RESOLUTION NO. 2023 - 12

A RESOLUTION BY THE BOARD OF COUNTY COMMISSIONERS OF ST. JOHNS COUNTY, FLORIDA, AUTHORIZING THE AWARD OF BID NO. 23-02; INSTALLATION OF FORCEMAIN FROM WILDWOOD DR. TO D.B.E. MANAGEMENT, LLC DBA DBE UTILITY SERVICES, AS THE LOWEST, RESPONSIVE, RESPONSIBLE BIDDER, AND EXECUTION OF A CONTRACT FOR COMPLETION OF THE WORK IN ACCORDANCE WITH THE BID DOCUMENTS.

RECITALS

WHEREAS, the Utility Department has budgeted for the construction and installation of 4,786 LF of 16" PVC / 20" HDPE sanitary forcemain along the outside edge of the SR 207 right of way. There will be direct bury portions of the forcemain (16" PVC) and directional drill portions of the forcemain (20" HDPE). Various services connected to the existing 10" sanitary forcemain will be disconnected from the existing forcemain and connected to the proposed forcemain in accordance with Bid No. 23-02; and

WHEREAS, through the County's formal Bid process, D.B.E. Management, LLC dba D.B.E. Utility Services, submitted the lowest, responsive, responsible Bid at a price of $2,590,000.00; and

WHEREAS, the County has finds that entering into a contract for completion of the work serves a public purpose; and

WHEREAS, the project will be funded by Utility Services Unrestricted Revenue Projects.

NOW, THEREFORE BE IT RESOLVED BY THE BOARD OF COUNTY COMMISSIONERS OF ST. JOHNS COUNTY, FLORIDA, as follows:

Section 1. The above Recitals are incorporated by reference into the body of this Resolution and such Recitals are adopted as finds of fact.

Section 2. Bid No: 23-02; Installation of Forcemain from Wildwood Dr. to Lightsey Rd is hereby approved for award to D.B.E. Management, LLC dba DBE Utility Services, as the lowest, responsive, responsible Bidder.

Section 3. Upon Board approval, a Contract shall be executed with D.B.E. Management, LLC dba DBE Utility Services for completion of the Work as specifically provided in Bid No: 23-02.

Section 4. To the extent that there are typographical and/or administrative errors that do not change the tone, tenor, or concept of this Resolution, then this Resolution may be revised without subsequent approval by the Board of County Commissioners.

PASSED AND ADOPTED by the Board of County Commissioners of St. Johns County, Florida, on this 17th day of January, 2023.

BOARD OF COUNTY COMMISSIONERS OF ST. JOHNS COUNTY, FLORIDA

By: _____
Christian Whitehurst, Chair

Rendition Date JAN 17 2023

ATTEST: Brandon J. Patty,
Clerk of the Circuit Court & Comptroller

By: _____
Deputy Clerk

MASTER CONSTRUCTION AGREEMENT
BETWEEN
ST. JOHNS COUNTY AND CONTRACTOR

Master Construction Agreement No: 23-MCA-DBE-17408

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This Master Construction Agreement ("Contract") is made this _____ day of _____, 2023 (the "Effective Date") by and between **ST. JOHNS COUNTY** ("County"), a political subdivision of the State of Florida, whose principal offices are located at 500 San Sebastian View, St. Augustine, FL 32084; and **D.B.E. MANAGEMENT, LLC DBA DBE UTILITY SERVICES** ("Contractor"), a company authorized to do business in the State of Florida, with its principal offices located at: 13313 Bryan Road, Loxahatchee, FL 33470, Phone: (561) 508-3708, and E-mail: dertle@dbeutilityservices.com, for **Bid No: 23-02; Installation Of Forcemain From Wildwood Dr. To Lightsey Rd** hereinafter referred to as the "Project". When referenced together, the County and Contractor shall collectively be referred to as the Parties.

In consideration of the mutual promises and covenants contained herein, the parties hereby agree as follows:

ARTICLE I CONTRACT DOCUMENTS

1.1 The Contract Documents

1.1.1 The Contract Documents are the collective documents which form the Contract, and shall govern completion of the Work. The Contract Documents hereby include the following:

a) Fully Executed Change Orders and Amendments to this Agreement;
b) Field Orders signed by County's Project Manager;
c) Notice to Proceed;
d) This Master Construction Agreement and all Exhibits and/or Attachments hereto:
   i. INSERT EXHIBITS AS APPLICABLE, SPECS, DRAWINGS, PERMITS, REPORTS, AND OTHER DOCUMENTS AS NEEDED.
   ii. Exhibit A – Project Technical Specifications dated August 18, 2022
   iii. Exhibit B – Florida Department of Transportation (FDOT) ROW Utilization Permit - (Permit # 2022-H-297-00198)
   iv. Exhibit C – The Florida Department of Environmental (FDEP) Notification/Application for Constructing a Domestic Wastewater Collection/Transmission System - (Permit # 0017096-498-DWC)
   v. Exhibit D – Construction Plans dated September 13, 2022
e) Bonds and Insurance furnished by the Contractor
f) Bid Documents and Bid Forms with all addenda thereto for Bid No. 23-02

1.1.2 Documents not enumerated above are not Contract Documents and do not form part of this Contract. No terms, conditions, limitations or exclusions in Contractor's submitted Bid or invoices shall be binding upon County or become part of the Contract Documents. In the event of discrepancies, the Contract Documents shall be interpreted in the order of precedence as listed above in Section 1.1.1. Additionally, Specifications shall govern over Drawings, electronic documents shall govern over hard-copy documents, numerical dimensions shall govern over dimensions acquired by scaling, and fully executed documents shall govern over unsigned drafts.

1.1.3 Shop Drawings, Product Data, Samples and similar submittals (hereafter "Submittals") are not Contract Documents. The County will review and take action upon Contractor's submitted Submittals but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. Review of Submittals is not conducted for the purpose of determining the accuracy and completeness of other details, such as dimensions and quantities, nor for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of Contractor.

1.1.4 All Submittals (whether in hard or soft copy) prepared by or on behalf of Contractor in the course of the Work shall be the exclusive property of the County. Ownership of any proprietary information or intellectual property contained in such Submittals shall remain with Contractor. Contractor grants the County a perpetual, royalty-free, license to use, copy and allow third parties to use such Submittals and all proprietary information contained in them as may be required for the County's internal business purposes including without limitation tendering, installing, operating, repairing, maintaining, modifying, reconstructing, replacing and/or upgrading the Work. Such license shall be capable of transfer and/or sub-licencing in whole or part without notice to or further consent of Contractor. Contractor shall not be held liable for reuse of Contractor's Submittals by the County for purposes other than originally intended as stated in the Contract Documents.

1.1.5 Contractor is solely responsible for requesting instructions, interpretations, or clarifications to the Contract Documents and is solely liable for any costs and/or expenses arising from its failure to do so. Contractor shall have a continuing duty to read, carefully study and compare each of the Contract Documents, the Submittals and shall give immediate written notice to the Project Manager and the County of any inconsistency, ambiguity, error or omission which Contractor may discover with respect to these documents before proceeding with the affected Work. The issuance, or the express or implied approval by the County or the Project Manager of the Contract Documents or Submittals shall not relieve any such approval by evidence of Contractor's compliance with the Contract. The County has requested the Project Manager to provide to Contractor documents for the Project, including the Drawings and Specifications for the Project, which are accurate, adequate, consistent, coordinated, and sufficient for construction. HOWEVER, THE COUNTY MAKES NO REPRESENTATION OR WARRANTY OF ANY NATURE WHATSOEVER TO CONTRACTOR CONCERNING SUCH DOCUMENTS. By the execution hereof, Contractor acknowledges and represents that it has received, reviewed and carefully examined such documents, has found them to be complete, accurate, adequate, consistent, coordinated and sufficient for construction, and that Contractor has not, does not, and shall not rely upon any representation or warranties by the County concerning such documents as no such representation or warranties have been or are hereby made.

1.1.6 Any dispute relating to the Contract Documents, shall be resolved through good faith efforts upon the part of the Contractor and the County. Should Contractor have any questions concerning interpretation or clarification of the Contract Documents, Contractor shall submit to the County's Project Manager, in writing, a request for clarification that clearly and concisely sets forth the issues for which such request is sought. Such request shall be submitted to the Project Manager by the Contractor within three (3) business days of receipt of the Contract Documents, or the direction, interpretation, or clarification thereof provided by the County. The County's Project Manager shall render a determination concerning such interpretation or clarification, which shall be considered final and conclusive unless Contractor files a written protest within fourteen (14) calendar days of receipt thereof. Contractor's protest shall be submitted to the Assistant Director of Purchasing & Contracts, and shall state clearly and in detail the basis thereof. Failure by the Contractor to protest the County Project Manager's rendered determination within the timeframe above, shall constitute a waiver by the Contractor of all its rights to further protest, judicial, or otherwise. The Assistant Director of Purchasing & Contracts shall consider the Contractor's protest and shall render a decision thereon, in writing, within ten (10) calendar days. If Contractor does not agree with the determination of the Assistant Director of Purchasing & Contracts, the Contractor shall deliver written notice to that effect to the County within three (3) business days of receipt of the determination by the Assistant Director of Purchasing & Contracts.

1.1.7 Unless otherwise directed in writing, Contractor shall at all times carry on with the Work and maintain its progress schedule in accordance with the requirements of the Contract and the determination of the County, pending resolution of any Contract Document dispute. In no event will a dispute, the filing of a protest, claim or appeal, or the resolution or litigation thereof, relieve Contractor from its obligation to timely perform the Work required by the Contract and to maintain the progress schedule in accordance with the Contract.

1.1.8 Any and all Contract Documents shall remain the property of the County. Contractor is granted a limited license to use and reproduce applicable portions of the Contract Documents issued by the County appropriate to, and for use in, execution of the Work. Contractor shall have the right to keep one record set of the Contract Documents upon completion of the Work; provided, however, that in no event shall Contractor and/or its subcontractors use, or permit to be used, any or all of such Contract Documents on other projects without the specific written consent of the County.

1.2 Definitions

Terms used within this Agreement shall have the meaning as set forth in the St. Johns County Purchasing Policy, or as provided herein. Terms defined herein for specific application to this Contract shall govern over definition of terms provided in the St. Johns County Purchasing Policy.

1.2.1 Acceptance of the Work: Written acceptance of the Work by the County and the County's Project Manager.

1.2.2 Applicable Laws: All local, state, and federal laws, statutes, codes, ordinances, rules and regulations in effect at the time Work and Warranty Work is performed under this Contract.

1.2.3 Claim: Any claim, liability, loss, demand, demand for arbitration, damage, lien, cause of action of any kind,

obligation, responsibility, cost, expense, royalty, fee, assessment, penalty, fine, judgment, interest or award, pending or threatened, whether arising by law, contract, tort, voluntary settlement or otherwise.

1.2.4 Contract Price: The sum set forth in Article IV of this Contract shall constitute the Contract Price, as may be amended by Change Order. Unless otherwise approved by the County in writing, the Contract Price includes all taxes, including without limitation, income and withholding tax of any kind and sales tax imposed by the state or by the County and paid by Contractor or any Subcontractors with respect to sales of goods purchased for the performance of the Work.

1.2.5 Contract Time: The number of calendar days between commencement and completion of the Work, established in paragraph 3.1.1 of this Contract, as may be amended by Change Order.

1.2.6 Design: Those design services related to the Project prepared by the County or the County's consultants or other representatives, which shall, as may be required, be included in Contractor's Work.

1.2.7 Drawings: The graphic and pictorial portions of the Contract Documents, illustrating the design, location and dimensions of the Work, generally including but not limited to, plans, elevations, sections, details, general notes, schedules and diagrams.

1.2.8 Final Completion: Completion of all Work in compliance with the Contract Documents, as determined by the County, and issuance of a Final Certificate for Payment.

1.2.9 Force Majeure Events: Those events that are not reasonably foreseeable and are beyond the control of both the Contractor and the County, including acts of war, terrorist attacks, labor strikes, floods, earthquakes, epidemics, pandemics, riots, adverse weather conditions, and other acts of God.

1.2.10 Jobsite: Any physical location or other place on, under, in, at or through which any aspect of the Work is performed.

1.2.11 Notice to Proceed: A written notice given by the County to Contractor fixing the date on which the Contract Time will commence to run and identifying the corresponding Substantial Completion and Final Completion dates.

1.2.12 Product Data: Illustrations, standard schedules, performance charts, instructions, brochures, diagrams and other information furnished by Contractor to illustrate materials or equipment for some portion of the Work.

1.2.13 Project: The total undertaking to be accomplished for County by engineers, contractors, and others, including planning, study, design, construction, testing, commissioning, and start-up, and of which the Work to be performed under the Contract Documents is a part.

1.2.14 Project Manager: The County's representative assigned to the Project, or any part thereof, to observe the Work and perform certain other obligations of the County as defined in Article VI below.

1.2.15 Shop Drawings: Drawings, diagrams, schedules, and other data specially issued for the Work by Contractor or a Subcontractor, Sub-subcontractor, and material suppliers to illustrate some portion of the Work.

1.2.16 Specifications: That portion of the Contract Documents consisting of the written requirements for materials, standards, equipment, construction systems, and standards of workmanship for the Work, and performance of related services.

1.2.17 Subcontractor: A Subcontractor is an individual, partnership, corporation, association, joint-venture or any combination thereof, which has a direct or indirect contract with Contractor to perform a portion of the Work.

1.2.18 Substantial Completion: The stage in the progression of the Work when the Work is sufficiently complete in accordance with this Contract so that the County can enjoy beneficial use or occupancy of the Work and can utilize the Work for its intended purpose.

1.2.19 Work: Construction and services required by the Contract Documents, including all labor, materials, equipment and services as well as other deliverables provided, or to be provided, by Contractor to fulfill Contractor's obligations under

this Contract. The Work may constitute the whole or part of the Project.

1.3 Ownership of Contract Documents

Any and all Contract Documents shall remain the property of the County. Contractor is granted a limited license to use and reproduce applicable portions of the Contract Documents issued by the County appropriate to, and for use in, execution of the Work. Contractor shall have the right to keep one record set of the Contract Documents upon completion of the Work; provided, however, that in no event shall Contractor and/or Contractor's subcontractors use, or permit to be used, any or all of such Contract Documents on other projects without the specific written consent of the County.

ARTICLE II THE WORK

2.1 Project Description

The project involves the construction and installation of 4,786 LF of 16" PVC / 20" HDPE sanitary forcemain along the outside edge of the SR 207 right of way. There will be direct bury portions of the forcemain (16" PVC) and directional drill portions of the forcemain (20" HDPE). Various services connected to the existing 10" sanitary forcemain will be disconnected from the existing forcemain and connected to the proposed forcemain. The Contractor will be required to meet all applicable St. Johns County Utility Department (SJCUD) standards and permitting requirements as provided in the Contract documents.

2.2 Labor and Materials

2.2.1 Contractor shall perform all of the Work required, implied, or reasonably inferable from, the Contract Documents. Unless otherwise provided in the Contract Documents, Contractor shall provide and pay for all labor, supervision, materials, supplies, tools, transportation, storage, construction equipment and machinery, utilities (including but not limited to water, heat, fuel, light, and cooling), and all other services necessary for proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work. Materials, articles and equipment furnished by Contractor for incorporation into the Work shall be new unless otherwise specified in the Contract Documents.

2.2.2 Contractor shall use only competent and skilled personnel to perform and supervise the Work and shall remove from such Work any person determined to be unfit, unqualified, or acting in violation of any obligation of Contractor under this Contract. In the event a person is removed from the Work, Contractor shall promptly replace such individual with another who is fully competent and skilled to perform the Work at Contractor's sole expense.

2.2.3 Except as otherwise required for the safety or protection of persons or the Work or property at the Jobsite or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Jobsite shall be performed during regular working hours, Monday through Friday. Contractor will not perform Work on a Saturday, Sunday, or any legal holiday. Contractor may perform Work outside regular working hours or on Saturdays, Sundays, or legal holidays only with the County's prior written consent, which will not be unreasonably withheld.

2.2.4 In addition, when the Work requires by Florida Statute, Contractor shall use only licensed, registered and/or certified personnel to perform the Work. Such Statutes may include, but are not limited to, Chapter 489 (Regulation of Professions and Occupations Contracting) and Chapter 633, Part III (Fire Protection and Suppression) of the Florida Statutes.

2.3 Project Sequencing/Arrangement

Contractor shall not be limited in the sequencing or staging of the Work except to the extent that the Contract Documents impose limitations. Neither the organization of any of the Contract Documents into divisions, sections, paragraphs, articles, (or other categories), nor the organization/arrangement of the Drawings or Design, shall control Contractor in dividing the Work or in establishing the extent or scope of Work to be performed by Subcontractors.

2.4 Payment of Costs

Except as otherwise expressly provided, Contractor shall pay directly all costs and expenses of the Work of any kind or nature whatsoever including but not limited to all costs of permitting, regulatory compliance, obtaining and maintaining required bonds and insurance pursuant to Article 12, payments due to Subcontractors and suppliers, legal, financial, sales, use and similar taxes on materials and equipment, transportation and storage of materials and equipment, preparation of schedules, budgets and reports and all other costs required to achieve Substantial Completion and Final Completion in accordance with the Contract Documents.

2.5 Cleaning the Jobsite

Contractor shall keep the Jobsite neat, secure and orderly during performance of the Work and shall clean up and remove all waste, rubbish and construction debris from the Jobsite as they accumulate. Upon Final Completion of the Work, Contractor shall remove all waste, rubbish and construction debris from and about the Jobsite as well as all tools, appliances, construction equipment, temporary utilities, temporary construction and machinery and surplus materials. Contractor shall restore to original condition all property not designated for alteration by the Contract Documents.

2.6 Reporting Requirements

2.6.1 Daily Record. The Contractor shall keep a daily record of the Work at the Jobsite. At a minimum the Daily Record shall include weather conditions, number of workers (by trade) on the Jobsite, and material/equipment deliveries. Daily Records shall be submitted by close of business the following day.

2.6.2 Monthly Report. The Contractor shall prepare and submit a written monthly report by the tenth day of each calendar month. Monthly reports shall at a minimum describe Work completed in the prior month, planned Work for the current month, detailed explanations of any activity that is behind schedule, corrective actions taken to recover schedule, safety and environmental incidents and corrective actions taken.

