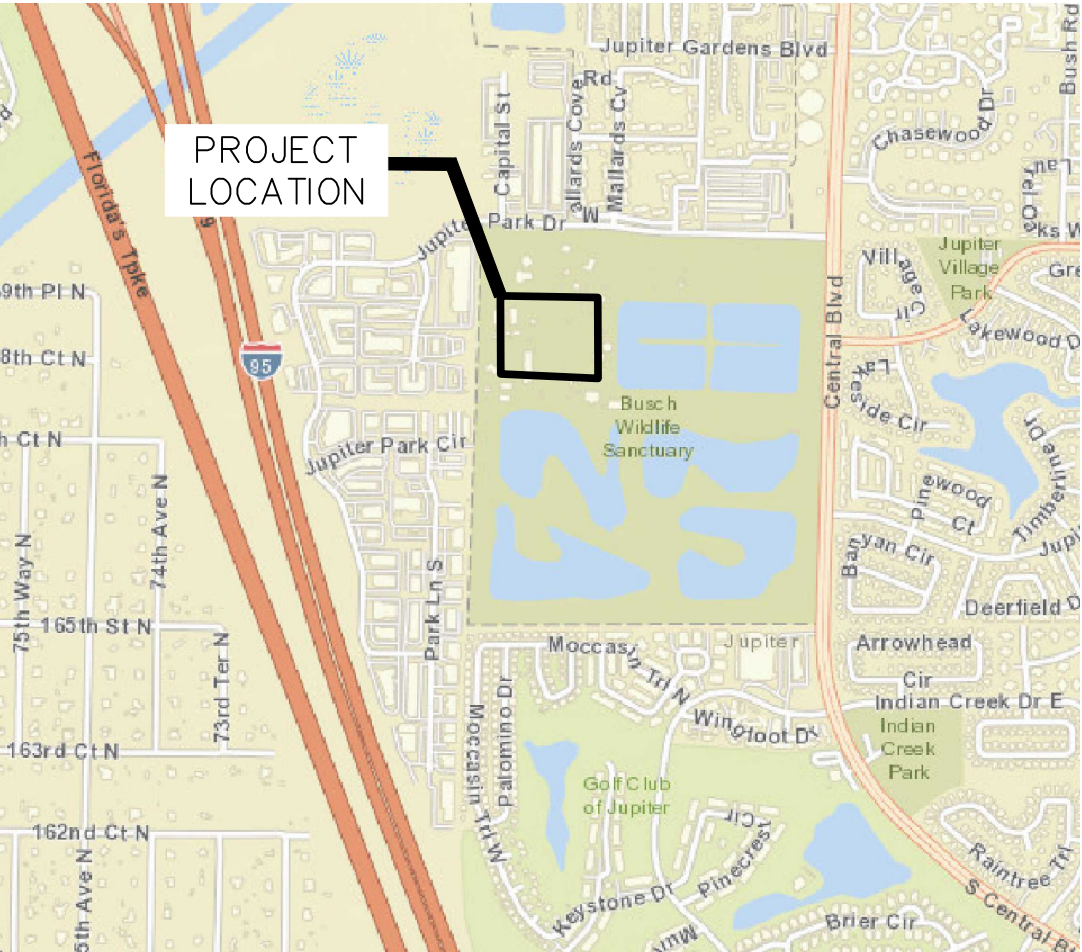
LEGEND:

AP	ASPHALT	OVH	OVERHANG
BFP	BACK FLOW PREVENTER	RGE	RANGE
BGV	BELOW GRADE VAULT	SEC	SECTION
BOL	BOLLARD	SV	SANITARY VALVE
C&G	CURB AND GUTTER	T.O.	T.O.
CONC.	CONCRETE	T.O.P	TOP OF PIPE
CSL	CONCRETE SLAB	TRAV	TRAVERSE
ELO	ELECTRIC OUTLET	TWP	TOWNSHIP
EM	ELECTRIC METER	UV	UNKNOWN VALVE
EL/ELEV.	ELEVATION	WM	WATER MAIN
INV.	INVERT		
LB	LICENSED BUSINESS	— BPWR(A) —	POWER LINE (ABOVE GROUND)
LS	LICENSE NUMBER	— BPWR(D) —	POWER LINE MARKED BY RITZEL–MASON
(P)	PLAT	— RWL(A) —	RECLAIMED WATER LINE (ABOVE GROUND)
PMP	PUMP	— SS(D) —	SANITARY SEWER LINE MARKED BY OTHERS
PT	POINT	— W(D) —	WATER LINE MARKED BY OTHERS
PVC	POLYVINYL CHLORIDE	— UNK(D) —	UNKNOWN LINE MARKED BY OTHERS
PSM	PROFESSIONAL SURVEYOR AND MAPPER	— — —	DRAINAGE LINE

LRECD DUMP PIT

JUPITER, FLORIDA

VICINITY MAP



Sheet 1 of 2

LB-8265
5119 BEECHWOOD RD.
DELRAY BEACH, FL 33484
PH: 561-634-5701
www.ritzel-mason.com



A SURVEYING & MAPPING FIRM

SURVEYOR’S REPORT

REPORT OF TOPOGRAPHIC SURVEY:

THE SURVEY SHOWN HEREON IS A TOPOGRAPHIC SURVEY LIMITED TO ONE LIFT STATION IN JUPITER IN PALM BEACH COUNTY, FLORIDA LYING IN SECTION 10, TOWNSHIP 41 SOUTH, RANGE 42 EAST. THE SURVEY WAS PERFORMED ON DECEMBER 13, 2024 THROUGH JANUARY 15, 2025 UNDER THE DIRECTION OF DENNIS RITZEL PROFESSIONAL SURVEYOR AND MAPPER (PSM). THIS REPORT AND SURVEY ARE VALID ONLY WHEN THE SIGNATURE AND RAISED EMBOSSED SEAL ARE FOUND AT THE END OF THIS REPORT.