2.7 Title and Risk of Loss

Title to the structures, improvements, fixtures, machinery, equipment and materials constituting the Work or the Project shall pass to the County no later than time of payment. Such transferred title shall in each case be good, free and clear of any and all security interests, liens or other encumbrances. Contractor shall, however, bear all risk of loss concerning such structures, improvements, fixtures, machinery, equipment and materials until Substantial Completion, regardless of the extent to which the loss was insured or the availability of insurance proceeds. The transfer of title does not imply acceptance by the County nor does it relieve Contractor from the responsibility for any loss or damage to items.

2.8 Access to Work

The County and the Project Manager, shall at all reasonable times have full access to all parts and locations of the Jobsite(s) from commencement of the Work through Final Completion. Contractor shall take whatever steps necessary to provide such access when requested.

2.9 Utilities

Contractor shall, at its expense, make all arrangements necessary to secure the availability of and maintain all temporary utilities required to construct and operate Contractor's Work as required by the Contract Documents. If the scope of Work requires, Contractor shall arrange for activating permanent power, water, and sanitary service to the Project prior to Substantial Completion. This includes legal sketches and descriptions for easement as well as record drawings requirements required by utility companies. The County will assume permanent utility costs at Substantial Completion.

2.10 Existing Utility Lines

2.10.1 When existing Utility Lines (e.g. conduits, pipelines, transmission mains and utility equipment and appurtenances) shown on the Drawings are to be removed or relocated, Contractor shall notify the Project Manager in ample time (but in no event less than five (5) business days) for taking measures for prevention of the interruption of any required services prior to the beginning of operations. Locations of existing utility lines shown on the Drawings are based on the best information available to the Project Manager, but shall not be considered exact either as to location or number of such lines.

2.10.2 Contractor shall protect Utility Lines constructed under terms of the Contract and those discovered or shown on Drawings to be existing. In the event that Contractor damages any existing Utility Lines, shown or not shown on the Drawings, Contractor shall immediately notify the Project Manager. Damage occurring to existing Utility Lines due to Contractor's failure to exercise reasonable care shall be repaired or replaced at no cost to the County.

2.11 Taxes

2.11.1 Contractor shall pay all taxes, levies, duties and assessments of every nature which may be applicable to any Work under this Contract. The Contract Price and any agreed variations thereof shall include all applicable taxes imposed by law. Contractor shall make any and all payroll deductions required by law. Contractor herein indemnifies and holds the County harmless from any liability on account of any and all such taxes, levies, duties, assessments and deductions. The indemnity provision of this section shall survive the expiration or earlier termination of this Contract. Contractor may not use County's tax-exempt status unless specifically authorized in writing in advance.

2.11.2 Foreign Entity Tax Withholding. Amounts due to certain foreign persons or entities may be subject to backup withholding taxes under federal law. If Contractor is a foreign person or entity that is required to complete Internal Revenue Service ("IRS") Form W-8ECI, Contractor shall provide County a copy of Contractors current Form W-8ECI prior to issuance of any invoice or payment under this Contract. If Contractor fails to timely provide a completed, current Form W-8ECI, County will withhold all backup withholding taxes from the amounts due to the Contractor, remit such sums to the IRS, and pay Contractor only the remainder. County makes no representation regarding the tax treatment of amounts due to Contractor, and Contractor releases and holds the County harmless from any claims or damages in any way relating to or arising from any tax withholding by County pursuant to this section.

2.12 Publicity and Advertising

2.12.1 Contractor shall not make any announcement or release any information or publish any photographs concerning this Contract, the Work or the Project or any part thereof to any member of the public, press or any official body, unless prior written consent is obtained from the County.

2.12.2 Use of the County Seal or County Logo is strictly prohibited. In accordance with, County Ordinance 92-2 and County Administrative Policy 101.3, Contractor may not manufacture, use, display, or otherwise use any facsimile or reproduction of the County Seal or Logo without express written approval of the Board of County Commissioners of St. Johns County, Florida.

2.13 County Furnished Items

2.13.1 The County shall furnish to Contractor, at the time of executing this Contract, written and tangible material concerning conditions below ground at the Jobsite. Such written and tangible material is furnished to Contractor only in order to make disclosure of such material and for no other purpose. By furnishing such material, the County does not represent, warrant, or guarantee its accuracy either in whole, in part, implicitly, or at all, and shall have no liability therefore. The County shall also furnish surveys, legal limitations and utility locations (if known), and a legal description of the Project's Jobsite.

2.13.2 Contractor shall obtain and pay for all permits, fees and licenses necessary and ordinary for the performance of the Work. Excluding such permits, fees and licenses, the County shall obtain all approvals, easements, and the like required for construction.

2.13.3 Subject to Paragraph 1.6 above, the County shall furnish Contractor electronic copies of the Contract Documents for execution of the Work. Hard copies of the Contract Documents shall be the responsibility of Contractor.

ARTICLE III CONTRACT TIME

3.1 Contract Time

3.1.1 Contractor shall commence the Work within ten (10) calendar days following receipt of the County's Notice to Proceed and shall substantially complete all Work within **three hundred thirty (330)** consecutive calendar days as may be extended pursuant to Paragraph 8.2 of this Contract. Final Completion shall be reached within **thirty (30)** consecutive calendar days after Substantial Completion.

3.1.2 Contractor, prior to commencing the Work, shall submit to the Project Manager for his/her information, Contractor's schedule for completing the Work. Contractor's schedule shall be revised no less frequently than monthly (unless the parties otherwise agree in writing), and relate to the entire Work. By way of illustration and not exclusion, Contractor's schedule shall: (1) contain sufficient activities to assure adequate planning for the Work, (2) include approved changes to the Work that impact the schedule, (3) include a clearly defined critical path, and (4) include a unique description for each activity. In the event any schedule revision impacts the completion time as provided in Paragraph 3.1.1 above, Contractor shall submit a request for additional time, in accordance with procedures as provided in Paragraph 8.2 below. Failure by Contractor to strictly comply with the provisions of this Paragraph shall constitute a material breach of this Contract.

3.2 Time is of the Essence

Time is of the essence regarding each and every obligation of Contractor under this Contract. Each obligation is deemed material, and a breach of any such obligation (including a breach resulting from untimely performance) is a material breach.

3.3 Substantial Completion

3.3.1 When Contractor considers the Work is substantially complete, Contractor shall notify the Project Manager in writing and submit a comprehensive list of incomplete items to be completed or corrected prior to Final Completion. The Project Manager will promptly inspect the Work following receipt of Contractor's notice and attached list of incomplete items. The Project Manager may refuse to inspect the Work if the Work is obviously not substantially complete or when Contractor s list is not complete.

3.3.2 To the extent applicable to Contractor's specific Work scope, the following items shall be completed prior to Contractor's request for a Substantial Completion inspection.

a) All general construction completed.
b) Project Jobsite cleared of Contractor's excess equipment, storage shacks, trailers, and/or building supplies.
c) Project record Drawings and Specifications submitted in accordance with the Contract Documents.
d) Preliminary as-built drawings submitted.
e) All applicable permits required for use provided.
g) All operations and maintenance manuals, training literature, and software for all equipment provided.
h) Manufacturers' certifications and warranties provided.
i) All required spare parts and special tools provided.

3.3.3 If Substantial Completion is not obtained at the inspection called by Contractor, for reasons which are the fault of Contractor, the cost of any subsequent inspections requested by Contractor for the purpose of determining Substantial Completion shall be the responsibility of Contractor and shall be assessed against the final payment application.

3.3.4 Once Substantial Completion is achieved and within the time allowed by F.S. 218.70 et seq, the Project Manager will prepare the punch list required by the Local Government Prompt Payment Act. Unless otherwise mutually agreed, the punch list items shall be corrected by Contractor within thirty (30) calendar days and prior to any request for Final Inspection and Acceptance. The failure to include any corrective Work or pending items not yet completed on the list does not alter the responsibility of Contractor to complete the Work pursuant to this Contract.

3.4 Final Inspection

When all the Work is finally complete and Contractor is ready for a final inspection, Contractor shall provide written notice to the County and the Project Manager. The Project Manager, with Contractor's cooperation, will conduct such reviews, inspections and tests as may be reasonably required to satisfy the County that the Work, or identified portion of the Work, conforms to all requirements of the Contract Documents. If the Project Manager determines that the Work or any part of the Work is not complete or fails to conform to the Contract Document requirements, Contractor will be notified in writing of deficiencies. After correcting all deficiencies Contractor shall again initiate the procedures for final inspection as set forth above. The Project Manager will issue a Final Certificate for Payment following satisfactory inspection of the Work provided Contractor has delivered to the Project Manager the final corrected as-built Drawings and the final bill of materials, if any.

3.5 Liquidated Damages

3.5.1 Execution of this Contract by Contractor shall constitute Contractor's acknowledgment that the County will sustain damages in the amount identified in Paragraph 3.3.2 below for each and every calendar day during which completion of the Work required is delayed beyond Final Completion. Contractor and County agree that such damages shall be presumed to be the damages actually sustained by the County as defined below, and that because of the nature of the Project, it would be impracticable or impossible to determine or extremely difficult to fix the actual damages.

3.5.2 If Contractor fails to achieve Substantial Completion or Final Completion of the Work by its applicable date, then the County shall be entitled to withhold from any amounts otherwise due Contractor or to be paid as a debt due the sum of **$1,500.00** per day for each and every calendar day of unexcused delay "Liquidated Damages". The parties agree that such Liquidated Damages are not a penalty but rather a genuine pre-estimate of monetary damages sustained by the County for loss of revenue and/or increased project administration expenses related to this Contract because Contractor failed to perform and complete Work within the time fixed for completion or additional time granted pursuant to the provisions hereof. The assessment of Liquidated Damages are without prejudice to the County's rights of termination and Contractor's obligation to complete the Work.

3.5.3 Should Contractor fall behind the approved Work schedule; the County reserves the right to deduct Liquidated Damages based on an estimated period of late completion. The County need not wait until completion of Work to withhold Liquidated Damages from Contractor's progress payments.

3.6 Disclaimer of Consequential Damages

The County shall not be liable to Contractor, whether in contract, tort, warranty or under any statute or on any other basis, for any consequential, incidental, indirect, special, punitive or exemplary damages suffered or incurred by Contractor in connection with this Contract, even if the County has been advised of the possibility of such damages. Consequential damages shall include, by way of example and without limitation, opportunity costs, loss of use of facilities or other assets, consequential damage claims of subcontractors, lost profits, lost savings, lost business, lost bonding capacity, lost financing, lost reputation or lost goodwill.

ARTICLE IV CONTRACT PRICE AND PAYMENT

4.1 Contract Price

4.1.1 This Contract is a LUMP SUM Contract. As compensation for satisfactory performance of the Work, the County shall compensate, and Contractor shall accept, as full and complete compensation for all the Work required herein a total Lump Sum price of **two million five hundred ninety thousand dollars and zero cents ($2,590,000.00)**, the "Contract Price". The cost of any item of Work not covered by a specific Lump Sum shall be included in the Lump Sum price to which the item is most applicable.

4.1.2 If required by the County, Contractor shall have included unit prices in the base Lump Sum. Such unit prices shall apply to revisions to the Work as directed by the County in accordance with Article IX. Unit prices are "all-inclusive", including labor, material, supervision, tools, equipment, insurance, taxes, fringe benefits, coordination, engineering, overhead, profit, performance and payment bonds, and all other things necessary. Unit prices are fixed for the duration of the Contract and are not subject to escalation for any cause.

4.2 Schedule of Values

4.2.1 Prior to the commencement of Work, Contractor shall submit to the County and to the Project Manager a Schedule of Values allocating the Contract Price to the various portions of the Work. Contractor's Schedule of Values shall be prepared in such form, with such detail, and supported by such data as the Project Manager or the County may require to substantiate its accuracy. Contractor shall not imbalance the Schedule of Values nor artificially inflate any element thereof. The violation of this provision by Contractor shall constitute a material breach of this Contract.

4.2.2 Upon approval by the County the Schedule of Values shall be used as a basis for Contractor's Application for Payment. The total of all payments in the Schedule of Values must at all times be equal to the Contract Price. No progress payment shall be made to Contractor until an acceptable Schedule of Values is submitted.

4.2.3 General conditions costs may be considered as a line item for the following items (break down required) (collectively the following shall be known as the General Conditions Costs):

a) Contractor's field office personnel (full-time on-site)
b) Construction office and storage facilities
c) Utilities required to sustain field office and sanitary facilities
d) Electrical power and water for construction
e) Bonds and Insurance

4.2.4 Progress payments for general conditions costs will be based on the percentage of Work completed to date, except bonds and insurance which may be requested in full. Separate payments for Shop Drawings and deposits for materials will not be allowed.

4.3 Measurement and Payment

4.3.1 Contractor shall make all surveys necessary for determining all quantities of Work to be paid under this Contract. Copies of field notes, computations and other records made by Contractor for the purpose of determining quantities shall be furnished to the Project Manager upon request. Contractor shall notify the Project Manager prior to the time such surveys are made. The Project Manager may but shall have no obligation to witness and verify such surveys. Measurements and computations shall be made by such methods as the County may consider appropriate for the class of work measured. The

dividing limits, lines or planes between adjacent items or classes of excavation, concrete, or other types of Work where not definitely indicated on the Drawings or in the Specifications shall be as determined by the County.

4.3.2 No payments of invoices (or portions thereof) shall, at any time, constitute approval or acceptance of the Work under this Contract, nor be a waiver by the County of any of the terms contained herein.

4.4 Progress Payments

4.4.1 Prior to Contractor's submittal of the initial Application for Payment, Contractor shall have delivered the following documents. The County will not make any payment to Contractor until Contractor has complied with these requirements.

a) Schedule of Values
b) Project Schedule
c) Certified copy of recorded bond
d) Insurance Certificates

4.4.2 On or before the tenth (10th) day of each calendar month, Contractor shall submit an Application for Payment to the Project Manager in such form and manner, and with such supporting data and content, as the Project Manager may require. Such Application for Payment shall be based on the amount of Work done or completed during the payment period which is defined as the first day of the preceding calendar month through the last day of the preceding calendar month. The Project Manager will review the Application for Payment to determine whether the quantity and quality of the Work is as represented in the Application for Payment and thereafter confirm to the County the amount properly owing to Contractor. Upon receipt by the County of the Project Manager's recommendation for payment, payments will be made in accordance with the Local Government Prompt Payment Act (Sections 218.70-218.80 of the Florida Statutes) less such amounts, if any, otherwise owing by Contractor to the County or which the County shall have the right to withhold. Any Application for Payment determined by the County not to be suitable for payment shall be modified and processed in accordance with the County's assessment.

4.4.3 In the event any dispute with respect to any payment or Application for Payment cannot be resolved between Contractor and the County's Project staff, Contractor may demand in writing a meeting with and review by the County's Assistant Director of Purchasing and Contracts. Such meeting and review shall occur within ten (10) business days of receipt by the County of Contractor's written demand. The Assistant Director of Purchasing and Contracts shall issue a written decision on the dispute within ten (10) business days of such meeting. This decision shall be deemed the County's final decision for the purpose of the Local Government Prompt Payment Act.

4.4.4 The County may withhold from each progress payment made to Contractor an amount not to exceed five (5%) percent of payment as retainage until final acceptance of all Work in accordance with Section 255.078 of the Florida Statues. Any interest earned on retainage shall accrue to the benefit of the County. The County shall make prompt payment to Contractor, unless in accordance with Section 255.078(6) of the Florida Statutes, such funds are the subject of a good faith dispute, claim or demand by the County or Contractor.

4.4.5 Contractor warrants and guarantees that title to Work, materials, and equipment covered in any Application for Payment, whether incorporated in the Project or not, shall pass to the County no later than the time of payment and shall be free and clear of liens, claims, security interests or other encumbrances.

4.5 Application for Payment

4.5.1 Contractor may make Application for Payment, at intervals of not more than once a month for Work satisfactorily completed during the Project. Contractor shall submit with each Application for Payment an updated Project schedule acceptable to the Project Manager. Each Application for Payment shall clearly include:

a) Contract Number;
b) A unique Application for Payment number;
c) Contractor's legal name and address;
d) Taxpayer identification number (Contractor's federal employer identification number);
e) Brief description of the completed Work, in accordance with Contractor's Schedule of Values;
f) Original Contract Price including approved Change Order amounts; and,
g) Preferred remittance address, if different from the mailing address.

The County may require any other information from Contractor that the County deems necessary to verify Contractor's Application for Payment. No later than ten (10) days after execution of this Contract or Notice to Proceed has been issued, the County will identify in a separate written notice the submittal requirements for Contractor's payment requests.

4.5.2 Delivered, stored or stockpiled materials may be included in an Application for Payment provided Contractor meets the following conditions:

a) Materials are suitably and securely stored at the Jobsite or a bonded warehouse (acceptable to the County);
b) An applicable purchase order or supplier's invoice is provided listing the materials in detail, cost of materials and identifying this specific Project by name; and
c) The material is insured against loss or damage (from whatever source) or disappearance prior to incorporation into the Work.

Payments for such materials shall be at the sole discretion of the Project Manager, shall be based only upon the actual cost of the materials to Contractor, and shall not include any overhead or profit to Contractor.

4.5.3 Each Application for Payment shall be signed by Contractor and shall constitute Contractor's representation that the Work has progressed to the level for which payment is requested, that the Work has been properly installed or performed in full accordance with this Contract, and that Contractor knows of no reason why payment should not be made as requested. Contractor's final Application for Payment shall also be accompanied by a full and complete release and/or waiver of all liens complying with Section 713.20 of the Florida Statutes.

4.5.4 Contractor must remit undisputed payment due for labor, services, or materials furnished by Subcontractors and suppliers hired by Contractor, within ten (10) days after receipt of each progress payment from the County pursuant to Section 218.735 of the Florida Statutes. If necessary for the protection of the County, the County shall have the right, at its sole option, to make payment by joint check or by direct check to Contractor's Subcontractors or suppliers without advance notice to or consent of Contractor. If joint checks are issued following claims by Contractor's Subcontractors or suppliers, the County shall be entitled to an administrative fee of $50.00 per check for the expense of processing each joint check. Any amounts paid directly to a Subcontractor or supplier will be deducted from payments made to, or amounts due or that may become due to, Contractor. The issuance of a joint check shall create no rights in favor of any person or entity beyond the right of the named payees to payment of the check and shall not be deemed to commit the County to repeat the procedure in the future.

4.5.5 No progress payment, nor any use or occupancy of the Project by the County, shall be interpreted to constitute approval or acceptance of any Work under this Contract, nor be considered a waiver by Contractor of any of the terms of this Contract.

4.5.6 The County's performance and obligation to pay under this Contract is contingent upon an appropriation of lawfully available funds by the Board of County Commissioners. The County shall promptly notify Contractor if the necessary appropriation is not made.

4.6 Withheld Payment

4.6.1 The County may decline to make payment, may withhold funds otherwise payable and, if necessary, may demand the return of some or all of the amounts previously paid to Contractor, if:

a) Any Claims are made against Contractor by the County or third parties, including Claims for liquidated damages or if reasonable evidence indicates the probability of the making of any such Claim;
b) Any Claims are made against the County, the County's property or any other party indemnified hereunder which is or might be covered by Contractors Indemnification obligations under Section 11.2 below;
c) Contractor fails to pay Subcontractors or others in full and on-time;
d) Contractor fails to submit schedules, reports, or other information required under the Contract;
e) Contractor fails to diligently prosecute the Work and maintain progress to assure completion within the Contract Time;
f) Contractor persistently fails to fully and timely perform the Work in accordance with the Contract Documents;
g) Defective or nonconforming Work is not remedied; or

h) Contractor is in default of any other representation, warranty, covenant or performance obligation of this Contract.

4.6.2 If Claims or liens filed against Contractor or property of the County connected with performance under this Contract are not promptly removed by Contractor after receipt of written notice from the County to do so, the County may remove such Claims or liens and all costs in connection with such removal shall be deducted from withheld payments or other monies due, or which may become due, to Contractor. If the amount of such withheld payments or other monies due Contractor under the Contract is insufficient to meet such cost, or if any Claim or lien against Contractor is discharged by the County after final payment is made, Contractor and its surety or sureties shall promptly pay the County all costs (including attorney's fees) incurred thereby regardless of when such Claim or lien arose.

4.7 Final Payment

4.7.1 Upon Contractor's receipt of the Final Certificate for Payment, Contractor may submit a final invoice provided the following has been completed or submitted with such final invoice:

a) Complete all items applicable to the Work identified in Paragraph 3.3.2;
b) Complete all Work listed on the punch list prepared in accordance with Paragraph 3.3.4;
c) Consent of Surety for final payment and/or retainage;
d) Final Waiver and Release of Claim signed by Contractor;
e) Submittal of final corrected as-built (record) Drawings;
f) Settlement of Liquidated Damages, as applicable; and
g) Settlement of liens and Claims, if any.

4.7.2 Acceptance of Final Payment shall constitute a waiver of all Claims against the County by Contractor except for those Claims previously made in writing against the County by Contractor, pending at the time of Final Payment, and identified in writing by Contractor as unsettled at the time of its request for Final Payment.

4.7.3 In the event Contractor fails to make a Request for Final Payment, or to resubmit a final Application for Payment within ninety (90) days after being requested to do so, the County may deem any and all retained funds to be abandoned property and shall give notice of abandonment to Contractor. The County may set off against the final payment any amounts due to County from Contractor arising out of or under this or any other Contract or Contract between them.

ARTICLE V CONTRACTOR RESPONSIBILITIES

5.1 Performance

5.1.1 Contractor warrants that, to the best of its knowledge, there is no pending or threatened action, proceeding, or investigation, or any other legal or financial condition, that would in any way prohibit, restrain, or diminish Contractor's ability to satisfy its contractual obligations hereunder.

5.1.2 Contractor shall perform no part of the Work at any time without adequate Contract Documents or, as appropriate, approved Shop Drawings, Product Data or samples for such portion of the Work. If Contractor performs any portion of the Work where Contractor knows or should know such Work involves a recognized error, inconsistency or omission in the Contract Documents without notice to the Project Manager and the County, Contractor shall bear responsibility for such performance and shall bear the cost of correction.

5.1.3 Contractor shall perform the Work strictly in accordance with this Contract.

5.1.4 Contractor shall confine its operations to the Jobsite or such other land and areas identified in and permitted by the Contract Documents. Contractor shall assume full responsibility for any damage to any such land or area, to the County or occupant thereof, or of any adjacent land or areas, resulting from the performance of the Work. Should any Claim be made by any such owner or occupant because of the performance of the Work, Contractor shall promptly settle with such other party by negotiation or otherwise resolve the Claim by other dispute resolution proceeding or at law. Contractor shall, to the fullest extent permitted by Applicable Law, indemnify and hold harmless the County, and its officers, directors, agents and employees and anyone directly or indirectly employed by them from and against Claims, costs, losses, and damages arising out of or resulting from any Claim or action, legal or equitable, brought by any such owner or occupant against the County or any other party indemnified hereunder to the extent caused by or based upon Contractor's or a Subcontractor's performance of the

Work.

5.1.5 Contractor is solely and exclusively responsible for supervising all workers at the Jobsite. Contractor shall supervise and direct the Work using Contractor's best skill, effort and attention. Contractor shall be responsible to the County for any and all acts or omissions of Contractor, its employees and others engaged in the Work on behalf of Contractor.

5.1.6 Contractor and the Work must comply with all Applicable Law and the requirements of any applicable grant agreements.

5.2 Authorized Representative

5.2.1 Prior to commencing Work, Contractor shall designate in writing a competent, authorized representative(s) acceptable to the County to represent and act for Contractor ("Authorized Representative"). Absent such written designation, Contractor's Jobsite superintendent shall be deemed Contractor's Authorized Representative and s/he shall be authorized to receive and accept any and all communications from the County or the County's Project Manager. All communications given to the Authorized Representative shall be binding upon Contractor. An Authorized Representative may be added, removed or changed upon prior written notice given pursuant to Section 13.18 titled "Written Notice".

5.2.2 At all times while performing the Work and Warranty Work, Contractor shall have one or more Authorized Representatives present on the Jobsite. Such Authorized Representative shall be capable to effectively communicate with the County or the County's Project Manager, execute and enforce applicable Contract Documents and address Jobsite safety and environmental requirements.

5.3 Environmental, Safety and Health

5.3.1 Safety and Protection. Contractor shall be solely and exclusively responsible for conducting operations under this Contract to avoid risk of harm to the health and safety of persons and property and for inspecting, supervising and monitoring all equipment, materials (whether in storage on or off the Jobsite), work practices and safety precautions (including but not limited to adequate maintenance of traffic) used in the Work to ensure compliance with its obligations under this Contract. Contractor shall provide or cause to be provided necessary training and furnish all safety construction equipment/tools, including OSHA compliant and ANSI certified personal protective equipment as appropriate and necessary for the performance of the Work, to its subcontractors of every tier and enforce the use of such training and safety construction equipment/tools.

5.3.2 Compliance. Contractor shall comply with all Applicable Laws bearing on the safety of persons or property, or their protection from damage, injury or loss including compliance with applicable permits, Project plans and approvals. To the extent allowed by law, Contractor shall assume all responsibility and liability with respect to all matters regarding the safety and health of its employees and the employees of Contractor's subcontractors and suppliers of any tier, with respect to the Work.

5.3.3 Stop Work Authority. Notwithstanding the foregoing, the County reserves the right to direct Contractor to stop Work and correct an unsafe condition at any time that any person present at the Jobsite identifies any unsafe condition or action. For this purpose only, any person at the Jobsite is authorized to act on behalf of the County.

5.3.4 Safety Representative. Prior to commencing Work, Contractor shall designate in writing a member(s) of its Jobsite construction team as its Safety Representative. Such Safety Representative shall be acceptable to the County and shall have responsibility for implementing all safety procedures, including OSHA, responsibility for the prevention of accidents, authority for monitoring safety of the Work, authority to correct unsafe conditions or acts by its employees or Subcontractors, the ability to oversee compliance with and address environmental requirements, and coordinate with other on-site contractors and subcontractors on safety and environmental matters required for the Work. In the absence of the required written designation, this person shall be Contractor's Superintendent.

5.3.5 Safety Reporting Requirements. Contractor shall maintain accident and injury records as required by Applicable Law. Such records will be made available to the County upon request. Contractor shall immediately report to the County any death, injury or damage to property incurred or caused by Contractor's employees and employees of Contractor's subcontractors and suppliers of any tier.

5.3.6 Drug Free Workplace. By signing this Contract, Contractor agrees to maintain a healthy and productive workforce and safe working conditions thru compliance with the Drug-Free Workplace Act (Chapter 112, Florida State Statutes).

Contractor's personnel shall not possess, use, manufacture, distribute or be under the influence of while on the Jobsite (or any other location where the provisions of this Contract applies) alcoholic beverages and/or illegal drugs or any other "Drug" as such term is defined in the Drug-Free Workplace Act.

5.3.7 Occupational Safety and Health Act (OSHA). Contractor warrants that all materials, equipment, services, etc., delivered or provided to the County shall conform in all respects to the standards set forth in the Occupational Safety and Health Act (OSHA) of 1970 as amended and the failure to comply will be considered a breach of this Contract. Contractor further certifies that if material, equipment, service, etc., delivered or provided to the County is subsequently found to be deficient in any OSHA requirement in effect on date of delivery or service fulfillment date, all costs necessary to bring the material, equipment, service, etc., into compliance with the aforementioned requirements shall be borne by Contractor.

5.3.8 Toxic Substances/Federal Hazard Communication "Right to Know and Understand" Regulations
The Federal "Right to Know and Understand" Regulation (also known as the Hazard Communication / Globally Harmonized System of Classification and Labeling of Chemicals (GHS) implemented by OSHA requires employers to inform their employees of any toxic substances to which they may be exposed in the workplace, and to provide training in safe chemical storage, labeling, handling practices and emergency procedures.

Accordingly, Contractor is required to provide completed Safety Data Sheets (SDS) for each hazardous substance provided to the County under this Contract. This includes hazardous substances that are not directly included in the Contract Documents, but are included in the goods or services provided by Contractor to the County. The SDS for each substance must be sent to the County's Project Manager and must also be sent to:

St. Johns County, a political subdivision of the State of Florida
500 San Sebastian View
St. Augustine, FL 32084
Attn: Risk Management

In the event that hazardous material is improperly handled or stored by Contractor, its subcontractors, any sub-subcontractors, or any employee or agent of any of the aforementioned which results in contamination of the Jobsite, Contractor shall immediately notify the County and the appropriate governmental authority and shall take whatever action is necessary or desirable to remediate the contamination at Contractor's sole cost and expense. Further, Contractor shall indemnify and hold harmless the County from any and all cost, expense, action, or liability whatsoever resulting from such contamination and/or remedial activities. The indemnity provisions of this section shall survive the expiration or earlier termination of this Contract.

ARTICLE VI PROJECT MANAGER

6.1 Project Manager Responsibilities

6.1.1 The County shall designate as its representative a Project Manager who shall be fully acquainted with the Project. The Project Manager shall be the County's representative from the Effective Date of this Contract until final payment has been made. The Project Manager shall be authorized to act on behalf of the County only to the extent provided in this Article VI.

6.1.2 The County and Contractor shall communicate with each other in the first instance through the Project Manager.

6.1.3 The Project Manager shall be the initial interpreter of the requirements of the Drawings and Specifications and the judge of the performance there under by Contractor. The Project Manager shall render written or graphic interpretations necessary for the proper execution or progress of the Work with reasonable promptness on request of Contractor.

6.1.4 The Project Manager shall review Contractor's Applications for Payment and shall confirm to the County for payment to Contractor, those amounts then due to Contractor as provided in this Contract.

6.1.5 The Project Manager shall have authority to reject Work, which is defective or does not conform to the requirements of this Contract. If the Project Manager deems it necessary or advisable, the Project Manager shall have authority to require additional inspection or testing of the Work for compliance with Contract requirements at Contractor's expense.

6.1.6 The Project Manager shall review and accept, or take other appropriate action as necessary, concerning Contractor's submittals including but not limited to Shop Drawings, Product Data and Samples. Such review, acceptance or other action shall be for the sole purpose of determining conformance with the design concept and information given through the Contract Documents.

6.1.7 The Project Manager may authorize minor changes in the Work by field order as provided elsewhere herein. The Project Manager does not have authority to approve adjustments to the Contract Price or Contract Time. If at any time Contractor believes that acts or omissions of the County constitute a change to the Work, Contractor shall submit a written notice in accordance with the requirements of Article VIII.

6.1.8 The Project Manager shall, upon written request from Contractor, conduct inspections to determine the date of Substantial Completion and the date of Final Completion, shall receive and forward to the County for the County's review and records, written warranties and related documents required by this Contract and shall issue a Final Certificate for Payment upon compliance with the requirements of this Contract.

6.1.9 The Project Manager's decision in matters relating to aesthetic effect shall be final if consistent with the intent of this Contract.

6.2 Field Orders

The Project Manager shall have authority to order minor changes in the Work not involving a change in the Contract Price or Contract Time and not inconsistent with the intent of this Contract. Such changes shall be affected by written field order and shall be binding upon Contractor. Contractor shall carry out such field orders promptly.

ARTICLE VII SUBCONTRACTORS

7.1 Award of Subcontracts

7.1.1 Contractor shall be responsible for all Work performed under the Contract Documents. All persons engaged in the Work of the Project are the responsibility and under the control of Contractor. Contractor shall furnish the Project Manager, in writing, the names of persons or entities proposed by Contractor to act as a Subcontractor on the Project. The Project Manager shall promptly reply to Contractor, in writing, stating any objections the Project Manager may have to such proposed Subcontractor. Contractor shall not enter into a Subcontract with a proposed Subcontractor with reference to whom the Project Manager has made a timely objection.

7.1.2 Contractor shall give personal attention to fulfillment of the Contract and shall keep the Work under Contractor's control. When any Subcontractor fails to execute a portion of the Work in a manner satisfactory to the County, Contractor shall remove such Subcontractor immediately upon written request from the County, and the Subcontractor shall not again be employed on the Project. The County will not entertain requests to arbitrate disputes among Subcontractors or between Contractor and Subcontractor(s) concerning responsibility for performing any part of the Work.

ARTICLE VIII CONTRACT DISPUTES/CLAIMS

8.1 Contract Claims

8.1.1 If any dispute between the County and Contractor arises under this Contract and such dispute cannot be resolved by good faith negotiations at the field level between the Project Managers of the Contractor and County, such dispute shall be promptly escalated to the Senior Representatives of the Parties, upon request of either party, who shall meet as soon as conveniently possible, but in no case later than fourteen (14) calendar days after such a request is made, to attempt to resolve such dispute or disagreement. Five (5) calendar days prior to any meetings between the Senior Representatives, the parties will exchange relevant information that will assist the parties in resolving the dispute or disagreement.

8.1.1.1 The Senior Representative for the County shall be the Director, or designee, of the County's Public Works Department.

8.1.1.2 The Senior Representative for the Contractor shall be the supervisor of the Project Manager, or a principal of the Contractor.

8.1.2 If after meeting, the Senior Representatives determine that the dispute or disagreement cannot be resolved on terms

satisfactory to both parties, the Contractor s hall submit a Contract Claim as provided herein.

8.1.3 Prior to filing a Contract Claim, Contractor shall first exhaust all remedies set forth in the Contract Documents. Claims arising from this Contract shall be filed with the Assistant Director of Purchasing & Contracts within five (5) business days of exhausting all remedies set forth above. Pending final resolution of a dispute or claim, unless otherwise agreed in writing by both parties, the Contractor is required to proceed with performance of the Work and maintain effective progress to complete the Work within the Contract Time set forth herein. The Contract Claim shall include, at a minimum, the following:

a) The name and address of the Contractor and any legal counsel; and
b) The Contractor's address to which the County's rendered decisions shall be sent; and
c) Identification, and a copy, of the final adverse decision or document that is the subject of the Contract Claim and any exhibits, evidence or documents which the Contractor deems applicable to the issues raised in the Claim; and
d) Identification of the administrative remedies provided for in the Contract that were pursued prior to the Claim and the outcome; and
e) A statement of the grounds for each issue raised in the Contract Claim to be reviewed and the applicable provisions of the Contract, as well as any applicable Laws, or other legal authorities which the Contractor deems applicable to the Claim.

8.1.4 During the Assistant Director of Purchasing & Contracts' review of the Contract Claim, the Assistant Director of Purchasing & Contracts may request additional information from the project team of both parties. The parties must provide the requested information within the time period set forth in the request. Failure of either party to timely comply may result in resolution of the Claim without consideration of the requested information.

8.1.5 The Assistant Director of Purchasing & Contracts shall render a decision on the Contract Claim within twenty-one (21) calendar days of the deadline for receipt of all requested information. The written decision of the Assistant Director of Purchasing & Contracts shall be sent to the Contractor at the address provided in the Contract Claim, or as otherwise agreed to by the parties.

8.1.6 The decision for any Contract Claim by the Assistant Director of Purchasing & Contracts may be appealed by the Contractor to the County Administrator. Contractor must submit their appeal to the County Administrator, including any and all information, documentation, backup data, or other supplemental facts or figures within five (5) business days of receipt of the Assistant Director of Purchasing & Contracts' decision. Failure by the Contractor to submit an appeal within the prescribed timeframe shall be a waiver of a right to appeal the rendered decision. The appeal shall include any and all information, documentation, and data relative to the Contract Claim and subsequent appeal. The County Administrator shall render a decision within thirty (30) calendar days of receipt of all information. The County Administrator's decision shall be considered final, unless Contractor takes legal action in Circuit Court.

ARTICLE IX CHANGES IN THE WORK

9.1 General

9.1.1 The County may, at any time, without invalidating this Contract and without notice to sureties, direct changes in the Work within the general scope of this Contract, consisting of additions, deletions, revisions, or any combination thereof, by Change Order or by field order. Contractor agrees to promptly comply with such orders and proceed with the Work, which shall be performed under the applicable requirements of the Contract Documents. Contract Time and Contract Price will be adjusted, in accordance with Sections 8.2 and 8.3 below, by written Change Order for changes which materially increase or decrease the cost of or time for performance of the Work.