ACCURACY:

THE FIELD SURVEY WAS PERFORMED IN ACCORDANCE WITH FLORIDA ADMINISTRATIVE CODE PURSUANT TO STANDARDS OF PRACTICE AS OUTLINED IN CHAPTER 5J–17.051 AND 5J–17.052 (FLORIDA ADMINISTRATIVE CODE). THE SURVEY WAS PERFORMED WITH THE HORIZONTAL VALUES BASED ON THE NORTH AMERICAN DATUM 1983, 1990 ADJUSTMENT (NAD83/11). VERTICAL VALUES ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).

MEASUREMENT METHODS:

THIS SURVEY WAS PERFORMED UTILIZING CONVENTIONAL SURVEYING METHODS.

LIMITATIONS:

UNDERGROUND LINES SHOWN WERE MARKED BY OTHERS BUT SURVEYED BY RITZEL–MASON.

PREPARED FOR AND CERTIFIED:

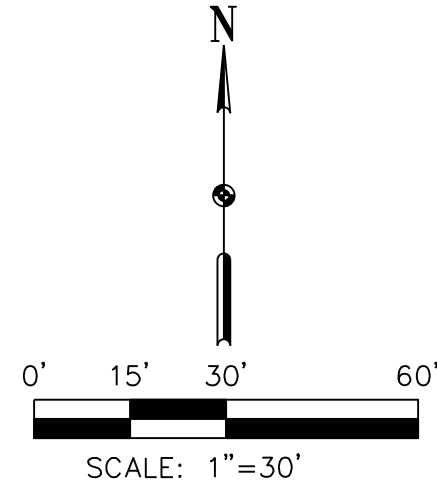
BAXTER & WOODMAN

DATE:	DESC.:
DATE:	DESC.:
DATE:	DESC.:
DATE:	DESC.:
DATE:	DESC.:

TOPOGRAPHIC SURVEY – COVER SHEET
24–118
FOR: BAXTER & WOODMAN
LRECD DUMP PIT
JUPITER, PALM BEACH COUNTY, FLORIDA
LOCATED IN SEC 10, TWP 41S, RGE 42E

DRWN BY: KK
RVWD BY: DR
FLD BK:
BK PG:
DATE: 1/15/25

SUPPLYING



Sheet 2 of 2

DRWN BY: KK
RVWD BY: DR
FLD BK: _____
BK PG: _____
DATE: 1/15/25

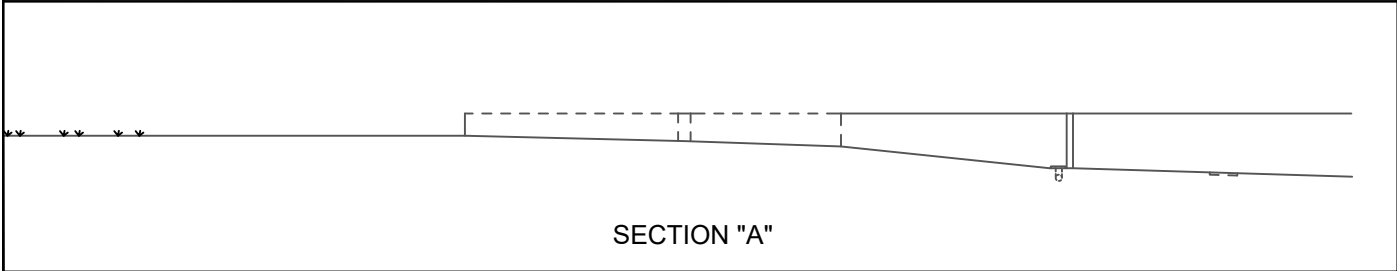
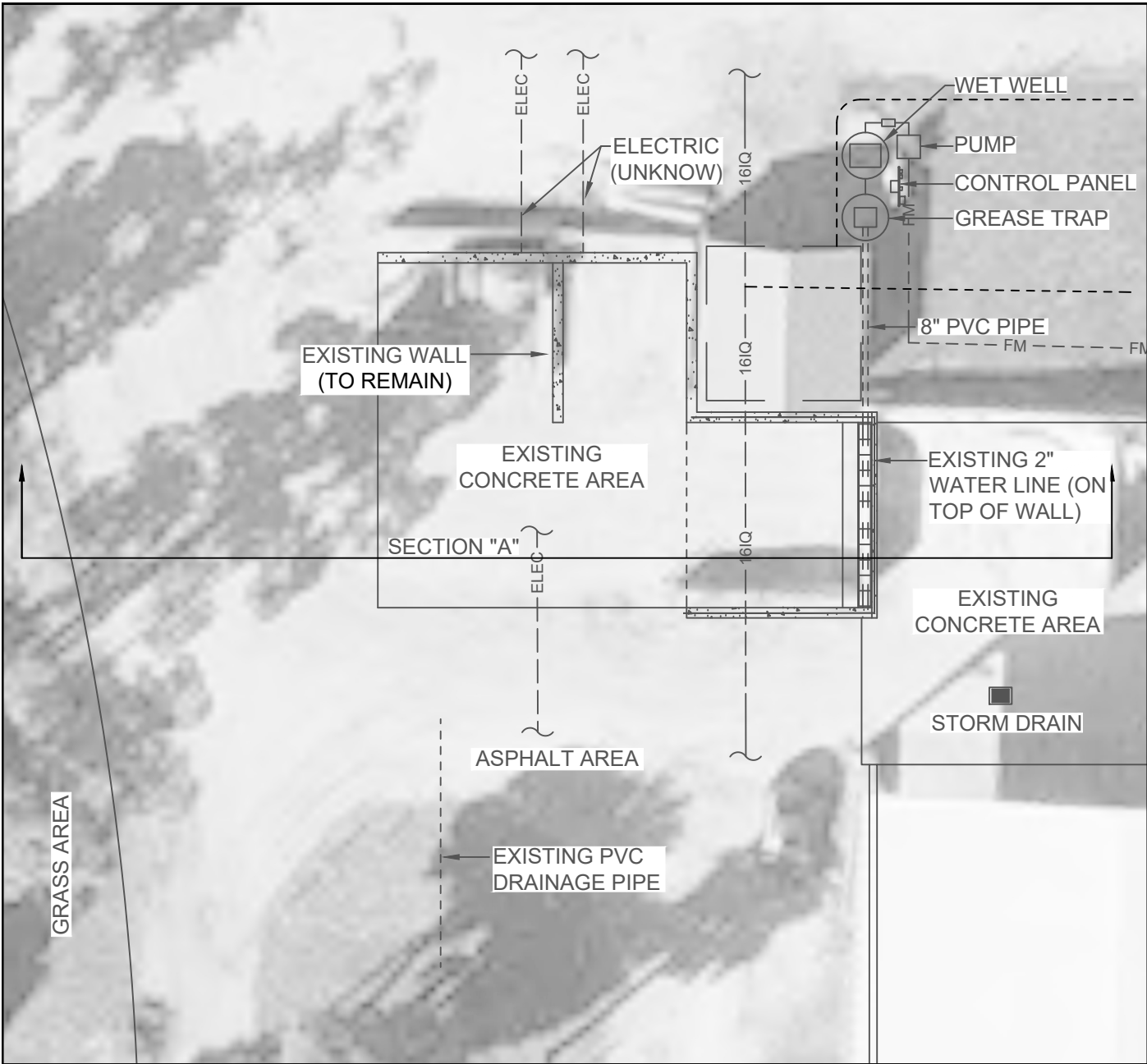
TOPOGRAPHIC SURVEY – DETAIL SHEET
24-118
FOR: BAXTER & WOODMAN
LRECD DUMP KIT
JUPITER, PALM BEACH COUNTY, FLORIDA
LOCATED IN SEC 10, TWP 41S, RGE 42E