9.1.2 If at any time Contractor believes that acts or omissions of the County constitute a change to the Work, Contractor shall submit a written notice to the Project Manager explaining in detail the basis for the change request. Contractor's written notice must be furnished within five (5) days of the commencement of the event giving rise to the claim or Contractor's knowledge of the claim, and the notice shall state the general nature and cause of the claim. Thereafter, within twenty (20) days after the termination of the event giving rise to the claim or Contractor's knowledge of the claim, Contractor shall submit written notice of the extent of the claim with supporting information and documentation to the Project Manager and County. **IT IS EXPRESSLY AND SPECIFICALLY AGREED THAT ANY AND ALL CLAIMS FOR CHANGES TO THE CONTRACT TIME OR CONTRACT PRICE SHALL BE WAIVED IF NOT SUBMITTED IN STRICT ACCORDANCE WITH THE**

REQUIREMENTS OF THIS SECTION. Pending final resolution of any such claim request, Contractor shall diligently proceed with performance of this Contract regardless of any dispute concerning performance of the Work or the amount Contractor is to be paid for such Work.

9.2 Changes in the Contract Time

9.2.1 The Contract Time will be extended by Change Order in an amount equal to time lost on critical Work items due to delays beyond the control of and through no fault or negligence of Contractor if a claim for an extension is submitted in accordance with Section 8.1.2 above.

9.2.2 If Contractor is delayed in progressing any task which at the time of the delay is then critical or which during the delay becomes critical, as a direct result of unusually adverse weather conditions not reasonably anticipated, or any other causes beyond Contractor's reasonable control and not attributable to Contractor or Contractor's Subcontractor's actions or failure to act, then the date for achieving Substantial Completion of the Work may be extended for such reasonable time as the Project Manager may determine. An extension of Contract Time shall be Contractor's sole and exclusive remedy for delay unless the delay is solely caused by fraud, bad faith or active interference on the part of the County or its representatives. In no event shall Contractor be compensated for interim delays that do not extend the Contract Time.

9.2.3 Extensions to the Contract Time for delays caused by the effects of inclement weather shall be submitted as a request for a change in the Contract Time pursuant to paragraph 8.1.2 above. Time extensions are justified only when rain, other inclement weather conditions, or related adverse soil conditions result in Contractor's inability to work at least fifty percent (50%) of the normal workday on controlling items of Work identified on the accepted schedule or updates to that schedule.

9.2.4 Contractor shall, at no cost to the County, take all precautions necessary to secure the Project Jobsite from any damage that may be caused by all threatened storm events, regardless of whether the County has given notice of same. Compliance with any specific storm event precautions will not constitute additional work. Suspension of the Work caused by a threatened or actual storm event, regardless of whether the County has directed such suspension, will entitle Contractor to additional Contract Time only and shall not give rise to a claim for a change in the Contract Price.

9.3 Changes in the Contract Price

9.3.1 In connection with any claim by Contractor against the County for compensation in excess of the Contract Price, any liability of the County for Contractor's costs shall be strictly limited to direct costs incurred by Contractor and shall in no event include indirect costs or consequential damages of Contractor.

9.3.2 Any change in the Contract Price resulting from a Change Order shall be determined as follows:

a) By mutual acceptance of a lump sum increase or decrease in costs. Upon the Project Manager's request, Contractor shall furnish a detailed estimate of increased or decreased costs, together with cost breakdowns and other support data as the Project Manager may reasonably request.
b) By Unit Prices stated in the Contract Documents, or subsequently agreed upon payment.
c) By a manner or method mutually agreed by the County and Contractor.

9.3.3 If no mutual agreement occurs between the County and Contractor, then the change in the Contract Price, if any, shall than be determined by the Project Manager on the basis of the reasonable expenditures or savings of those performing, deleting or revising the Work attributable to the change, including, in the case of an increase or decrease in the Contract Price, a reasonable allowance for direct job site overhead and profit. In such case, Contractor shall present, in such form and with such content as the County or the Project Manager requires, an itemized accounting of such expenditures or savings shall be limited to the following: reasonable costs of materials, supplies, or equipment including delivery costs, reasonable costs of labor, including social security, unemployment insurance, fringe benefits required by a pre-existing Contract or by custom, and workers' compensation insurance, reasonable costs of premiums for all bonds and insurance, permit fees, and sales, use or other taxes paid by Contractor that are directly attributable to the changed Work. In no event shall any expenditure or savings associated with Contractor's home office or other non-Jobsite overhead expenses be included in any change in the Contract Price. Pending final determination of reasonable expenditures or savings to the County, payments shall be made to Contractor based on the Project Manager's recommendation for payment.

9.3.4 Costs which will not be allowed or paid in Change Orders or other claims under this Contract include, but are not limited to, the costs of preparing or reviewing change request/claims or proposed Change Orders, change request/claim

consulting costs; lost revenues; lost profits; lost income or earnings; interest cost of any type other than those mandated by statute; rescheduling costs; lost earnings; loss of other business; or the costs of Contractor representatives visiting the Jobsite or participating in meetings with the County. The County shall not be liable to Contractor for claims of third parties, including Subcontractors, unless and until liability of Contractor has been established therefore in a court of competent jurisdiction.

9.4 Acceptance of Change Orders

Contractor's written acceptance of a Change Order shall constitute a final and binding Contract to the provisions thereof and a waiver of all claims in connection therewith, whether direct, indirect, or consequential in nature.

9.5 Notice to Sureties

Contractor shall notify and obtain the timely consent and approval of Contractor's surety with reference to all Change Orders if such notice, consent or approval is required by Contractor's surety or by law. Contractor represents and warrants to County that Contractor is solely liable and responsible to so notify and obtain any such consent or approval.

9.6 Differing Site Conditions

If during the course of the Work, Contractor encounters (1) subsurface or concealed conditions at the Project's Jobsite that differ materially from those shown in the Contract Documents and from those ordinarily encountered and generally recognized as inherent in work of the character called for in this Contract; or (2) unknown physical conditions of the Project's Jobsite, of an unusual nature, which differ materially from that ordinarily encountered and generally recognized as inherent in work of the character called for in this Contract, then Contractor, without disturbing the conditions and before performing any Work affected by such conditions, shall, within twenty-four (24) hours of their discovery, notify the Project Manager in writing of the existence of the aforesaid conditions. The Project Manager shall, within two (2) business days after receipt of Contractor's written notice, investigate the site conditions identified by Contractor. If, in the sole opinion of the Project Manager, the conditions do materially so differ and cause an increase or decrease in Contractor's cost of, or the time required for, the performance of any part of the Work, whether or not charged as a result of the conditions, the Project Manager may recommend an equitable adjustment to the Contract Price, or the Contract Time, or both. If Project Manager and Contractor cannot agree on an adjustment in the Contract Price or Contract Time, the adjustment shall be referred to the Assistant Director of Purchasing and Contracts for determination in accordance with the provisions of Paragraph 1.5. No request by Contractor for an equitable adjustment to this Contract under this provision shall be allowed unless Contractor has given written notice to the Project Manager in strict accordance with the provisions of this Article. **No request for an equitable adjustment or change to the Contract Price or Contract Time for differing site conditions shall be allowed if made after the date certified by the Project Manager as the date of Substantial Completion.**

The failure by Contractor to provide written notice as provided in this Paragraph 8.6 shall constitute a waiver by Contractor of any Claim arising out of or relating to such concealed or unknown condition.

ARTICLE X UNCOVERING WORK, STOPPING WORK, AND ACCEPTING DEFECTIVE OR NONCONFORMING WORK

10.1 Uncovering Work

10.1.1 No Work or portion of Work shall be covered until inspected by the County as required by the Contract Documents. If any of the Work is covered contrary to the request or direction of the County or the Project Manager or contrary to the requirements of the Contract Documents, Contractor shall, upon written request, uncover it for the Project Manager's inspection and subsequently cover the Work in accordance with the Contract Documents without adjustment to the Contract Time or Contract Price. The provisions and obligations set forth herein shall apply even if the County ultimately determines (after uncovering and inspection) that the underlying Work in question conforms to the requirements of the Contract Documents.

10.1.2 Should the County wish to either (i) re-inspect a portion of the Work that has been covered by Contractor in compliance with Paragraph 9.1.1, above, or (ii) inspect a portion of the Work that has been covered by Contractor which is not required by the Contract Documents to be observed or inspected prior to its being covered and which the County did not specifically request to observe prior to its being covered, Contractor shall uncover the applicable portion of the Work upon written request. If the County determines that the Work uncovered conforms to the requirements of the Contract Documents, then the County will pay the costs of uncovering and replacement of the cover through a Change Order and will adjust the Contract Time by Change Order if the uncovering and replacement Work extends the most current Substantial

Completion or Final Completion date, as applicable. If, however, the County determines that the Work uncovered does not conform to the requirements of the Contract Documents, then Contractor shall pay the costs of uncovering and replacement and shall not be entitled to an adjustment of the Contract Price.

10.2 Right to Stop Work

If the Work is defective, or Contractor fails to supply sufficient skilled workers, suitable materials, or equipment or fails to furnish or perform the Work in such a way that the completed Work will conform to the Contract Documents, the County, acting through the Project Manager, may order Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated. The County's right to stop Work, or any portion thereof, shall not give rise to any duty on the part of the County to exercise this right for the benefit of Contractor or any other party.

10.3 County May Accept Defective or Nonconforming Work

If the County chooses to accept defective or nonconforming Work, the County may do so. In such events, the Contract Price shall be reduced by the greater of (a) the reasonable cost of removing and correcting the defective or nonconforming Work, and (b) the difference between the fair market value of the Work had it not been constructed in such manner as to include defective or nonconforming Work. If the remaining portion of the unpaid Contract Price, if any, is insufficient to compensate the County for its acceptance of defective or nonconforming Work, Contractor shall, pay the County such remaining compensation for accepting defective or nonconforming Work.

ARTICLE XI CONTRACT SUSPENSION AND TERMINATION

11.1 Suspension

The County may, by written notice, order Contractor to suspend, delay or interrupt Work, in whole or in part, for a period of time as the County may determine. If such suspension delays Contractor's ability to meet the authorized Contract Time, Contractor will be granted an extension of time as reasonably agreed by both parties. Contractor shall not be entitled to an adjustment to the Contract Time to the extent that performance is, was or would have been so suspended, delayed or interrupted by another cause, act or omission for which Contractor is responsible. Notwithstanding anything to the contrary in this Contract and, in the event any such suspension exceeds ninety (90) days, Contractor may, upon ten (10) days written notice to the County, terminate performance under this Contract and recover from the County an equitable adjustment in accordance with Section 8.3 above.

11.2 Termination

11.2.1 The County may by written notice to Contractor terminate the Work under this Contract in whole or in part at any time for the County's convenience or for the default of Contractor.

11.2.2 The County may terminate this Contract, in whole or in part, for its convenience upon thirty (30) calendar days written notice to the Contractor. If the termination is for the convenience of the County, an equitable adjustment in the compensation to be paid to the Contractor may be made based upon the cost for completed Work, Work in progress, and the substantiated, reasonable and actually incurred costs associated with termination, including demobilization costs and amounts due in settlement of terminated contracts with Subcontractors. No amount shall be allowed for anticipated profit or unperformed work.

11.2.3 Contractor may terminate this Contract, for any reason up to sixty (60) calendar days written notice, provided that any outstanding Work is completed by Contractor, or Contractor's Subcontractors. Contractor further agrees to cooperate fully and assist the County, upon request, in order to complete any Work under this Project. In such event, the County shall compensate the Contractor as mutually agreed in writing for any such Work after termination.

11.2.4 The County may terminate this Contract, in whole or in part, for cause (or "default"). In the event of Contractor's default, the County shall issue a Notice of Default to the Contractor, articulating the items which the County finds to be in default of the requirements of this Agreement. Contractor shall have ten (10) calendar days from receipt of the Notice of Default to remedy deficiencies or submit, in writing, an acceptable plan for remedying the deficiencies identified in said notice. If Contractor fails to remedy such deficiencies, or to submit an acceptable plan for remedying such deficiencies, to the satisfaction of the County within the stated time period, the County shall issue a Notice of Termination, and take over and prosecute the Work to completion. In such case, Contractor shall be liable to the County for all reasonable additional costs incurred by the County in completion of the Work.

11.2.5 Upon receipt of such termination notice Contractor shall immediately stop all Work and shall immediately cause any and all of its Subcontractors and material suppliers at any tier, to immediately stop all work, leaving the construction Site in a safe and secured condition. Contractor shall not be paid for any work performed or costs incurred after the termination date that reasonably could have been avoided. The County may direct Contractor to assign Contractor's right, title and interest under terminated orders or subcontracts to its designee.

11.2.6 Contractor shall not remove from the construction Jobsite any materials, equipment, plant or tools that have been paid for by County pursuant to this Contract. Contractor hereby grants the County a free and unimpeded right of access to Contractor's facilities, which shall survive any termination of the Contract, for the purpose of permitting the County to take control of and remove any Work, including but not limited to any Work for which title has vested in the County.

11.2.7 For purposes of this Termination provision, Contractor shall be deemed in default if Contractor (1) persistently or repeatedly refuses or fails to perform the Work in a timely manner, (2) fails to supply enough properly skilled Workers, supervisory personnel or proper equipment or materials, (3) fails to make prompt payment to Subcontractors, or for materials or labor, (4) becomes insolvent or becomes the subject of voluntary or involuntary bankruptcy proceedings, (5) persistently disregards laws, ordinances, rules, regulations or orders of any public authority having jurisdiction, or (6) breaches or violates a material provision of this Contract. If the termination is attributable to the default of Contractor, the County shall have the right, without prejudice to any other right or remedy, to take possession of the construction Jobsite and of all materials, equipment, tools, construction equipment and machinery thereon owned by Contractor and may finish the Work by whatever methods it may deem expedient. In such case, Contractor shall not be entitled to receive any further payment until the Work is finished.

11.2.8 If the unpaid balance of the Contract Price less any liquidated damages due under this Contract, exceeds the cost of finishing the Work, including compensation for the Project Manager's additional services and expenses made necessary thereby, Contractor shall pay the difference to the County. This obligation for payment shall survive the termination of the Contract.

11.2.9 If, after termination by the County for Contractor's default, it is determined by a Court of competent jurisdiction that Contractor was not in default, or that the delay was excusable, the rights and obligations of the parties, including adjustment of the Contract Price, will be the same as if the termination had been issued for the convenience of the County, as provided under Paragraph 10.2.4 above.

ARTICLE XII WARRANTY AND INDEMNITY

12.1 Warranty

12.1.1 Contractor warrants and guarantees to the County that all labor furnished to progress the Work under this Contract shall be competent to perform the tasks undertaken and that the product of such labor shall yield only first-class results and that all materials and equipment furnished under this Contract shall be of good quality, free from faults and defects and in strict conformance with the Contract Documents.

12.1.2 Contractor warrants all materials, equipment and labor it furnishes or performs under this Contract against all defects in design, materials and workmanship for a period of one year (or the period of time in any guarantee or warranty provided by any manufacturer or supplier of equipment or materials incorporated into the Work, whichever is later) from and after the date of Final Completion. Contractor shall within ten (10) Days after being notified in writing by the County of any defect in the Work or non-conformance of the Work (Warranty Work), commence and prosecute with due diligence all Work necessary to fulfill the terms of the warranty at its sole cost and expense. Contractor shall act sooner as requested by the County in response to an emergency. In addition, Contractor shall, at its sole cost and expense, repair and replace any portions of the Work (or work of other contractors) damaged by its Warranty Work or which becomes damaged in the course of repairing or replacing Warranty Work. For any Work so corrected, Contractor's obligation hereunder to correct Warranty Work shall be reinstated for an additional one-year period, commencing with the date of acceptance of such corrected Work.

12.1.3 Contractor shall perform such tests as the County may require to verify that any corrective actions, including, without limitation, redesign, repairs, and replacements comply with the requirements of the Contract Documents. All costs associated with such corrective actions and testing, including the removal, replacement, and reinstitution of equipment and materials necessary to gain access, shall be the sole responsibility of Contractor.

12.1.4 All warranties and guarantees of subcontractors, suppliers and manufacturers with respect to any portion of the Work, whether express or implied, are deemed to be obtained by Contractor for the benefit of the County, regardless of whether or not such warranties and guarantees have been transferred or assigned to the County by separate Contract and Contractor agrees to enforce such warranties and guarantees, if necessary, on behalf of the County.

12.1.5 In the event that Contractor fails to perform its obligations under this Warranty Section, or under any other warranty or guaranty under this Contract, to the reasonable satisfaction of the County, the County shall have the right to correct and replace any defective or non-conforming Work and any work damaged by such work or the replacement or correction thereof at Contractor's sole expense. Contractor shall be obligated to fully reimburse the County for any expenses incurred hereunder upon demand.

12.1.6 Failure on the part of the County to reject defective, non-conforming or unauthorized Work shall not release Contractor from its contractual obligations, be construed to mean acceptance of such Work or material by the County, or, after Final Completion, bar the County from recovering damages or obtaining such other remedies as may be permitted by law.

12.1.7 No adjustment in the Contract Time or Contract Price will be allowed because of delays in the performance of the Work as a result of correcting defective, non-conforming or unauthorized Work.

12.1.8 County and Contractor agree that the provisions of Florida Statute Chapter 558 shall not apply to this Contract.

12.2 Indemnity

12.2.1 Contractor shall indemnify and hold harmless the County and its officers and employees ("Indemnified Party"), 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 this Contract.

12.2.2 To the extent permitted by, and in accordance with Section 725.06 of the Florida Statues, Contractor further agrees that "damages, losses and costs", includes fines, citations, court judgments, insurance claims, restoration costs or other liability, 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 this Contract.

12.2.3 To the extent permitted by, and in accordance with Section 725.06 of the Florida Statues, for purposes of indemnity, the "persons employed or utilized by Contractor" shall be construed to include, but not be limited to, Contractor, its staff, employees, subcontractors, all deliverers, suppliers, furnishers of materials or services or anyone acting for, on behalf of, or at the request of Contractor.

12.2.4 In Claims against any person or entity indemnified hereunder by an employee of Contractor, any Subcontractor, or subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, the indemnification obligation under this Section 11.2 shall not be limited by a limitation on the amount or type of damages, compensation or benefits payable by or for Contractor or any Subcontractor or subcontractor under any workers' compensation acts, disability benefits acts or other employee benefit acts.

12.2.5 Contractor's indemnity and hold harmless obligations hereunder shall extend to all Claims against the County by any third party or third-party beneficiary of this Contract and all liabilities, damages, losses and costs related thereto.

12.2.6 This indemnification will not be valid in the instance where the loss is caused by the gross negligence, or willful, wanton or intentional misconduct of any Indemnified Party.

12.2.7 If any provision(s), or portion(s) of a provision(s) of this Section, or the application thereof to any person or circumstance shall, to any extent, be held to be invalid, illegal or unenforceable for any reason whatsoever, the validity, legality and enforceability of the remaining provision(s), or part of the provision(s), shall not in any way be affected or impaired thereby; and shall be interpreted to the fullest extent possible to be enforceable and to give effect to the intent manifested by the provision(s), or portion(s) thereof, held invalid, illegal or unenforceable.

12.2.8 Contractor shall further indemnify and hold harmless the County its officers and employees from and against all Claims arising out of any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents and shall defend such Claims in connection with any alleged infringement of such rights.

12.2.9 The indemnification provisions of this Section 11.2 shall survive expiration or earlier termination of this Contract.

ARTICLE XIII INSURANCE AND BONDS

13.1 Contractor's Insurance Requirements

13.1.1 All insurance policies shall be satisfactory to the County and be issued by companies authorized and duly licensed to transact business in the State of Florida. Contractor shall furnish proof of insurance to the County prior to execution of this Contract. No Work shall commence under this Contract until Contractor has obtained all insurance coverages required under this section. Certificates of insurance shall clearly indicate Contractor has obtained insurance of the type, amount, and classification as required by this Contract. Required insurance coverage shall be maintained in force, including coverage for Additional Insureds, until Final Completion of all Work including Warranty Work.

13.1.2 No less than ten (10) days written notice shall be provided to the County prior to cancellation, non-renewal or any material change of required insurance policies. Yearly renewal certificates shall be provided to the County within thirty (30) days of expiration of the current policy.

13.1.3 The types and amounts of insurance required under this Contract do not in any way limit the liability of Contractor including under any warranty or indemnity provision of this Contract or any other obligation whatsoever Contractor may have to the County or others. Nothing in this Contract limits Contractor to the minimum required insurance coverages found in this Article XII.

13.2 Additional Insured Endorsements and Certificate Holder

The term "Additional Insured", as used in this Contract, shall mean St. John's County, its elected officials, officers, employees, agents and representatives. Certificates of insurance shall specifically name each Additional Insured for all policies of insurance except Workers' Compensation and Professional Liability. A copy of the endorsement showing the required coverages must accompany the certificate of insurance.

Certificate Holder Address: St. Johns County, a political subdivision of the State of Florida
500 San Sebastian View
St. Augustine, FL 32084
Attn: Purchasing Division

13.3 Workers Compensation

Contractor shall procure and maintain during the life of this Contract, adequate Workers' Compensation Insurance in at least such amounts as is required by law for all of its employees per Florida Statute 440.02.

13.4 Commercial General Liability

Contractor shall procure and maintain during the life of this Contract, Comprehensive General Liability Insurance with minimum limits of $1,000,000 per occurrence, $2,000,000 aggregate, including bodily injury (including wrongful death), property damage, products, personal & advertising injury, and completed operations. This insurance must provide coverage for all Claims that may arise from the services and/or operations completed under this Contract, whether such services or operations are by Contractor or anyone directly or indirectly employed by them. Such insurance(s) shall also be primary and non-contributory with regard to insurance carried by the Additional Insureds.

13.5 Automobile Liability

Contractor shall procure and maintain during the life of this Contract, Comprehensive Automobile Liability Insurance with minimum limits of $2,000,000 combined single limit for bodily injury and property damage liability and insuring liability arising out of or in any way related directly or indirectly to the ownership, maintenance or use of any owned, non-owned or rented/hired automobiles.

13.6 Additional Coverages

ONLY THE SUBSECTIONS CORRESPONDING TO ANY CHECKED BOX IN THIS PARAGRAPH 12.6 WILL APPLY TO THIS CONTRACT.

13.6.1 ☐ Professional Liability.

13.6.1.1 Contractor shall procure and maintain, during the life of this Contract, Professional Liability or Errors and Omissions Insurance with minimum limits of $1,000,000 with 10-year tail coverage starting upon Final Completion. Contractor's professional liability policy should not have an exclusion for environmental compliance management or construction management professionals.

13.6.1.2 In the event that Contractor employs professional engineering or land surveyor services for performing field engineering or preparing design calculations, plans, and specifications, Contractor shall require the retained engineers and land surveyors to carry professional liability insurance with limits not less than $1,000,000 each claim with respect to negligent acts, errors, or omissions in connection with professional services to be provided under this Contract.

13.6.2 ☒ Builders Risk.

a. Contractor shall procure and maintain Builder's Risk ("all risk") insurance on a replacement cost basis. The amount of coverage shall be equal to the full replacement cost on a completed value basis, including periodic increases or decreases in values through change orders.

13.6.2.2 The Builder's Risk policy shall identify the County as the sole loss payee. The policy shall name as insured the County, Contractor and its subcontractors of every tier. Each insured shall waive all rights of subrogation against each of the other insured to the extent that the loss is covered by the Builder's Risk Insurance. The Builder's Risk policy shall be primary and any self-insurance maintained by the County in not contributory. The Builder's Risk policy shall not include a co-insurance clause. This coverage shall not be lapsed or cancelled because of partial occupancy by the County prior to Final Completion of the Work.

13.6.2.3 The Builder's Risk insurance shall:

a. insure against at least the following perils or causes of loss: fire; lightning; windstorm; riot; civil commotion; terrorism; vehicle impact; aircraft; smoke; theft; vandalism and malicious mischief; mechanical breakdown, boiler explosion, and artificially generated electric current; earthquake; volcanic activity, and other earth movement; flood; collapse; explosion; debris removal including demolition as may be reasonably necessary; and water damage (other than that caused by flood).

b. cover, as insured property, at least the following: (i) the Work and all appurtenances, materials, supplies, fixtures, machinery, apparatus, equipment and other property of a similar nature that are to be incorporated into or used in the preparation, fabrication, construction, erection, or completion of the Work including County furnished or assigned property; (ii) spare parts inventory required within the scope of the Contract; and (iii) temporary works which are not intended to form part of the permanent constructed Work but which are intended to provide working access to the Jobsite, or to the Work under construction, or which are intended to provide temporary support for the Work under construction, including scaffolding, form work, fences, shoring, falsework, and temporary structures.

c. extend to cover damage or loss to insured property (i) while in transit; and (ii) while in temporary storage at the Jobsite or in a storage location outside the Jobsite (but not including property stored at the premises of a manufacturer or supplier).

d. include (i) performance/start-up and hot testing; (ii) soft costs (e.g. design and engineering fees, code updates, permits, bonds, insurances, and inspection costs); and (iii) costs of funding or financing when a covered risk causes delay in completing the Work.

13.6.3 The Builder's Risk Insurance may have a deductible clause. Contractor shall be responsible for paying any and all deductible costs. Notwithstanding anything to the contrary set forth above, the deductible for coverage of all perils and causes of loss enumerated in subparagraph 12.6.2.3 above shall not exceed $250,000.

13.7 Other Requirements

The required insurance limits identified in Sections 12.4, 12.5, and 12.6 above may be satisfied by a combination of a primary policy and/or Umbrella or Excess Liability Insurance policy. Contractor shall require each lower-tier subcontractor to comply with all insurance requirements appropriate for its scope of work, and any deficiency shall not relieve Contractor of its responsibility herein. Upon written request, Contractor shall provide County with copies of lower-tier subcontractor certificates of insurance.

Providing and maintaining adequate insurance coverage is a material obligation of Contractor. County has no obligation or duty to advise Contractor of any non-compliance with the insurance requirements contained in this Section. If Contractor fails to obtain and maintain all of the insurance coverages required herein, Contractor shall indemnify and hold harmless the Additional Insureds from and against any and all Claims that would have been covered by such insurance had Contractor complied with its obligations herein.

County reserves the right to adjust the above minimum insurance requirements or require additional insurance coverages to address other insurable hazards.

13.8 Payment and Performance Bonds

Contractor shall execute, furnish the County with, and record in the public records of St. John's County, a Payment and Performance Bond in accordance with the provisions of Sections 255.05 and 287.0935 Florida Statutes, in an amount no less than the Contract Price. Such Payment and Performance Bond shall be conditioned upon the successful completion of all work, labor, services, equipment and materials to be provided and furnished hereunder, and the payment of all subcontractors, materialmen, and laborers. Said bond shall be subject to the approval of the Board of County Commissioners of St. John's County, Florida. In accordance with Section 255.05, F.S., the County may not make a payment to Contractor until Contractor has provided the County a certified copy of the recorded bond.

ARTICLE XIV MISCELLANEOUS

14.1 Independent Contractor

Contractor represents that it is fully experienced and properly qualified, licensed, equipped, organized, and financed to perform the Work under this Contract. Contractor shall act as an independent contractor and not as an agent in performing this Contract and shall maintain complete control over its employees and all of its Subcontractors and suppliers of any tier. Nothing contained in this Contract or any lower-tier subcontract or purchase order awarded by Contractor shall create any contractual relationship between any such subcontractor or supplier and the County. Contractor shall perform all Work in accordance with the requirements of this Contract and in accordance with its own methods subject to compliance with this Contract.

14.2 Examination of Contractor's Records

The County or its authorized representative shall, until the expiration of five (5) years after final payment under this Contract, have access to, and the right to examine any directly pertinent books, documents, papers and records of Contractor involving transactions relating to this Contract, and to make copies, excerpts and transcriptions thereof. If any such examination reveals that Contractor has overstated any component of the Contract Price, Change Order, Claim, or any other County payment obligation arising out of this Contract, then Contractor shall, at the election of the County, either immediately reimburse to the County or offset against payments otherwise due Contractor, the overstated amount plus interest. The foregoing remedy shall be in addition to any other rights or remedies the County may have.

14.3 Backcharges

Upon the County's notification to undertake or complete unperformed Work such as cleanup or to correct defective or non-conforming services, equipment, or material (Backcharge Work), if Contractor states or by its actions indicates it is unable or is unwilling to immediately proceed and/or complete the Backcharge Work in an agreed time; the County may perform such Backcharge Work by the most expeditious means available and backcharge Contractor for any and all costs thereby incurred by the County.

The County shall separately invoice or deduct and retain from payments otherwise due to Contractor the costs for Backcharge Work. The County's right to backcharge is in addition to any and all other rights and remedies provided in this Contract or by law. The County's performance of the Backcharge Work shall not relieve Contractor of any of its responsibilities under this Contract and Contractor shall be responsible for the Backcharge Work as if it were its own.

14.4 Applicable Law
Contractor and the Work must comply with all Applicable Law and the requirements of any applicable grant agreements.

14.5 Governing Law & Venue
The Contract shall be governed by the laws of the State of Florida. Venue for any administrative and/or legal action arising under the Contract shall be St. Johns County, Florida.

14.6 Assignment
Contractor shall not sell, assign or transfer any of its rights, duties or obligations under the Contract, or under any Change Order issued pursuant to the Contract or make an assignment or transfer of any amounts payable to Contractor under the Contract, without the prior written consent of the County. In the event of any assignment, Contractor remains secondarily liable for performance of the Contract, unless the County expressly waives such secondary liability. The County may assign the Contract with prior written notice to Contractor of its intent to do so. This Contract may be assumed by and shall inure to the benefit of the County's successors and assigns without the consent of Contractor.

14.7 Severability
If a court deems any provision of the Contract void, invalid or unenforceable, that provision shall be enforced only to the extent that it is not in violation of law or is not otherwise unenforceable and all other provisions shall remain in full force and effect.

14.8 Section Headings
The section and other headings contained in this Contract are for reference purposes only and shall not affect the meaning or interpretation of this Contract.

14.9 Disclaimer of Third-Party Beneficiaries
This Contract is solely for the benefit of County and Contractor and no right or cause of action shall accrue to or for the benefit of any third party not a formal party hereto. Nothing in this Contract, expressed or implied, is intended or shall be construed to confer upon or give any person or entity other than County and Contractor, any right, remedy, or Claim under or by reason of this Contract or any provisions or conditions hereof; and all of the provisions, representations, covenants and conditions herein contained shall inure to the sole benefit of and shall be binding upon County and Contractor.

14.10 Waiver; Course of Dealing
The delay or failure by the County to exercise or enforce any of its rights or remedies under this Contract shall not constitute or be deemed a waiver of the County's right thereafter to enforce those rights or remedies, nor shall any single or partial exercise of any such right or remedy preclude any other or further exercise thereof or the exercise of any other right or remedy. The conduct of the parties to this Contract after the Effective Date shall not be deemed a waiver or modification of this Contract.

14.11 No Waiver of Sovereign Immunity
Nothing herein is intended to serve as a waiver of sovereign immunity by any agency or political subdivision to which sovereign immunity may be applicable or of any rights or limits to liability existing under Section 768.28, Florida Statutes. This section shall survive the termination of all performance and obligations under this Contract and shall be fully binding until such time as any proceeding brought on account of this Contract is barred by any applicable statute of limitations.

14.12 Execution in Counterparts
This Contract may be executed in counterparts, each of which shall be an original document, and all of which together shall constitute a single instrument. The parties may deliver executed counterparts by e-mail transmission, which shall be binding. In the event this Contract is executed through a County-approved electronic signature or online digital signature service (such as DocuSign), such execution shall be valid, effective and binding upon the party so executing. Execution and delivery of an executed counterpart of this Contract and/or a signature page of this Contract by electronic image scan transmission (such as a "pdf" file) or through a County approved electronic signature service will be valid and effective as delivery of a manually executed counterpart of this Contract.

14.13 Entire Contract
This Contract for the Work, comprised of the Contract Documents enumerated herein, constitutes the entire Contract between

the Parties relating to the subject matter hereof and supersedes all prior or contemporaneous Contracts, negotiations, discussions and understandings, oral or written. This Contract may not be amended or modified except in writing, as provided herein and signed by authorized representatives of both parties.

14.14 Survival

The provisions of the Contract Documents which by their nature survive termination of the Contract, including without limitation all warranties, indemnities, insurance, payment obligations, and the County's right to audit Contractor's books and records, shall in all cases survive the expiration or earlier termination of this Contract.

14.15 Employment Eligibility and Mandatory Use of E-Verify

As a condition precedent to entering into this Contract, and in accordance with section 448.095, F.S., Contractor and its subcontractors shall register with and use the E-Verify system to verify the work authorization status of all employees hired on or after January 1, 2021.

a. Contractor shall require each of its subcontractors to provide Contractor with an affidavit stating that the subcontractor does not employ, contract with, or subcontract with an unauthorized alien. Contractor shall maintain a copy of such affidavit for the duration of this Contract.

b. The County, Contractor, or any subcontractor who has a good faith belief that a person or entity with which it is contracting has knowingly violated section 448.09(1), F.S. or these provisions regarding employment eligibility shall terminate the contract with the person or entity.

c. The County, upon good faith belief that a subcontractor knowingly violated these provisions regarding employment eligibility, but Contractor otherwise complied, shall promptly notify Contractor and Contractor shall immediately terminate the contract with the subcontractor.

d. The County and Contractor hereby acknowledge and mutually agree that, a contract terminated pursuant to these provisions regarding employment eligibility is not a breach of contract and may not be considered as such. Any contract terminated pursuant to these provisions regarding employment eligibility may be challenged in accordance with section 448.095(2)(d), F.S.

e. Contractor acknowledges that, in the event that the County terminates this Contract for Contractor's breach of these provisions regarding employment eligibility, then Contractor may not be awarded a public contract for at least one (1) year after such termination. Contractor further acknowledges that Contractor is liable for any additional costs incurred by the County as a result of the County's termination of this Contract for breach of these provisions regarding employment eligibility.

f. Contractor shall incorporate in all subcontracts made pursuant to this Contract the provisions contained herein regarding employment eligibility.

14.16 Equal Employment Opportunity

During the performance of this Contract, Contractor agrees as follows:

14.16.1 Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, disability, age, sex (including sexual orientation and gender identity/expression), national origin (including limited English proficiency), marital status, or familial status. Contractor will take affirmative action to ensure that applicants and employees are treated during employment without regard to their race, color, religion, disability, sex, age, national origin, ancestry, marital status, sexual orientation, gender identity or expression, familial status, genetic information or political affiliation. Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertisement, layoff or termination, rates of pay or other forms of compensation, and selection for training, including apprenticeship. Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this non-discrimination clause.

14.16.2 Contractor will, in all solicitations or advertisements for employees placed for, by, or on behalf of Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, disability, sex,

age, national origin, ancestry, marital status, sexual orientation, gender identity or expression, familial status, or genetic information.

14.16.3 Contractor will not discharge or in any other manner discriminate against any employee or applicant for employment because such employee or applicant has inquired about, discussed, or disclosed the compensation of the employee or applicant or another employee or applicant. This provision shall not apply to instances in which an employee who has access to the compensation information of other employees or applicants as a part of such employee's essential job functions discloses the compensation of such other employees or applicants to individuals who do not otherwise have access to such information, unless such disclosure is in response to a formal complaint or charge, in furtherance of an investigation, proceeding, hearing, or action, including an investigation conducted by the employer, or is consistent with Contractor's legal duty to furnish information.

14.16.4 Contractor will send to each labor union or representatives of workers with which it has a collective bargaining Contract or other contract or understanding, a notice to be provided by the County, advising the labor union or workers' representative of Contractor's commitments under Section 202 of Executive Order 11246 of September 24, 1965, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

14.16.5 Contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.

14.16.6 Contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by the rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to its books, records, and accounts by the County and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

14.16.7 In the event of Contractor's noncompliance with the nondiscrimination clauses of this Contract or with any of such rules, regulations, or orders, this Contract may be cancelled, terminated or suspended in whole or in part and Contractor may be declared ineligible for further contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

14.16.8 Contractor will include the provisions of paragraphs 13.15.1 through 13.15.8 in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. Contractor will take such action with respect to any subcontractor or vendor as may be directed to the Secretary of Labor as a means of enforcing such provisions including sanctions for noncompliance: Provided, however, that in the event Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction, Contractor may request the United States to enter into such litigation to protect the interest of the United States.