DATE: _____	DESC.: _____
DATE: _____	DESC.: _____
DATE: _____	DESC.: _____
DATE: _____	DESC.: _____
DATE: _____	DESC.: _____

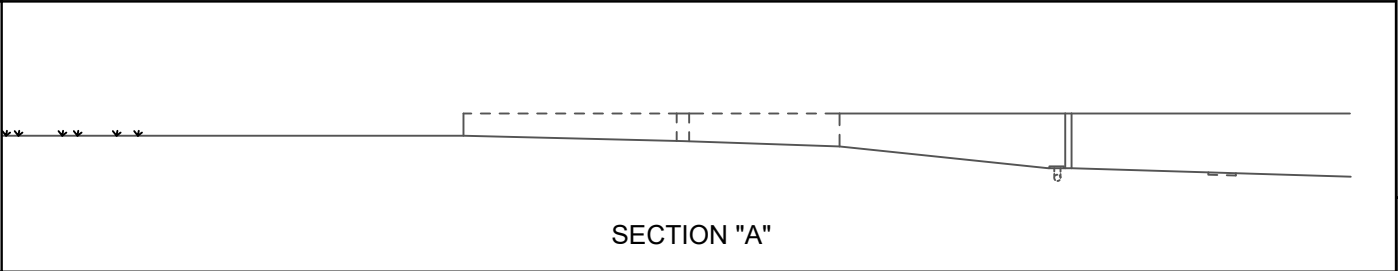
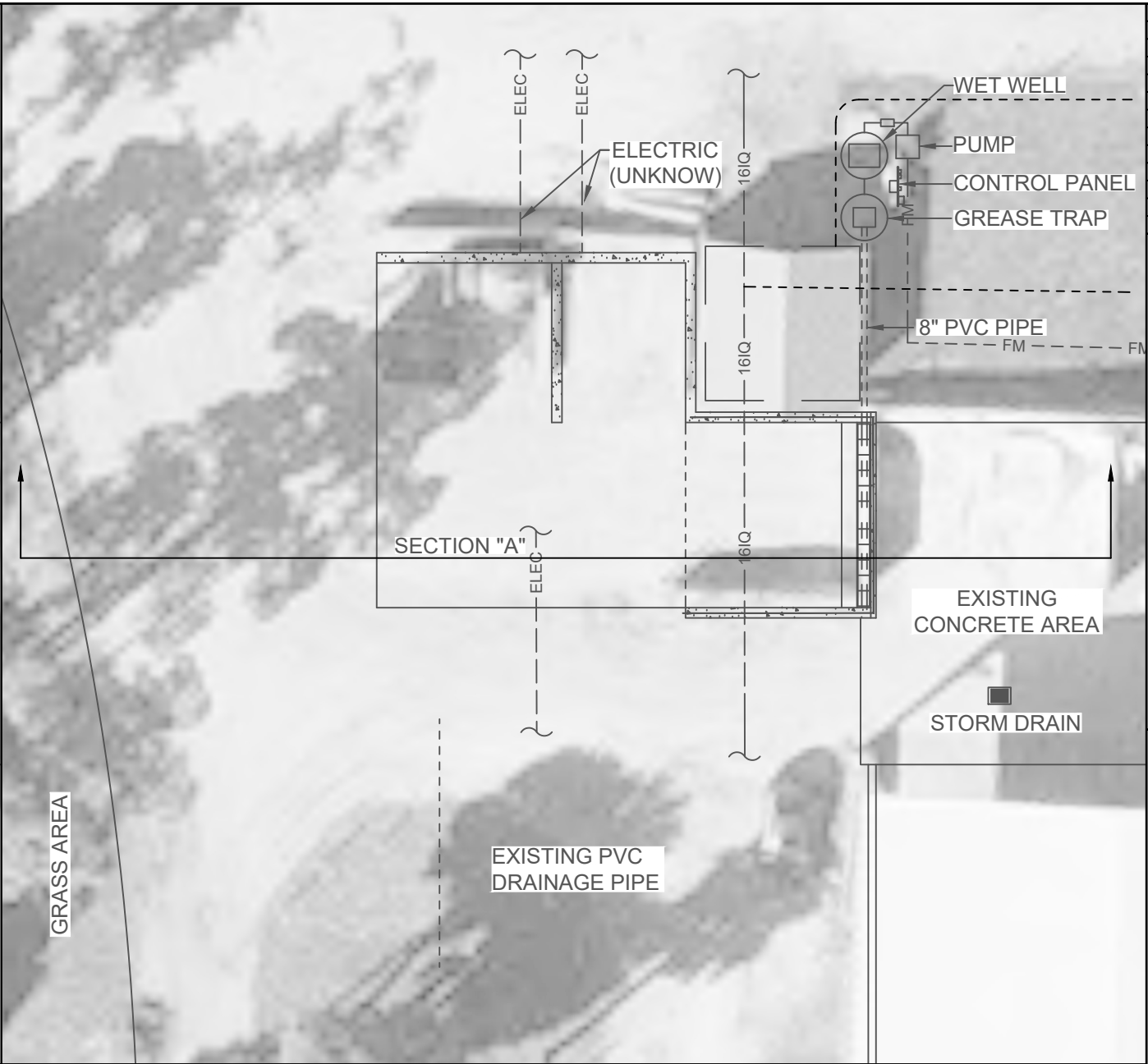
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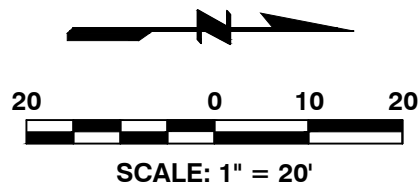
A SURVEYING & MAPPING FIRM



EXISTING SITE & DEMOLITION PLAN



PROPOSED SITE PLAN



Rev.	Description
LOXAHATCHEE RIVER ENVIRONMENTAL CONTROL DISTRICT 2500 JUPITER PARK DRIVE JUPITER, FL 33458-8064 (561) 747-5700 MAIN (561) 747-9929 FAX www.loxahatcheeriver.org	
VACCON DUMP PIT PROPOSED PLAN	
Drawn: JD Checked: KD Proj. Eng. CJ Scale: 1"=20' Date: 11/22/2024	
P-1	
Sheet #: 1 of 1	

APPENDIX E

**GEOTECHNICAL
REPORT**



February 4, 2025

Baxter & Woodman, Inc.
1601 Forum Place, Suite 400
West Palm Beach, FL 33401

Attention: Sira "Jockey" Prinyavivatkul, P.E.
Phone: 561-425-7718
Email: sprinyavivatkul@baxterwoodman.com

**RE: Geotechnical Engineering Services Report
LRECD Vacuum Truck Dump Pit Project
Jupiter, Palm Beach County, Florida
RADISE Project No.: 02-24-102
B&W Job No.: 2401618.00**

Dear Mr. Prinyavivatkul, P.E.,

RADISE International, L.C. (RADISE) is pleased to submit this *Geotechnical Engineering Services Report* for the above referenced project. RADISE has completed these services in accordance with our proposal dated October 19, 2024 and subsequent Subconsultant Agreement for Professional Services executed on November 11, 2024.

This report describes the results of our field exploration and laboratory testing performed, presents the data obtained, and provides our recommendations regarding geotechnical aspects of the proposed project.

We appreciate the opportunity to be of service to Baxter & Woodman, Inc. on this project. Should you have any questions regarding the report, or if we can be of further assistance as this project develops, please contact us at (561) 841-0103.

Sincerely,

RADISE International, L.C.
Florida Certificate of Authorization No.8901

Nitesh Goli, E.I., PMP, ENV SP
Project Engineer

Vamshi Vemula, State of Florida, Professional Engineer, License No. 93711.
This document has been digitally signed and sealed by Vamshi Vemula, P.E. on the date indicated here.

Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

Vamshi Vemula, P.E.
Senior Project Engineer
Florida Registration No. 93711



561.841.0103



4152 W. Blue Heron Blvd. Suite 1114,
Riviera Beach, FL 33404



www.RADISE.com

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Attachments

Sheet 1: Vicinity Map

Sheet 2: Boring Location Plan

Sheet 3: Subsurface Profiles

Table A-1: Summary of Laboratory Test Results



561.841.0103



4152 W. Blue Heron Blvd. Suite 1114,
Riviera Beach, FL 33404



www.RADISE.com

1.0 INTRODUCTION

This report has been prepared to aid in the design of the Loxahatchee River Environmental Control District (LRECD) Vacuum Truck Dump Pit project, located in Palm Beach County, Florida. The project site is located at the general location shown on the attached *Vicinity Map*, Sheet 1.

This report includes geotechnical exploration data, subsurface groundwater information, laboratory test results and recommendations for design and other site-specific information that may affect construction and earthwork operations for the proposed project. The primary purpose of the geotechnical exploration was to determine the stratigraphy and physical properties of the soils underlying the site.

The information presented in this report are based upon our interpretation of the subsurface information revealed by the performance of borings. The report does not reflect variations in subsurface conditions that may exist between or beyond these borings. Variations in soil and groundwater conditions should be expected, the nature and extent of which might not become evident until construction is undertaken. If variations are encountered, and/or the scope of the project altered, we should be consulted for additional recommendations.

2.0 PROJECT DESCRIPTION

We understand that the project includes the design of two concrete slabs, one for a metal shed structure and another for a roll off dumpster pad, at the Loxahatchee River District's Wastewater Treatment Plant located in the Town of Jupiter, Florida. We have not been provided with any specific structural information.