14.17 Public Records

14.17.1 Contractor shall comply and shall require all of its Subcontractors to comply with the State of Florida's Public Records Statute (Chapter 119), specifically to:

(1) Keep and maintain public records that ordinarily and necessarily would be required by the County in order to perform the Services;

(2) Upon request from the County's custodian of public records, provide the County with a copy of the requested records or allow the records to be inspected or copied within a reasonable time at a cost that does not exceed the cost as provided in Chapter 119, Florida Statutes, or as otherwise provided by Applicable Law;

(3) Ensure that public records related to this Contract that are exempt or confidential and exempt from public records disclosure requirements are not disclosed except as authorized by Applicable Law for the duration of this Contract and following expiration of this Contract, or earlier termination thereof, if Contractor does not transfer the records to the County; and

(4) Upon completion of this Contract, or earlier termination thereof, transfer, at no cost, to the County all public records

in possession of Contractor or keep and maintain for inspection and copying all public records required by the County to perform the Work.

14.17.2 If Contractor, upon expiration of this Contract or earlier termination thereof i) transfers all public records to the County, Contractor shall destroy any duplicate public records that are exempt or confidential and exempt from public records disclosure requirements; and ii) keeps and maintains public records, Contractor shall meet all Applicable Law and requirements for retaining public records. All records stored electronically must be provided to the County, upon request from the County's custodian of public records, in a format that is compatible with the County's information technology systems.

14.17.3 Failure by Contractor to comply with the requirements of this section shall be grounds for immediate, unilateral termination of this Contract by the County.

IF CONTRACTOR HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO ITS DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS CONTRACT, CONTACT THE CUSTODIAN OF PUBLIC RECORDS AT: (904) 209-0805, PUBLICRECORDS@SJCFL.US, 500 SAN SEBASTIAN VIEW, ST. AUGUSTINE, FLORIDA 32084

14.18 Anti-Bribery

Contractor and its Subcontractors shall at all times during the term of this Contract comply with all anti-bribery and corruption laws that are applicable to the performance of this Contract. Contractor represents that it has not, directly or indirectly, taken any action which would cause it to be in violation of Chapter 838 of the Florida Statutes. Contractor shall immediately notify the County of any violation (or alleged violation) of this provision.

14.19 Convicted and Discriminatory Vendor Lists, and Scrutinized Companies

14.19.1 Contractor warrants that neither it nor any Subcontractor is currently on the convicted vendor list or the discriminatory vendor list maintained pursuant to Sections 287.133 and 287.134 of the Florida Statutes, or on any similar list maintained by any other state or the federal government. Contractor shall immediately notify the County in writing if its ability to perform is compromised in any manner during the term of the Contract.

14.19.2 Section 287.135 of the Florida Statutes prohibits agencies from contracting with companies for goods or services that are on the Scrutinized Companies that Boycott Israel List, or with companies that are engaged in a boycott of Israel, and from contracting with companies for goods or services of $1,000,000 or more that are on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, or are engaged in business operations in Cuba or Syria. The lists are created pursuant to §215.473 and §215.4725, F.S. By execution of this Contract, Contractor certifies that it is not listed on the Scrutinized Companies that Boycott Israel List, the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, and is not engaged in a boycott of Israel or engaged in business operations in Cuba or Syria, and understands that pursuant to §287.135, F.S., the submission of a false certification may subject Contractor to civil penalties, attorney's fees, and/or costs. In accordance with §287.135, F.S., the County may terminate this Contract if a false certification has been made, or the Contractor is subsequently placed on any of these lists, or engages in a boycott of Israel or is engaged in business operations in Cuba or Syria.

14.20 Written Notice

Any and all notices, requests, consents, approvals, demands, determinations, instructions, and other forms of written communication under this Contract shall be validly given when delivered as follows:

i. Hand delivered to Contractor's Authorized Representative or hand delivered during normal business hours and addressed as shown below, or

ii. Delivered by U.S. Mail, electronic mail or commercial express carrier, (postage prepaid, delivery receipt requested), to the following addresses:

St. Johns County

D.B.E. Management, LLC DBA DBE Utility Services

500 San Sebastian View
St. Augustine, FL 32084
Attn: Leigh A. Daniels
Email Address: ldaniels@sjcfl.us

13313 Bryan Rd
Loxahatchee, FL 33470
Attn: Dustin Ertle
Email Address: dertle@dbeutilityservices.com

With a copy to:

St. Johns County
Office of the County Attorney
500 San Sebastian View
St. Augustine, FL 32084
Email Address: jferguson@sjcfl.us

Notices shall be deemed to have been given on the date of delivery to the location listed above without regard to actual receipt by the named addressee. County and Contractor may each change the above addresses at any time upon prior written notice to the other party.

****

The authorized representatives hereto have executed this Contract effective as of the Effective Date. Contractor's authorized representative executing this Contract represents that he or she is duly authorized to execute this Contract on behalf of Contractor.

County:

St. Johns County (Seal)
(Typed Name)

By: _____
(Signature of Authorized Representative)

_____
(Printed Name)

_____
(Title)

_____
(Date of Execution)

Contractor:

_____ (Seal)
(Typed Name)

By: _____
(Signature of Authorized Representative)

_____
(Printed Name)

_____
(Title)

_____
(Date of Execution)

ATTEST:
St. Johns County, Fl
Clerk of Circuit Court & Comptroller

By:_____
(Deputy Clerk)

_____
(Date of Execution)

Legally Sufficient:

_____
(Office of County Attorney)

_____
(Date of Execution)

FORM 1

CERTIFICATION OF PAYMENTS TO SUBCONTRACTORS

Contract No.	23-MCA-DBE-17408
Project Title:	BID NO: 23-02; INSTALLATION OF FORCEMAIN FROM WILDWOOD DR. TO LIGHTSEY RD

The undersigned Contractor hereby swears under penalty of perjury that:

1. Contractor has paid all Subcontractors all undisputed contract obligations for labor, services, or materials provided on this Project within the time period set forth in Sections 218.73 and 218.735, Florida Statutes, as applicable.

2. The following Subcontractors have not been paid because of disputed contractual obligations; a copy of the notification sent to each, explaining the good cause why payment has not been made, is attached to this form:

Subcontractor Name and Address	Date of Disputed Invoice	Amount in Dispute

Contractor's Authorized Representative executing this Certification of Payments to Subcontractors represents that he or she is duly authorized to execute this Certificate, or if executing on behalf of another, is authorized to do so and that such Authorized Representative is legally bound.

Dated _____, 20__

Contractor _____

By: _____
(Signature)

By: _____
(Name and Title)

STATE OF _____)
) SS.
COUNTY OF _____)

The foregoing instrument was acknowledged before me, by means of ☐ physical presence or ☐ online notarization, this _____ day of _____, 20__, by _____, who is personally known to me or who has produced _____as identification and who did (did not) take an oath.

NOTARY PUBLIC:

Signature: _____

Print Name: _____

(NOTARY SEAL)
My commission expires:

FORM 2

CONTRACTOR'S FINAL RELEASE AND WAIVER OF LIEN

Owner: St. Johns County (hereafter "County")	**County Department/Division:**
Contract No.: 23-MCA-DBE-17408	**Contractor Name:**
Project:	**Contractor Address:**
Project Address:	**Contractor License No.:**
Payment Amount:	**Amount of Disputed Claims:**

The undersigned has been paid in full for all labor, work, services, materials, equipment, and/or supplies furnished to the Project or to the County and does hereby waive and release any notice of lien, any right to mechanic's lien, any bond right, any claim for payment and any rights under any similar ordinance, rule or statute related to a claim or payment rights the undersigned has on the above described Project, except for the payment of Disputed Claims, if any, described below.

The undersigned warrants that he or she either has already paid or will use the monies received from this final payment to promptly pay in full all of its laborers, subcontractors, materialmen and suppliers for all labor, work, services, materials, equipment, or supplies provided for or to the above referenced Project.

Before any recipient of this document relies on it, the recipient should verify evidence of payment to the undersigned.

Disputed Claims: The following invoices, pay applications, retention, or extra work are reserved by undersigned from this final payment (if there are no Disputed Claims enter **"None"**):

None

Signed this __day of _____, 20__

_____
Contractor/Company Name

By: _____
Signature

_____
Printed Name

_____
Title

NOTICE: THIS DOCUMENT WAIVES RIGHTS UNCONDITIONALLY AND STATES THAT YOU HAVE BEEN PAID FOR GIVING UP THOSE RIGHTS. THIS DOCUMENT IS ENFORCEABLE AGAINST YOU IF YOU SIGN IT TO THE EXTENT OF THE PAYMENT AMOUNT OR THE AMOUNT RECEIVED.

St. Johns County Board of County Commissioners

Purchasing Division

NOTICE OF INTENT TO AWARD

December 12, 2022

Bid No: 23-02; Installation of Forcemain from Wildwood Dr. to Lightsey Rd.

St. Johns County hereby issues this Notice of Intent to Award DBE Management LLC dba DBE Utility Services as the lowest, responsive, responsible Bidder under the above referenced Invitation for Bids.

Any actual Bidder, Proposer or Supplier who is aggrieved in connection with the Notice of Intent to Award a Contract, where such grievance is asserted to be the result of a violation of the requirements of the St. Johns County Purchasing Policy and associated procedures, or any applicable provision of law by the officers, agents, or employees of the County, may file a Protest to the Assistant Director of Purchasing & Contracts. The Protest must be made in writing and filed by 4:00PM on the fifth business day following the date of the posting of the Notice of Intent to Award, and must be submitted in accordance with Section 13, SJC Purchasing Policy.

Should no Protest be received in response to this Notice the County will proceed with award of a Contract in accordance with SJC Purchasing Policy.

Please forward all correspondence, requests or inquiries directly to Bryan Matus, Senior Purchasing Coordinator, via email at bmatus@sjcfl.us or phone at (904) 209-0148.

St. Johns County, FL
Board of County Commissioners
Purchasing Division

Date: 12/22/22

Leigh Daniels, CPPB
Purchasing Manager
bmatus@sjcfl.us
(904) 209-0148 - Direct

ST. JOHNS COUNTY, FL
BID TABULATION

OPENING DATE: 11/16/2022
OPENED BY: Bryan Matus
VERIFIED BY: Mark Rinberger
POSTING DATE: 11/16/2022

BID NO./TITLE: 23-02 INSTALLATION OF FORCEMAIN FROM WILDWOOD DR. TO LIGHTSEY RD.

BIDDERS	TOTAL BID PRICE						
DBE Management LLC dba DBE Utility Services	$2,590,000.00						
T B Landmark Construction, Inc	$2,678,345.00						

Any actual Bidder who is aggrieved in connection with the Notice of Intent to Award, where such grievance is asserted to be the result of a violation of the requirements of the County's Purchasing Policy and associated procedures, or any applicable provision of law by the officers, agents, or employees of the County, may file a Protest with the Assistant Director of Purchasing & Contracts. The Protest must be submitted in writing, accompanied by a security in the form of a Protest Bond, by 4:00PM on the fifth business day following the date of the posting of the Notice of Intent to Award.

All public records shall become available for inspection and copying pursuant to Chapter 119, Florida Statutes.

BID NO: 23-02

OFFICIAL COUNTY BID FORM
ST. JOHNS COUNTY, FLORIDA

TO: THE BOARD OF COUNTY COMMISSIONERS OF ST. JOHNS COUNTY, FLORIDA

DATE SUBMITTED: 11/09/2022

BID PROPOSAL OF

DBE MANAGEMENT LLC dba DBE UTILITY SERVICES
Full Legal Company Name of Bidder

13387 BRYAN RD LOXAHATCHEE FL 33470	561-508-3708	561-508-3713
Mailing Address	Telephone Number	Fax Number

Bidders: Having become familiar with requirements of the project, and having carefully examined the Bid Documents entitled for **Bid No: 23-02, INSTALLATION OF FORCEMAIN FROM WILDWOOD DR. TO LIGHTSEY RD.** in St. Johns County, Florida, the undersigned proposes to furnish all materials, labor and equipment, supervision and all other requirements necessary to complete the required Work for the following Total Bid Price:

TOTAL BID PRICE:

$ 2,590,000.00
Total Bid Price (Numerical)

Two Million Five hundred Ninety thousand and XX /100 Dollars
Total Bid Price (Amount written or typed in words)

Bidder shall insert the Lump Sum Bid Price in numerals and in words above. In the event of a discrepancy between the two amounts shall be determined by the amount written in words.

During the preparation of the Bid, the following addenda, if any, were received:

No.: 1 Date Received: 11/02/2022

No.: 2 Date Received: 11/08/2022

No.: _____ Date Received:

The Undersigned hereby declares that no person or persons, firm, or corporation, other than the undersigned are interested in this submitted Bid, as principals, and that this Bid is made without collusion with any person, firm, or corporation, and the undersigned has carefully examined, is thoroughly familiar with, and has incorporated the requirements and specifications of the Bid Documents in this submitted Bid.

The Undersigned certifies that a full examination of the locations of the proposed work and the sources of supply of materials has been completed, and agrees to furnish all necessary labor, equipment and materials, fully understanding that any quantities shown herein are approximate only, and will fully complete all requirements provided herein within the same time limit specified in the Bid Documents as indicated above.

If the Undersigned is notified of the acceptance of this Bid by the County within ninety (90) consecutive calendar days of the submittal deadline for Bids, the Undersigned further agrees to execute a contract in accordance with the provisions of the Bid Documents.

The Undersigned further agrees that security in the form of a Bid Bond, certified or cashier's check in the amount of not less than five percent (5%) of Total Bid Price, payable to the Owner, accompanies this Bid; that the amount is not to be construed as a penalty, but as liquidated damages which said Owner will sustain by failure of the Undersigned to execute and deliver the Contract and Bond as provided in the Bid Documents; thereupon, the security shall become the property of the Owner. If this Bid is not accepted within ninety (90) consecutive calendar days of the submittal deadline for Bids, or if the Undersigned delivers the executed Contract, all required documents and the required Bond, as provided in the Bid Documents, the Security shall be returned to the Bidder within seven (7) business days of issuance of Notice to Proceed.

The undersigned pledges to provide the materials and services as specified in the Bid Documents barring delays due to strikes, fires, transportation difficulties or other causes unforeseeable and beyond the control of the Undersigned.

The Undersigned declares that the statements and representations made in this Bid are true in every respect and that the Bid is, in all respects, fair and made without collusion or fraud, and that no member of the St. Johns County Board, or any other agent or employee of the County, directly or indirectly, is interested in this Bid or in any profits expected to accrue therefrom.

CORPORATE/COMPANY

Full Legal Company Name: DBE MANAGEMENT LLC dba DBE UTILITY SERVICES (Seal)

By: _____ DUSTIN ERTLE - PRESIDENT
Signature of Authorized Representative (Name & Title typed or printed)

By: _____ _____
Signature of Authorized Representative (Name & Title typed or printed)

Address: 13387 BRYAN RD LOXAHATCHEE FL 33470

Telephone No.: (561) 508-3708 Fax No.: (561) 508-3713

Email Address for Authorized Company Representative: CLAMOUREUX@DBEHDD.COM & DERTLE@DBEUTILITYSERVICES.COM

Federal I.D. Tax Number: 20-1331070 DUNS #: 06-209-6703
(If applicable)

INDIVIDUAL

Name: _____
(Signature) (Name typed or printed) (Title)

Address: _____

Telephone No.: (___) _____ Fax No.: _____

Email Address: _____

Federal I.D. Tax Number: _____

Submittal Requirements:

Official County Bid Form, Attachments, and Bid Bond must be completed, along with a fully acknowledged copy of each Addendum applicable to this Bid and submitted with each copy of the Bid Proposal.

St. Johns County Board of County Commissioners

Purchasing Division

ADDENDUM #1

November 2, 2022

To: **Prospective Respondent**
Subject: **Bid No. 23-02; Installation of Forcemain from Wildwood Dr. to Lightsey Rd.**

This Addendum #1 is issued for further Respondent's information and is hereby incorporated into the Bid Documents. Each Respondent will ascertain before submitting a Proposal that he/she has received all Addenda; and **return an original copy of this signed Addendum with the submitted proposal** as provided in the Bid Documents.

Questions and Answers:

1. Is it up to the contractor/driller to determine the length of bores based on site conditions?
   Answer: The contractor/driller shall determine the length of the bore based on site conditions and shall coordinate proposed pit locations with SJCUD. Minimal deviation (+/- 25') from the shown bore lengths is anticipated.

THE PROPOSAL DUE DATE REMAINS November 9, 2022 AT 2:00 PM EST

Respondent Acknowledgment

Amy Blackwelder Carey 11/2/22
Signature and Date

Amy Blackwelder Carey, PM
Printed Name/Title

DBE Utility Services
Company Name (Print)

END OF ADDENDUM NO. 1

St. Johns County Board of County Commissioners

Purchasing Division

ADDENDUM #2

November 8, 2022

To: **Prospective Respondent**
Subject: **Bid No. 23-02; Installation of Forcemain from Wildwood Dr. to Lightsey Rd.**

This Addendum #2 is issued for further Respondent's information and is hereby incorporated into the Bid Documents. Each Respondent will ascertain before submitting a Bid Proposal that he/she has received all Addenda, and **return an original copy of this signed Addendum with the submitted proposal** as provided in the Bid Documents.

Clarifications/Revisions:

1. The submittal deadline for Bid Proposals is hereby extended to 2:00PM EST on Wednesday, November 16, 2022 due to the approaching Tropical Storm Nicole in our area.

Acknowledgment

11/8/22
Signature and Date

Amy Blackwelder Garey, PM
Printed Name/Title

DBE Utility Services
Company Name (Print)

END OF ADDENDUM NO. 2

BID NO: 23-02

ATTACHMENT "A"

ST. JOHNS COUNTY AFFIDAVIT

Bidder shall complete and submit a sworn statement as part of the submitted Bid. This sworn statement shall be an Affidavit in the following form, executed by an officer/principal of the Bidder, and shall be sworn to before a person who is authorized by law to administer oaths.

STATE OF FLORIDA

COUNTY OF PALM BEACH

The Undersigned authority, DUSTIN ERTLE ("Affiant"), who being duly sworn, deposes and states that he/she is the PRESIDENT (Title) of the Bidder DBE MANAGEMENT LLC dba DBE UTILITY SERVICES (Full Legal Name of Bidder) submitting the attached Bid for the services provided in the Bid Documents for Bid No: 23-02 INSTALLATION OF FORCEMAIN FROM WILDWOOD DR. TO LIGHTSEY RD., in St. Johns County, Florida.