Should any of the above information or reiterated statements made by RADISE be inconsistent with the planned construction, we request that you contact us promptly to allow us to make any necessary modifications to the recommendations in this report.

3.0 PURPOSE AND SCOPE OF WORK

The purpose of this study was to determine the subsurface conditions of the soils in the area in order to provide geotechnical engineering information for the proposed improvements.

RADISE performed the following services in accordance with the proposed scope of work:

1. Visited the project site to field mark (paint and/or stake) the planned subsurface boring locations and observe existing site conditions.
2. Contacted Sunshine 811 to request the clearance of underground utilities in the areas of the borings, as per Florida Statutes, and coordinated the clearance of underground utilities at the boring locations for performance of the field activities.



3. Prepared and submitted HSE plan and OSHA form 300 and received approval from LRECD prior to mobilization.
4. Mobilized the truck-mounted drilling rig and personnel to the site.
5. Drilled two (2) Standard Penetration Test (SPT) soil borings (ASTM D1586) to depths of 20 feet below the existing ground surface. The groundwater level encountered in the borings at the time of drilling was measured and recorded.
6. Following completion of the drilling operations, the boreholes were backfilled with grout.
7. Visually classified the soil samples retrieved from the borings in the field using the Unified Soil Classification System (USCS) in general accordance with the American Society of Testing and Materials (ASTM) test method D2488 (ASTM D2488).
8. A Geotechnical Engineer inspected the samples in the laboratory, and assigned a limited program of laboratory testing for soil index properties to assist in the final classification of the soils for engineering purposes per ASTM D2487.
9. Performed appropriate geotechnical engineering analyses and prepared a geotechnical engineering report providing the results of the SPT borings, the soil laboratory testing, and slab-on-grade recommendations for the proposed concrete slabs. Additionally, the report will provide site preparation recommendations.

4.0 FIELD EXPLORATION

RADISE personnel visited the project site prior to drilling to observe and mark the locations of the planned soil borings. Sunshine 811 was then contacted for field location of underground utilities in the area of the planned borings as per Florida Statutes. The boring locations were determined in the field by RADISE after the underground utility locations were determined. The boring locations are depicted on the attached ***Boring Location Plan***, Sheet 2.

4.1 SPT BORINGS

On December 18, 2024, RADISE performed two (2) SPT borings to depths of 20 feet below the existing ground surface. The latitude and longitude boring location information were obtained by RADISE during the field exploration using a Garmin GPS 62stc handheld GPS unit. The latitude and longitude coordinates and boring termination depths are presented in the following Table 1.

Table 1 – Summary of Standard Penetration Test Borings

Boring Number	Boring Location		Boring Termination Depth (feet)
	Longitude (deg)	Latitude (deg)	
B-1	-80.1396°	26.9237°	20
B-2	-80.1396°	26.9233°	20

The SPT borings were performed in general accordance with ASTM D1586, “*Standard Test Method for Standard Penetration Test and Split-Barrel Sampling of Soils*”. The SPT borings were drilled using a CME 45 truck-mounted drilling rig equipped with an automatic hammer. The SPT boring samples of the in-place materials were obtained at frequent vertical intervals using a standard split-barrel sampler driven with a 140-pound hammer freely falling 30 inches. After seating the SPT sampler 6 inches, the number of successive blows required to drive the sampler an additional 12 inches in the soil constitutes the SPT test result, commonly referred to as the SPT N-value. Continuous SPT’s were performed to a depth of 10 feet and at 5 feet depth intervals thereafter to the termination depths. The field SPT “N”-values should be corrected for hammer efficiency in accordance with the recommended relationship presented in the FDOT Soils and Foundations Handbook ($N_{\text{safety}} = 1.24 * N_{\text{automatic}}$). The N-value has been empirically correlated with various soil properties and is considered to be indicative of the denseness of cohesionless soils and the consistency of cohesive soils.

Soil samples recovered from the drilling operations were visually classified in the field in general accordance with ASTM D2488, “*Standard Practice for Description and Identification of Soils*” (Visual-Manual Procedure) using the Unified Soil Classification System (USCS). The samples were then placed in moisture-proof containers and transported to the RADISE laboratory.

The depth at which groundwater was encountered was measured within the borings at the time of drilling. Following the completion of the field drilling activities, the SPT boreholes were backfilled with a neat cement grout.

4.2 GROUNDWATER LEVEL MEASUREMENTS

After completion of the borings and after a short stabilization period, the groundwater level was measured and recorded. The groundwater level ranged between approximately 5.5 and 6.0 feet below the existing ground surface on the date of drilling. The groundwater information is plotted adjacent to the soil profiles on the attached ***Subsurface Profiles***, Sheet 3.

5.0 LABORATORY TESTING

5.1 GENERAL

Representative soil samples collected from the soil borings were visually reviewed in the laboratory by a Geotechnical Engineer to confirm field classifications. The samples were classified in general accordance with the USCS (ASTM D2488). The classifications were based on visual observations supplemented by laboratory test results performed on selected representative samples (ASTM D2487). Laboratory index tests consisting of natural moisture content, organic content and percent of material passing through the No. 200 sieve were performed on selected samples.

5.2 RESULTS OF LABORATORY TESTING

The following list summarizes the laboratory tests performed by type and ASTM Designation:

- Five (5), Moisture content tests (ASTM D2216)
- Five (5), Percent of material passing through the No. 200 sieve (ASTM D1140)
- One (1), Organic content test (ASTM D2974)

A summary of the laboratory index testing results is presented in the attached *Table A-1: Summary of Laboratory Test Results*. Results are also included with the soil profiles on the ***Subsurface Profiles***, Sheet 3.

6.0 SUMMARY OF SUBSURFACE CONDITIONS

6.1 SUBSURFACE CONDITIONS

Stratification of the explored soils is based on visual examination of the recovered soil samples, laboratory classification and index property testing, and interpretation of the field boring logs by a Geotechnical Engineer in accordance with the USCS. The subsurface profiles showing the soil stratification at the boring locations are presented in the attached ***Subsurface Profiles***, Sheet 3. Stratification lines represent approximate boundaries between soil types, but the actual transition between layers may be gradual or abrupt. Additionally, soil and groundwater conditions will vary between boring locations.

In brief, the project site was generally found to be underlain by fine sand, trace silt, occasionally trace roots and shell and limerock fragments (USCS Classification: SP) to depths of approximately 6.0 to 8.0 feet, followed by silty sand, trace organics (SM) to a depth of approximately 13.5 feet, in-turn followed by fine sand, with silt (SP-SM) to the boring termination depths of 20 feet below the existing ground surface.

Review of the SPT-N values shown on the boring logs indicates that the sandy soils are generally in a loose to dense condition.

6.2 GENERALIZED STRATIGRAPHY

A generalized stratigraphy of the subsurface deposits was developed based on the information obtained from the field exploration and our laboratory testing program. The following Table 2 presents a generalized description of the site soil stratigraphy.

Table 2 – Generalized Soil Layers

Stratum No.	Description	Classification
1	Light brown, brown, gray, fine sand, trace silt, occasionally trace shell fragments, roots and limerock.	SP
2	Dark brown, silty sand, trace organics.	SM
3	Light brown, gray, dark gray, fine sand, with silt.	SP-SM

Detailed graphical logs of the SPT borings, including SPT N-values, the soil profiles, and the groundwater depths encountered, are provided on the attached ***Subsurface Profiles***, Sheet 3.

6.3 GROUNDWATER

The depth to the groundwater was measured from the existing ground surface at each boring location and plotted adjacent to the soil profiles on the attached ***Subsurface Profiles***, Sheet 3. The depth of the encountered groundwater table ranged between approximately 5.5 and 6.0 feet below the existing ground surface. Groundwater levels will fluctuate with the seasons and variations of precipitation. Groundwater levels are also expected to be influenced by the drainage systems for the adjacent properties in the area and nearby water storage facilities.

7.0 RECOMMENDATIONS

7.1 GENERAL

The following sections present our conclusions and recommendations for the site preparation and related construction. The recommendations discussed herein are based on our interpretation and understanding of the project needs and site conditions. If subsurface conditions encountered during the construction differ from those disclosed by the borings, we should be notified immediately, so that we can review our recommendations included herein.

7.2 FOUNDATION RECOMMENDATIONS

7.2.1 Slab-on-Grade

The bearing capacity of the near-surface sands should be improved in order to reduce the risk of unsatisfactory foundation performance. The floor slabs can be placed directly on the compacted subgrade. A subgrade modulus of 200 psi/in may be used in the design of any slabs provided that the subgrade and subsequent engineered granular fill is prepared as described below. A 6-inch layer of clean (less than 5% passing a #200 sieve) granular fill or #57 limestone is recommended to be placed directly below any slab-on-grade floors where appropriate. The granular fill should be compacted until densities of at least 95% of the maximum dry density as determined by ASTM D1557, the Modified Proctor method. This layer will aid in providing a capillary moisture break below the concrete slab.

We also recommend a vapor barrier be provided under all areas where floors especially those that will have moisture sensitive coverings, or where stored materials are moisture sensitive.

Care must be exercised in installing control joints as needed shortly after placing the concrete, and in placing and maintaining the steel reinforcement at its designated elevation within the floor slab.

7.3 SITE PREPARATION AND RECOMMENDATIONS

7.3.1 Clearing and Grubbing

Clearing and grubbing will be required in the construction areas. Clearing and grubbing should include the complete removal and disposal of all surficial trees, bushes, organics (topsoil) and their associated root systems. Clearing shall also include the removal of any rubbish, debris, demolished material, pavement and all other obstructions resting on or protruding through the surface of the existing ground and the surface of excavated areas. Any excavations/depressions should be backfilled with approved granular fill placed and compacted in thin lifts as recommended below.

7.3.2 Underground Utilities And Structures

Existing underground utilities and structures may be present in the proposed construction area. These utilities and structures need to be properly identified, located and/or relocated as necessary to construct the project. The excavation bottoms of any relocated utilities should be cleaned of any undesirable materials prior to placing any engineered backfill. Site preparation, excavation, and backfilling for new utilities or re-aligned utilities should follow all the applicable recommendations of this report.

7.3.3 Surficial Site Densification

Following site clearing and grubbing activities and prior to placement of any engineered fill, we recommend that the surficial soils in the planned areas be densified in-place so that they are unyielding and uniformly compacted. This effort will be necessary to aid in achieving suitable support for the subsequent foundations by increasing the soil bearing capacity of the existing subgrade. Subgrade compaction will help to mitigate the potential settlement of the existing granular deposits under the weight of structural loadings.

The soils exposed will require moisture conditioning to near the optimum prior to initiating the densification operations. Due to the small site, the densification should be accomplished using a self-propelled walk behind Whacker type or lighter weight compactors in order to limit vibration and any associated settlement impacts to the adjacent structures and utility lines. We recommend that the in-situ densification process and testing be monitored by a RADISE Geotechnical Engineer or a designated representative thereof.

Density control should be exercised in the upper 12 inches of the exposed subgrade. Soils in this interval should be compacted to not less than 95 percent of the maximum dry density in accordance with ASTM D1557, the Modified Proctor Method, and verified in the field by a Geotechnical Engineer. Subgrade soils that pump or deflect under the weight of the passing compaction equipment could indicate the presence of soft soils, compressible soils or voids existing within the depth of influence of the roller. In such cases, those areas should be remedied by tilling, excavating and backfilling as described in the following sections of this report, or as directed by a Geotechnical Engineer.