The Affiant further states that no more than one Bid for the above-referenced project will be submitted from the Bidder, the Affiant, their firm or corporation under the same or different name, and that such Bidder has no financial interest in the firm of another Bidder for the same work. Affiant also states that neither he/she, the firm, association nor corporation of the Bidder has either directly or indirectly entered into any agreement, participated in any collusion, nor otherwise taken any action in restraint of free competitive bidding in connection with this firm's Bid on the above-described project. Furthermore, neither the firm nor any of its officers are barred from participating in public contract lettings in the State of Florida or any other state.

DATED this 9TH day of NOVMENER, 20 22.

Signature of Affiant

DUSTIN ERTLE - PRESIDENT
Printed Name & Title of Affiant

DBE MANAGEMENT LLC dba DBE UTILITY SERVICES
Full Legal Name of Bidder

Sworn to (or affirmed) and subscribed before me by means of ☒ physical presence or ☐ online notarization, this 9TH day of NOVEMBER, 20 22, by Affiant who is personally known to me or has produced PERSONALLY KNOWN as identification. Type and number of I.D. produced: _____

Cindy Noell Galt
Notary Public
My Commission Expires: 07/27/24

CINDY NOELL GALT NOTARY PUBLIC STATE OF FLORIDA My Comm. Expires July 27, 2024 No. HH015788

BIDDER MUST EXECUTE AND ATTACH THIS AFFADAVIT TO SUBMITTED BID.

BID NO: 23-02

ATTACHMENT "B"

CERTIFICATE AS TO CORPORATE PRINCIPAL

I, TAMMIE ALLOE, certify that I am the Secretary of the corporation named as Principal in the foregoing; that DUSTIN ERTLE, (Authorized Representative of Bidder) who signed the Bond(s) on behalf of the Bidder, was then PRESIDENT (Title) of said corporation; that I know his/her signature; and his/her signature thereto is genuine; and that said bond(s) was duly signed, sealed, and attested to on behalf of said corporation by authority of its governing body.

Signature of Secretary

DBE MANAGEMENT LLC dba DBE UTILITY SERVICES

Full Legal Name of Corporation (Bidder)

STATE OF FLORIDA

COUNTY OF PALM BEACH

Before and by me, a Notary Public duly commissioned, qualified and acting personally, being duly sworn upon oath by means of ☒ physical presence or ☐ online notarization, DUSTIN ERTLE (Authorized Representative of Bidder) states that he/she is authorized to execute the foregoing Bid Bond on behalf of the Bidder named therein in favor of St. Johns County, Florida.

Subscribed and sworn to me on this 9TH day of NOVEMBER, 2022, by the Authorized Representative of Bidder, who is personally known to me or has produced PERSONALLY KNOWN as identification. Type and Number of I.D. produced: _____.

CINDY NOELL GALT NOTARY PUBLIC STATE OF FLORIDA My Comm. Expires July 27, 2024 No. HH 015788

Cindy Noell Galt

Notary Public

My Commission Expires: 072724

(Attach Power of Attorney to original Bid Bond and Financial Statement of Surety Company)

BID NO: 23-02

ATTACHMENT "C"

LICENSE / CERTIFICATION LIST

Bidder shall list all **current** licenses and certifications held by the firm and/or Key Personnel of the Bidder. Failure to demonstrate any required licenses or certifications which are stated as a minimum qualification, shall be grounds for disqualification and removal from further consideration. A copy of each license or associated document(s) shall be attached to this form and submitted with the Bid.

License Name	License #	Issuing Agency	Expiration Date
State of Florida Business License			
FL Certified General Contractor's License			
FL Certified Underground Utility Contractor's License	CUC-1225812	STATE OF FLORIDA	08/31/2024
FDOT Pre-Qualification – 40 Underground Utilities (Water & Sewer)			

BID NO: 23-02

ATTACHMENT "D"

LIST OF PROPOSED SUB-CONTRACTORS / SUPPLIER LIST

Bidder shall submit any and all proposed sub-contractors and major material suppliers below for review/approval by the County. Bidder shall attach any and all licenses or certifications required for the proposed sub-contractor to perform the intended portion of the Work as stated below. All subcontractors and major materials suppliers are subject to approval of Owner.

Company Name	Division/Discipline	Primary Contact Name	Contact Number and Email Address
Self Perform-DBE	FL Certified Underground Utility Contractor	Amy Blackwelder Carney	amy@dbehdd.com (904)777-5593
Ferguson Waterworks	Pipe Material	Ryan Pugh	Ryan.pugh@Ferguson.com (904)545-2778
Cody Survey	Survey + asbuilts	Roy Flowers	roy@codysrvm.com (904)696-8840

BID NO: 23-02

ATTACHMENT "E"
ST. JOHNS COUNTY BOARD OF COUNTY COMMISSIONERS
CONFLICT OF INTEREST DISCLOSURE FORM

Project (BID) Number/Description: Bid No: 23-02 INSTALLATION OF FORCEMAIN FROM WILDWOOD DR. TO LIGHTSEY RD.

The term "conflict of interest" refers to situations in which financial or other considerations may adversely affect, or have the appearance of adversely affecting a Bidder's professional judgment in completing work for the benefit of St. Johns County ("County"). The bias such conflicts could conceivably impart may inappropriately affect the goals, processes, methods of analysis or outcomes desired by the County.

Contractors are expected to safeguard their ability to make objective, fair, and impartial decisions when performing work for the benefit of the County. Contractors, therefore must there avoid situations in which financial or other considerations may adversely affect, or have the appearance of adversely affecting the consultant's/contractor's professional judgement when completing work for the benefit of the County.

The mere appearance of a conflict may be as serious and potentially damaging as an actual distortion of goals, processes, methods of analysis or outcomes. Reports of conflicts based upon appearances can undermine public trust in ways that may not be adequately restored even when the mitigating facts of a situation are brought to light. Apparent conflicts, therefore, should be disclosed and evaluated with the same vigor as actual conflicts.

It is expressly understood that failure to disclose conflicts of interest as described herein may result in immediate disqualification from evaluation or immediate termination from work for the County.

Please check the appropriate statement:

☐ I hereby attest that the undersigned Bidder has no actual or potential conflict of interest due to any other clients, contracts, or property interests for completing work on the above referenced project.

☐ The undersigned Bidder, by attachment to this form, submits information which may be a potential conflict of interest due to other clients, contracts or property interests for completing work on the above referenced project.

Full Legal Name of Bidder: DBE MANAGEMENT LLC dba DBE UTILITY SERVICES

Authorized Representative(s):

Signature — DUSTIN ERTLE - PRESIDENT (Print Name/Title)

Signature — Print Name/Title

BID NO: 23-02

ATTACHMENT "F"

CERTIFICATE OF INSURANCE

INSERT CERTIFICATE OF INSURANCE HERE

Bidders shall provide certificates of insurance as part of their submittal package. Certificates of Insurance shall meet or exceed the requirements as described under Insurance.

Failure to provide proof of current insurance coverage or ability to obtain the required coverages may result in being deemed non-responsive and remove from further consideration.

(Attach or insert a copy of "Certificate of Insurance" here)

Attached →

Client#: 8325 DBEUTI

ACORD™ CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY) 11/7/22

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer any rights to the certificate holder in lieu of such endorsement(s).

PRODUCER ZERVOS GROUP, INC. 24724 Farmbrook P O Box 2067 Southfield, MI 48037-2067	CONTACT NAME: Nyssa Pace PHONE (A/C, No, Ext): 248 355-4411 FAX (A/C, No): 248 355-2175 E-MAIL ADDRESS: nyssa@zervosgroup.com
INSURED DBE MANAGEMENT LLC DBA DBE Utility Services 13387 Bryan Road Loxahatchee Groves, FL 33470-4908	INSURER(S) AFFORDING COVERAGE / NAIC # INSURER A : Zurich American Insurance Company 16535 INSURER B : Sirius International Insurance Corporat 38776 INSURER C : INSURER D : INSURER E : INSURER F :

COVERAGES CERTIFICATE NUMBER: REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X COMMERCIAL GENERAL LIABILITY	X	X	434266900	03/31/2022	03/31/2023	EACH OCCURRENCE	$2,000,000
	CLAIMS-MADE X OCCUR						DAMAGE TO RENTED PREMISES (Ea occurrence)	$100,000
	X Contractual						MED EXP (Any one person)	$15,000
	X X, C & U						PERSONAL & ADV INJURY	$2,000,000
	GEN'L AGGREGATE LIMIT APPLIES PER:						GENERAL AGGREGATE	$4,000,000
	POLICY X PRO-JECT X LOC						PRODUCTS - COMP/OP AGG	$4,000,000
	OTHER:							$
A	AUTOMOBILE LIABILITY	X	X	445830100	03/31/2022	03/31/2023	COMBINED SINGLE LIMIT (Ea accident)	$2,000,000
	X ANY AUTO						BODILY INJURY (Per person)	$
	OWNED AUTOS ONLY / SCHEDULED AUTOS						BODILY INJURY (Per accident)	$
	X HIRED AUTOS ONLY / X NON-OWNED AUTOS ONLY						PROPERTY DAMAGE (Per accident)	$
								$
	UMBRELLA LIAB OCCUR						EACH OCCURRENCE	$
	EXCESS LIAB CLAIMS-MADE						AGGREGATE	$
	DED RETENTION $							$
A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY Y/N	N/A	X	445830200	03/31/2022	03/31/2023	X PER STATUTE OTH-ER	
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? N (Mandatory In NH)						E.L. EACH ACCIDENT	$1,000,000
	If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - EA EMPLOYEE	$1,000,000
							E.L. DISEASE - POLICY LIMIT	$1,000,000
A	L&R Equipment			CPP4198317	08/13/2022	08/13/2023	$300,000 Max Each Item	
B	Poll & Prof			CPPLS0002329	03/31/2022	03/31/2023	$5,000,000/$5,000,000	
A	Install Floater			CPP4198317	08/13/2022	08/13/2023	$500,000	

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

St. Johns County, its elected officials, officers, employees, agents, and representatives are included as additional insureds with respects to the General Liability and Auto Liability policies, when required by written contract.

CERTIFICATE HOLDER

St. Johns County, a political subdivision of the State of FL
Attn: Purchasing Division 500
San Sebastian View
Saint Augustine, FL 32084

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

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NAP

BID NO: 23-02

ATTACHMENT "G"
CONTRACTOR'S QUALIFICATIONS FORM

Bidder certifies, and has attached to the submitted Bid proof of current and valid licensure to perform the Work in the State of Florida and St. Johns County, and as specified in the Bid Documents. Any material misrepresentation, as determined by the County, shall result in disqualification.

By: DBE MANAGEMENT LLC dba DBE UTILITY SERVICES
Full Legal Name of Bidder

Authorized Representative Signature

11/09/2022
Date

Contractor's Project Experience

Bidder must be fully licensed to do business in the State of Florida and hold a current Certified General Contractor's or Certified Underground Utility Contractor's license at the time the bid is due. Bidders must have successfully completed, as a Prime Contractor or Sub-Contractor, at least three (3) projects, in the past five (5) years, of similar type, size with FDOT right of ways and dollar value of the project described herein.

Contractor's Project Experience Details Project No. 1	
Name of Project:	Busch Drive to T-Line 36-inch Force Main
Project Manager Name:	Dustin Ertle | Dustin White
Superintendent Name:	Daniel Rodriguez
Project Description:	Self-performed installation of 3,600 LF of 30-inch PVC by open cut and 6,321 LF of 36-inch HDPE by HDD methods in 3 drill shots. The Work was located within Anheuser Busch property easements, FDOT Busch Drive ROW, and FDOT I-95 Limited Access ROW. The pipeline ran parallel to I-95 and connected to an existing (dry) 24-inch Force Main located within the JEA T-Line corridor.
Owner Information	
Name:	JEA
Address:	21 West Church Street, Jacksonville, FL 32202
Contact Person:	Ms. Beth DiMeo, P.E.
Telephone Number:	904.665.6000
Engineer/Architect Information	
Name:	Jacobs
Address:	245 Riverside Ave., Ste. 300, Jacksonville, FL 32202
Contact Person:	Christine Ellenberger, P.E.

Contractor's Project Experience Details Project No. 1	
Telephone Number:	904.636.5432
Contract Dates	
Started:	2.28.18
Original Contractual Completion:	11.30.18
Final Contractual Completion:	5.9.19
Actual Completion:	5.3.19
Contract Value	
Original Contract Value:	$8,550,687
Final Contract Value:	$8,579,853 with change orders
Value of Change Orders to Date:	$29,166
Value of Outstanding Claims to Date:	$0
Bonding Company Information	
Name:	Old Republic Surety Company
Address:	445 S. Moorland Road, Ste. 200, Brookfield, WI 53005
Contact Person:	Angelo Zervos
Telephone Number:	248.355.4411 | angelo@zervosgroup.com
Major Subcontractor Information	
Name:	N/A
Address:	
Contact Person:	
Telephone Number:	
Name:	
Address:	
Contact Person:	
Telephone Number:	
Name:	
Address:	
Contact Person:	
Telephone Number:	

Contractor's Project Experience Details Project No. 2	
Name of Project:	Emergency Redundant 48-inch Force Main Replacement Progressive Design-Build
Project Manager Name:	Dustin Ertle | Dustin White
Superintendent Name:	Daniel Rodriguez
Project Description:	Progressive Design-Build for trenchless construction of 17,000 LF of 48-inch DR-13.5 HDPE. The work was installed in eight (8) HDD shots, including terrestrial & subaqueous crossings. Installations were made mostly along residential streets, but also beneath Sunrise Blvd, an FDOT road otherwise known as SR-838, requiring extensive MOT and coordination with stakeholders. Minimum drill shot was 1,300 LF and maximum was 3,450 LF. DBE was the trenchless subcontractor on the team.
Owner Information	
Name:	City of Fort Lauderdale
Address:	100 N. Andrews Ave, Fort Lauderdale, FL 33301
Contact Person:	c/o Prime Contractor: Murphy Pipeline Contractors, Inc. - Mr. Richard Crow
Telephone Number:	954.254.7898 | rcrow@teamipr.com
Engineer/Architect Information	
Name:	Chen Moore & Associates
Address:	500 W. Cypress Creek Road, Ste. 630, Fort Lauderdale, FL 33309
Contact Person:	Mr. Daniel Davila, P.E.
Telephone Number:	772.361.9759
Contract Dates	
Started:	April 2020
Original Contractual Completion:	April 2021
Final Contractual Completion:	April 2021
Actual Completion:	January 2021
Contract Value	
Original Contract Value:	$8,000,000
Final Contract Value:	$8,000,000
Value of Change Orders to Date:	n/a
Value of Outstanding Claims to Date:	n/a
Bonding Company Information	
Name:	Old Republic Surety Company
Address:	445 S. Moorland Road, Ste. 200, Brookfield, WI 53005
Contact Person:	Angelo Zervos
Telephone Number:	248.355.4411 | angelo@zervosgroup.com

Contractor's Project Experience Details Project No. 2	
Major Subcontractor Information	
Name:	DBE Management d/b/a DBE Utility Services (HDD subcontractor to Murphy Pipeline)
Address:	13387 Bryan Road, Loxahatchee, FL 33470
Contact Person:	Dustin Ertle
Telephone Number:	561.508.3708
Name:	
Address:	
Contact Person:	
Telephone Number:	
Name:	
Address:	
Contact Person:	
Telephone Number:	

Contractor's Project Experience Details Project No. 3	
Name of Project:	Floramar Terrace Force Main Replacement
Project Manager Name:	Amy Blackwelder Ganey
Superintendent Name:	Daniel Rodriguez
Project Description:	Installation of approximately 2,500 LF of 12-inch force main by conventional trenching and HDD methods. The work included a new pipeline that transitioned from the sidewalk easement to the median of the roadway, had a new connection to the existing lift station, grout abandonment of the old main, and a final tie in at US 41 / SR-55 within the FDOT easement.
Owner Information	
Name:	Florida Governmental Utility Authority (FGUA)
Address:	280 Wekiva Springs Road, Protegrity Plaza, Ste. 2070, Longwood, FL 32779
Contact Person:	John Carlson, P.E. Capital Project Manager
Telephone Number:	407.629.6900 x 135 | jcarlson@govmserv.com
Engineer/Architect Information	
Name:	AECOM
Address:	7650 West Courtney Campbell Causeway, Tampa, FL 33607
Contact Person:	Mr. Bozhidar V. Handjiev, P.E.
Telephone Number:	813.286.1711 | bozho.handjiev@aecom.com
Contract Dates	
Started:	NTP 12/21
Original Contractual Completion:	6/22
Final Contractual Completion:	9/22 (65 day change order - material lead time)
Actual Completion:	7/22
Contract Value	
Original Contract Value:	$642,875
Final Contract Value:	$576,323.75
Value of Change Orders to Date:	$8,448.75
Value of Outstanding Claims to Date:	N/A
Bonding Company Information	
Name:	Old Republic Surety Company
Address:	445 S. Moorland Road, Ste. 200, Brookfield, WI 53005
Contact Person:	Angelo Zervos
Telephone Number:	248.355.4411 | angelo@zervosgroup.com

Contractor's Project Experience Details Project No. 3	
Major Subcontractor Information	
Name:	N/A
Address:	
Contact Person:	
Telephone Number:	
Name:	
Address:	
Contact Person:	
Telephone Number:	
Name:	
Address:	
Contact Person:	
Telephone Number:	

Additional Questions

Bidder shall attach hereto and submit any and all current work in progress that is similar to the Work specified in the Bid Documents. The Bidder shall provide, at a minimum, the following: Project Information (title, duration, value, status, anticipated completion), and Owner Information (name, location contact person, phone number, email address).

DBE UTILITY SERVICES

13387 Bryan Rd. • Loxahatchee, FL 33470 • 561.508.3708 • www.dbehdd.com

DIRECTIONAL BORING SERVICES

Licensed, Bonded, and Fully Insured with Excellent Safety Record

November 6, 2022

Bid No. 23-02 Contractor's Qualification Form | Additional Questions

All Current Work in Progress that is Similar to the Work Specified in the Bid Documents

- New Reclaimed Water Main, Master Force Main Replacement, & Pollard Road WTP: Phase I Water Main
  March 2021 – January 2023 (includes added time)
  $13,033,640.59 (includes change orders)
  Status: In progress
  Anticipated Completion: December 2022
  Owner: City of Winter Haven
  401 6th Street S.W., Winter Haven, FL 33880
  c/o Mr. Jeffrey Crowley, PE | Engineer of Record | Jones Edmunds
  813.258.0703 | jcrowley@jonesedmunds.com
  Installation of 52,900 LF of 16-inch WM and 24-inch parallel Reclaim & Force Main pipelines by a combination of open cut and HDD methods.