7.4 PROTECTION OF EXISTING STRUCTURES

Ground vibrations induced upon adjacent structures should be monitored to assure that they do not reach levels which prove damaging to any adjacent/nearby structures. Vibration Monitoring should be performed in general accordance with "Section 108, Monitor Existing Structures" of the current FDOT Standard Specifications for Road and Bridge Construction or other similar regulations or ordinances.

Vibration levels on adjacent facilities should generally be maintained below 0.25 inches per second (ips) peak particle velocity vibration level. However, more restrictive/lessor levels may be specified for highly sensitive commercial areas at the discretion of the Designer or local government. The construction Contractor should be required to inventory and provide a preconstruction inspection of adjacent structures and to monitor the adherence to suitable vibration monitoring impact limits for their construction activities.

8.0 LIMITATIONS

This report is intended for geotechnical purposes only, and does not document or detect the presence, or absence, of any environmental conditions at the site, nor is it intended to perform an environmental assessment of the site.

The recommendations presented in this report are based upon our interpretation of the subsurface information revealed by the test borings. The report does not reflect variations in subsurface conditions that may exist between or beyond these borings. Variations in soil and groundwater conditions should be expected, the nature and extent of which might not become evident until construction is undertaken. If variations are encountered, and/or the scope of the project altered, we should be consulted for additional recommendations.

RADISE International warrants that the professional services performed and presented in this report are prepared for Baxter & Woodman, Inc., and are based upon recognized principles and practices in the discipline of geotechnical engineering and hydrogeology at this place and point in time, for this project site. No other warranties are expressed or implied.

-oOo-

RADISE appreciates the opportunity to be of service to you. Please feel free to contact us at 561-841-0103 if you have any questions or comments regarding this report.

Respectfully submitted,

RADISE International, L.C.

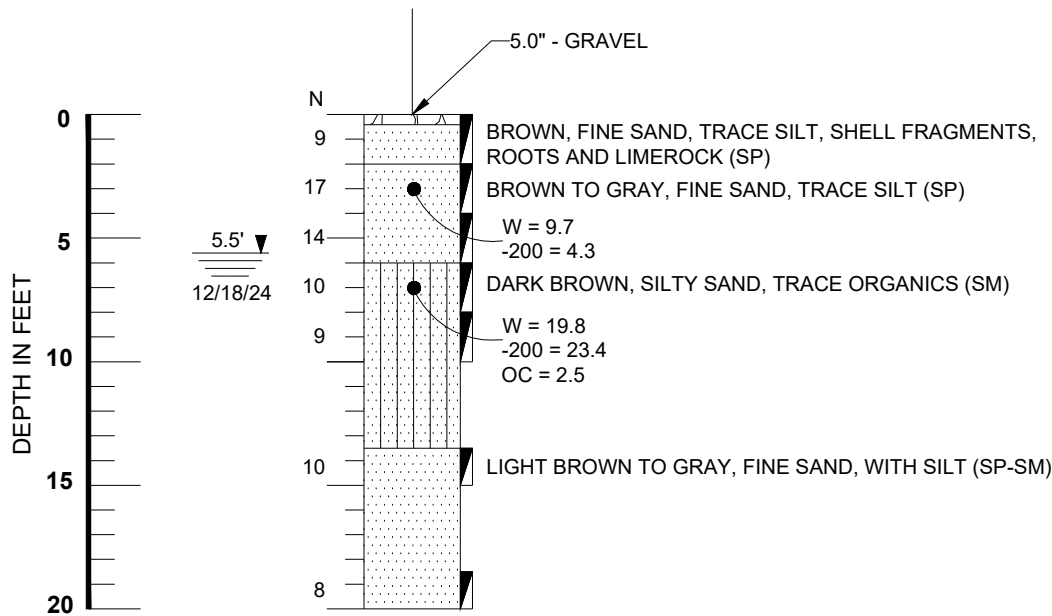




REVISIONS						Names		Dates		 ENGINEER OF RECORD VAMSHI VEMULA (P.E. No. 93711) RADISE International 4152 West Blue Heron Boulevard, Suite 1114 Riviera Beach, Florida. 33404 TEL 561-841-0103 FAX 561-841-0104 URL: http://www.radise.net	LOXAHATCHEE RIVER ENVIRONMENTAL CONTROL DISTRICT		SCALE: VERTICAL N.T.S.	SHEET TITLE: BORING LOCATION PLAN	SHEET NO. 2
Date.	By	Descriptions	Date.	By	Descriptions	Drawn by	AM	01/03/2025			COUNTY	CLIENT	SCALE: HORIZONTAL N.T.S.	PROJECT NAME: LRECD VACUUM TRUCK DUMP PIT PROJECT	RADISE PROJECT NO: 02-24-102
						Checked by	NG	01/03/2025			PALM BEACH	BAXTER & WOODMAN, INC.			
						Designed by	NG	01/03/2025							
						Checked by	NG	01/03/2025							
						Approved by	VV	01/03/2025		LICENSE NO. - 8901					

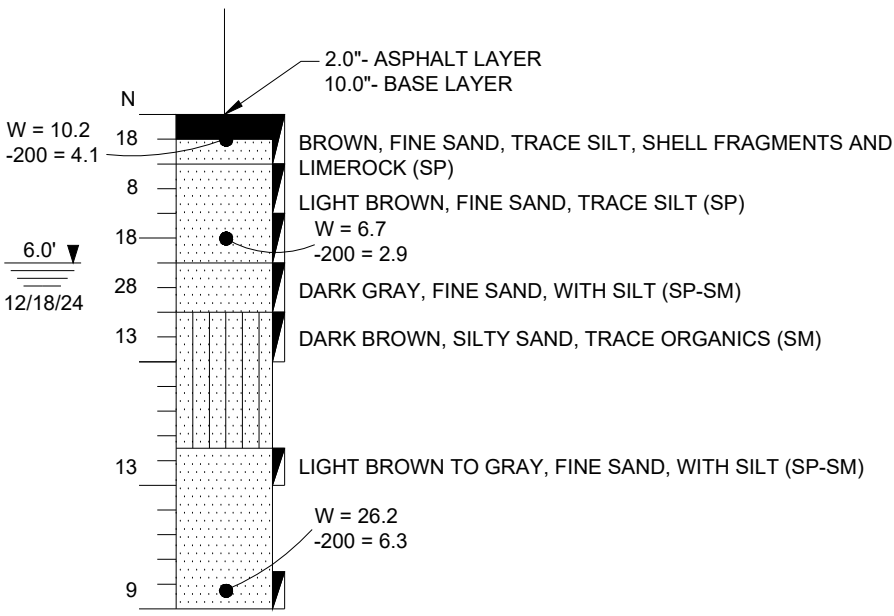
BORING NO.
LONGITUDE:
LATITUDE:
RIG:
HAMMER:
DRILLER:
DATE:

B-1
W 80.1396°
N 26.9237°
CME 45
AUTO
T. FICKLING
12/18/2024



B.T. @ 20'
BELOW EXISTING GRADES

B-2
W 80.1396°
N 26.9233°
CME 45
AUTO
T. FICKLING
12/18/2024



B.T. @ 20'
BELOW EXISTING GRADES

LEGEND

- SAND (SP, SP-SM)
- SILTY SAND (SM)
- GRAVEL
- ASPHALT LAYER & BASE LAYER

B.T. @ 20' BORING TERMINATED AT 20 FEET BELOW THE EXISTING GROUND SURFACE

B-1 STANDARD PENETRATION TEST (SPT) BORING AND NUMBER

N STANDARD PENETRATION RESISTANCE-BLOWS PER FOOT USING AUTOMATIC HAMMER

SAMPLING INTERVAL

5.5' GROUNDWATER LEVEL IN FEET AND DRILLING DATE

W MOISTURE CONTENT (%)

OC ORGANIC CONTENT (%)

-200 AMOUNT PASSING US STANDARD 200 SIEVE (%)

SP, SP-SM UNIFIED SOIL CLASSIFICATION SYSTEM GROUP SYMBOL (ASTM D2487)

NOTES:

- BORINGS WERE DRILLED ON 12/18/2024. SPT BORINGS WERE PERFORMED USING A CME 45 AUTOMATIC HAMMER DRILLING RIG (ASTM D1586).
- STRATA BOUNDARIES ARE APPROXIMATE AND REPRESENT SOIL STRATA AT EACH TEST HOLE LOCATION ONLY. SOIL TRANSITIONS MAY BE MORE GRADUAL THAN IMPLIED.
- GROUNDWATER LEVELS SHOWN ON THE SUBSURFACE PROFILES REPRESENT GROUNDWATER SURFACES ON THE DATES SHOWN. GROUNDWATER LEVEL FLUCTUATIONS SHOULD BE ANTICIPATED THROUGHOUT THE YEAR.
- AFTER COMPLETION OF DRILLING, BOREHOLES WERE BACKFILLED WITH GROUT.

STANDARD PENETRATION TEST DATA *

SPOON INSIDE DIA. 1.375 INCH

SPOON OUTSIDE DIA. 2 INCHES

AVG. HAMMER DROP 30 INCHES

HAMMER WEIGHT 140 POUNDS

GRANULAR MATERIALS AUTOMATIC HAMMER

RELATIVE DENSITY SPT N - VALUE

VERY LOOSE BLOWS/FOOT LESS THAN 3

LOOSE 3 - 8

MEDIUM 8 - 24

DENSE 24 - 40

VERY DENSE GREATER THAN 40

SILTS AND CLAYS AUTOMATIC HAMMER

CONSISTENCY BLOWS/FOOT

VERY SOFT LESS THAN 1

SOFT 1 - 3

FIRM 3 - 6

STIFF 6 - 12

VERY STIFF 12 - 24

HARD GREATER THAN 24

*FDOT SOILS AND FOUNDATIONS HANDBOOK 2024

REVISIONS

Date.	By	Descriptions	Date.	By	Descriptions

Names	Dates
AM	01/03/2025
NG	01/03/2025
NG	01/03/2025
NG	01/03/2025
VV	01/03/2025



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LICENSE NO. - 8901

LOXAHATCHEE RIVER ENVIRONMENTAL
CONTROL DISTRICT

COUNTY	CLIENT
PALM BEACH	BAXTER & WOODMAN, INC.

SCALE:
VERTICAL
N.T.S.

SCALE:
HORIZONTAL
N.T.S.

SHEET TITLE:

SUBSURFACE PROFILES

PROJECT NAME:

LRECD VACUUM TRUCK DUMP PIT PROJECT

SHEET NO.

3

RADISE PROJECT NO:

02-24-102



Table A-1: Summary of Laboratory Test Results

Project Name: LRECD Vacuum Truck Dump Pit Project

Project ID: 02-24-102

Boring No.	Sample Depth (ft.)	Soil Classification	Moisture Content (%)	Organic Content (%)	-200 wash (%)
B-1	2.0 - 4.0	SP	9.7	-	4.3
B-1	6.0 - 8.0	SM	19.8	2.5	23.4
B-2	0.0 - 2.0	SP	10.2	-	4.1
B-2	4.0 - 6.0	SP	6.7	-	2.9
B-2	18.5 - 20.0	SP-SM	26.2	-	6.3

Notes:

Moisture Content tested in accordance with ASTM D2216,

Soil Classifications in accordance with ASTM D2487,

Organic Content tested with furnace temperature @450 Celsius and in accordance with ASTM D2974,

Fines Content (Passing No. 200 Sieve) tested in accordance with ASTM D1140.

APPENDIX F

PBC – PERMIT APPLICATION/COURTESY REVIEW COMMENTS

(NO COMMENTS HAVE BEEN PROVIDED AS OF 07/07/2025)