- I-16 Regional Water & Sewer Improvements – Bryan County, GA
  November 2022 – May 2023 (anticipated)
  $1,545,401.25
  Status: In progress
  Anticipated HDD Completion: May 2023
  Owner: Legacy Water Group (Prime Contractor on behalf of Owner)
  10130 Bob Williams Parkway, Covington, GA 30014
  c/o Mr. Nolan Young, Project Manager
  678.712.2132 | nyoung@legacywatergroup.com
  DBE is the HDD subcontractor to Legacy Water Group for the installation of 9,972 LF of 18-inch Fusible PVC force main and 618 LF of 24-inch Fusible PVC casing pipe. The work includes multiple drill shots of varying lengths, with a 4,000 LF subaqueous crossing of the Ogeechee River.

- City of Stuart Sailfish Ball Field Force Main Replacement Project
  September 2022 – June 2023 (anticipated)
  $1,781,175.00
  Status: In progress
  Anticipated Completion: Ph 1: March 2023, Ph 2: June 2023
  Owner: City of Stuart, FL
  121 SW Flagler Ave., Stuart, FL 34994
  Mr. Marc Rogolino, Project Manager
  772.221.4700 | mrogolino@ci.stuart.fl.us
  Installation of 690 LF of 20" & 24" PVC force main by open cut and 2,230 LF of 20" HDPE by HDD methods.

BID NO: 23-02

ATTACHMENT "H"

DRUG-FREE WORKPLACE FORM

The undersigned firm, in accordance with Florida Statute 287.087 hereby certifies that

DBE MANAGEMENT LLC dba DBE UTILITY SERVICES does:

Name of Firm

1. Publish a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession or use of a controlled substance is prohibited in the workplace and specifying the actions that will be taken against employees for violations of such prohibition.

2. Inform employees about the danger of drug abuse in the workplace, the business' policy of maintaining a drug-free workplace, any available drug counseling, rehabilitation, employee assistance programs and the penalties that may be imposed upon employees for drug abuse violations.

3. Give each employee engaged in providing the contractual services that are described in St. Johns County's request for proposals to provide bond underwriter services a copy of the statement specified in paragraph 1.

4. In the statement specified in paragraph 1, notify the employees that, as a condition of working on the contractual services described in paragraph 3, the employee will abide by the terms of the statement and will notify the employer of any conviction of, or plea of guilty or nolo contendere to, any violation of Florida Statute 893, as amended, or of any controlled substance law of the United States or any state, for a violation occurring in the workplace no later than five (5) days after such conviction or plea.

5. Impose a sanction on, or require the satisfactory participation in a drug abuse assistance or rehabilitation program if such is available in the employee's community by, any employee who is so convicted.

6. Consistent with applicable provisions with State or Federal law, rule, or regulation, make a good faith effort to continue to maintain a drug-free workplace through implementation of paragraphs 1 through 5.

As the person authorized to sign this statement, I certify that this firm complies fully with the above requirements.

Signature

11/09/2022

Date

Bid No: 23-02

ATTACHMENT "I"

CLAIMS, LIENS, LITIGATION HISTORY

(Complete and Submit)

1. Within the past 7 years, has your organization filed suit or a formal claim against a project owner (as a prime or subcontractor) or been sued by or had a formal claim filed by an owner, subcontractor or supplier resulting from a construction dispute? Yes_____ No_X_____ If yes, please attach additional sheet(s) to include:

   Description of every action Captions of the Litigation or Arbitration
   Amount at issue: _____ Name (s) of the attorneys representing all parties:

   Amount actually recovered, if any: _____
   Name(s) of the project owner(s)/manager(s) to include address and phone number:

2. List all pending litigation and or arbitration. NONE

3. List and explain all litigation and arbitration within the past seven (7) years - pending, resolved, dismissed, etc.
   NONE

4. Within the past 7 years, please list all Liens, including Federal, State and Local, which have been filed against your Company. List in detail the type of Lien, date, amount and current status of each Lien._____
   NONE

5. Have you ever abandoned a job, been terminated or had a performance/surety bond called to complete a job?
   Yes_____ No_X_____ If yes, please explain in detail: _____

6. For all claims filed against your company within the past five-(5) years, have all been resolved satisfactorily with final judgment in favor of your company within 90 days of the date the judgment became final? Yes _____ No_____
   If no, please explain why? NONE

7. List the status of all pending claims currently filed against your company: NONE

Liquidated Damages

1. Has a project owner ever withheld retainage, issued liquidated damages or made a claim against any Performance and Payment Bonds? Yes_____ No_X_____ If yes, please explain in detail: _____

(Use additional or supplemental pages as needed)

Bid No: 23-02

ATTACHMENT "J"

E-VERIFY AFFIDAVIT

Contract No.: Bid No: 23-02 INSTALLATION OF FORCEMAIN FROM WILDWOOD DR. TO LIGHTSEY RD.

STATE OF FLORIDA
COUNTY OF PALM BEACH

I, DUSTIN ERTLE (hereinafter "Affiant"), being duly authorized by and on behalf of DBE MANAGEMENT LLC dba DBE UTILITY SERVICES (hereinafter "Contractor") hereby swears or affirms as follows:

1. Contractor understands that E-Verify, authorized by Illegal Immigration Reform and Immigrant Responsibility Act of 1996 (IIRIRA), is a web-based system provided by the United States Department of Homeland Security, through which employers electronically confirm the employment eligibility of their employees.

2. For the duration of Contract No. Bid NO. 23-02 (hereinafter "Agreement"), in accordance with section 448.095, F.S., Contractor shall utilize the U.S. Department of Homeland Security's E-Verify system to verify the employment eligibility of all new employees hired by the Contractor and shall expressly require any subcontractors performing work or providing services pursuant to the Agreement to likewise utilize the U.S. Department of Homeland Security's E-Verify system to verify the employment eligibility of all new employees hired by the subcontractor.

3. Contractor shall comply with all applicable provisions of section 448.095, F.S., and will incorporate in all subcontracts the obligation to comply with section 448.095, F.S.

4. Contractor understands and agrees that its failure to comply with all applicable provisions of section 448.095, F.S. or its failure to ensure that all employees and subcontractors performing work under the Agreement are legally authorized to work in the United States and the State of Florida constitute a breach of the Agreement for which St. Johns County may immediately terminate the Agreement without notice and without penalty. The Contractor further understands and agrees that in the event of such termination, Contractor shall be liable to the St. Johns County for any costs incurred by the St. Johns County resulting from Contractor's breach.

DATED this 9TH day of NOVEMBER, 20 22.

Signature of Affiant

DUSTIN ERTLE
Printed Name of Affiant

PRESIDENT
Printed Title of Affiant

DBE MANAGEMENT LLC dba DBE UTILITY SERVICES
Full Legal Name of Consultant/Contractor

Sworn to (or affirmed) and subscribed before me by means of ☒ physical presence or ☐ online notarization, this 9TH day of NOVEMBER, 20 22, by DUSTIN ERTLE {*insert name and title of Affiant*}, who is personally known to me or has produced PERSONALLY KNOWN as identification.

Notary Public
My Commission Expires: 07/27/2024

CINDY NOELL GALT NOTARY PUBLIC STATE OF FLORIDA My Comm. Expires July 27, 2024 No. HH 015768

Bid No: 23-02

ATTACHMENT "K"

LOCAL PREFERENCE

Any Respondent that meets the criteria of a Local Business, in accordance with Section 16.3 of the SJC Purchasing Policy, must complete and sign this Attachment "K to indicate their qualification to receive local preference. All required documentation to demonstrate that the Respondent meets all qualification criteria as a local business must be included in the submitted proposal/submittal with this Attachment "K".

In order to qualify for local preference Respondent must provide sufficient documentation to demonstrate:

- A physical, brick and mortar place of business located within the geographic boundaries of St. Johns County, with a valid mailing address, in an area zoned for the conduct of such business, from which the Supplier has operated or performed business on a day-to-day basis that is substantially similar to those specified in the solicitation for a period of at least one (1) calendar year prior to the issuance of the solicitation. No PO Boxes shall be accepted.

- Local address above must be registered as the Supplier's principal place of business with the Divisions of Corporations Florida Department of State for at least one (1) calendar year prior to the issuance of this BID.

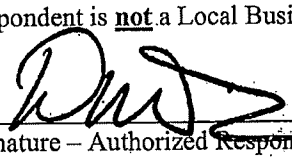
- Submit current and valid Local Business Tax Receipt, and must have Local Business Tax Receipts issued by the St. Johns County Tax Collector from at least one (1) calendar year prior to issuance of this BID.

- Must qualify as a local business as shown above **AND** self-perform a minimum of fifty percent (50%) of all services under the awarded Contract, or must have a minimum of fifty percent (50%) of all services performed by qualified local businesses as sub-contractors or sub-consultants.

If qualifying for local preference through the use of qualified local sub-contractors or sub-consultants, Respondent must submit all required documentation to demonstrate the above requirements of all proposed sub-contractors and sub-consultants for local preference consideration with the submitted proposal.

Respondent is a Local Business as defined in Section 16.3, SJC Purchasing Policy _____

Respondent is **not** a Local Business as defined in Section 16.3, SJC Purchasing Policy X



Signature – Authorized ~~Respondent~~ Representative

DUSTIN ERTLE - PRESIDENT

Printed Name & Title

11/09/2022

Date of Signature

e. **BID NO: 23-02**

BID BOND Bond Number 77972-INT-22-16

STATE OF Florida
COUNTY OF ST. JOHNS

KNOW ALL PERSONS BY THESE PRESENTS, that we, the undersigned DBE MANAGEMENT LLC dba DBE UTILITY SERVICES (Full Legal Name of Bidder) as Principal, at 13387 BRYAN RD, LOXAHATCHEE FL 33470 (Address) and Atlantic Specialty Insurance Company as Surety, hereby hold and firmly bind ourselves, our heirs, executors, administrators, and successors and assigns, jointly and severally, by these presents, unto St. Johns County, Florida, as Obligee, in the penal sum of five percent (5%) of the Total Bid Price, ~~XXXX

BID NO: 23-02

WITNESSES:

PRINCIPAL:

DBE MANAGEMENT LLC dba DBE UTILITY SERVICES
Full Legal Name of Principal

Signature of Authorized Officer

Dustin Ertle - President
Printed Name & Title of Signing Officer

13387 BRYAN RD
Mailing Address

LOXAHATCHEE, FL 33470
City, State, Zip Code

Clamoureux@dbehdd.com & Dertle@dbeutilityservices.com
Email Address of Signing Officer

SURETY:

Atlantic Specialty Insurance Company
Full Legal Name of Surety

Signature of Authorized Surety Agent

Mariya Leonidov, Attorney-In-Fact, FL Nonresident Agent, License Number W334270

48 South Service Road
Mailing Address of Local Agency

Melville, NY 11747
City, State, Zip Code

mariya.leonidov@marsh.com
Email Address of Surety Agent

Attorney-In-Fact Signature

intact INSURANCE

Power of Attorney

Surety Bond No: 77972-INT-22-16

Principal: DBE MANAGEMENT LLC dba DBE UTILITY SERVICES

Obligee: St. Johns County

KNOW ALL MEN BY THESE PRESENTS, that ATLANTIC SPECIALTY INSURANCE COMPANY, a New York corporation with its principal office in Plymouth, Minnesota, does hereby constitute and appoint: Mariya Leonidov, each individually if there be more than one named, its true and lawful Attorney-in-Fact, to make, execute, seal and deliver, for and on its behalf as surety, any and all bonds, recognizances, contracts of indemnity, and all other writings obligatory in the nature thereof; provided that no bond or undertaking executed under this authority shall exceed in amount the sum of: **unlimited** and the execution of such bonds, recognizances, contracts of indemnity, and all other writings obligatory in the nature thereof in pursuance of these presents, shall be as binding upon said Company as if they had been fully signed by an authorized officer of the Company and sealed with the Company seal. This Power of Attorney is made and executed by authority of the following resolutions adopted by the Board of Directors of ATLANTIC SPECIALTY INSURANCE COMPANY on the twenty-fifth day of September, 2012:

Resolved: That the President, any Senior Vice President or Vice-President (each an "Authorized Officer") may execute for and in behalf of the Company any and all bonds, recognizances, contracts of indemnity, and all other writings obligatory in the nature thereof, and affix the seal of the Company thereto; and that the Authorized Officer may appoint and authorize an Attorney-in-Fact to execute on behalf of the Company any and all such instruments and to affix the Company seal thereto; and that the Authorized Officer may at any time remove any such Attorney-in-Fact and revoke all power and authority given to any such Attorney-in-Fact.

Resolved: That the Attorney-in-Fact may be given full power and authority to execute for and in the name and on behalf of the Company any and all bonds, recognizances, contracts of indemnity, and all other writings obligatory in the nature thereof, and any such instrument executed by any such Attorney-in-Fact shall be as binding upon the Company as if signed and sealed by an Authorized Officer and, further, the Attorney-in-Fact is hereby authorized to verify any affidavit required to be attached to bonds, recognizances, contracts of indemnity, and all other writings obligatory in the nature thereof.

This power of attorney is signed and sealed by facsimile under the authority of the following Resolution adopted by the Board of Directors of ATLANTIC SPECIALTY INSURANCE COMPANY on the twenty-fifth day of September, 2012:

Resolved: That the signature of an Authorized Officer, the signature of the Secretary or the Assistant Secretary, and the Company seal may be affixed by facsimile to any power of attorney or to any certificate relating thereto appointing an Attorney-in-Fact for purposes only of executing and sealing any bond, undertaking, recognizance or other written obligation in the nature thereof, and any such signature and seal where so used, being hereby adopted by the Company as the original signature of such officer and the original seal of the Company, to be valid and binding upon the Company with the same force and effect as though manually affixed.

IN WITNESS WHEREOF, ATLANTIC SPECIALTY INSURANCE COMPANY has caused these presents to be signed by an Authorized Officer and the seal of the Company to be affixed this twenty-seventh day of April, 2020.

ATLANTIC SPECIALTY INSURANCE COMPANY CORPORATE SEAL 1986 NEW YORK

By _____

Paul J. Brehm, Senior Vice President

STATE OF MINNESOTA
HENNEPIN COUNTY

On this twenty-seventh day of April, 2020, before me personally came Paul J. Brehm, Senior Vice President of ATLANTIC SPECIALTY INSURANCE COMPANY, to me personally known to be the individual and officer described in and who executed the preceding instrument, and he acknowledged the execution of the same, and being by me duly sworn, that he is the said officer of the Company aforesaid, and that the seal affixed to the preceding instrument is the seal of said Company and that the said seal and the signature as such officer was duly affixed and subscribed to the said instrument by the authority and at the direction of the Company.

ALISON DWAN NASH-TROUT
NOTARY PUBLIC - MINNESOTA
My Commission Expires
January 31, 2025

_____

Notary Public

I, the undersigned, Secretary of ATLANTIC SPECIALTY INSURANCE COMPANY, a New York Corporation, do hereby certify that the foregoing power of attorney is in full force and has not been revoked, and the resolutions set forth above are now in force.

Signed and sealed. Dated 3rd day of November, 2022

ATLANTIC SPECIALTY INSURANCE COMPANY CORPORATE SEAL 1986 NEW YORK

_____

Kara Barrow, Secretary

Please direct bond verifications to surety@intactinsurance.com

[intact] specialty solutions INSURANCE

Atlantic Specialty Insurance Company

Period Ended 12/31/2021

Dollars displayed in thousands

Admitted Assets	
Investments:	
Bonds	$ 1,827,267
Preferred Stocks	-
Common Stocks	907,728
Mortgage Loans	-
Real Estate	-
Contract Loans	-
Derivatives	-
Cash, Cash Equivalents & Short Term Investments	174,241
Other Investments	20,131
Total Cash & Investments	2,929,367
Premiums and Considerations Due	288,964
Reinsurance Recoverable	24,105
Receivable from Parent, Subsidiary or Affiliates	56,353
All Other Admitted Assets	59,690
Total Admitted Assets	3,358,479

Liabilities and Surplus	
Liabilities	
Loss Reserves	$ 1,012,842
Loss Adjustment Expense Reserves	307,403
Total Loss & LAE Reserves	1,320,246
Unearned Premium Reserve	655,993
Total Reinsurance Liabilities	24,180
Commissions, Other Expenses, and Taxes due	63,766
Derivatives	-
Payable to Parent, Subs or Affiliates	-
All Other Liabilities	442,340
Total Liabilities	2,506,525
Capital and Surplus	
Common Capital Stock	9,001
Preferred Capital Stock	-
Surplus Notes	-
Unassigned Surplus	165,606
Other Including Gross Contributed	677,347
Capital & Surplus	851,954
Total Liabilities and C&S	3,358,479

State of Minnesota
County of Hennepin

I, Kara Barrow, Secretary of Atlantic Specialty Insurance Company do hereby certify that the foregoing statement is a correct exhibit of the assets and liabilities of the said Company, on the 31st day of December, 2021, according to the best of my information, knowledge and belief.

Secretary

Subscribed and sworn to, before me, a Notary Public of the State of Minnesota on this 14th day of March, 2022.

Notary Public

KERRI RIECHERS
Notary Public
Minnesota
My Commission Expires January 31, 2025

My Commission Expires January 31, 2025

Ron DeSantis, Governor

Melanie S. Griffin, Secretary

Florida dbpr

STATE OF FLORIDA
DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION

CONSTRUCTION INDUSTRY LICENSING BOARD

THE UNDERGROUND UTILITY & EXCAVATION CO. HEREIN IS CERTIFIED UNDER THE PROVISIONS OF CHAPTER 489, FLORIDA STATUTES

ERTLE, JAMIE
DBE UTILITY SERVICES
13313 BRYAN RD
LOXAHATCHEE FL 33470

LICENSE NUMBER: CUC1225812

EXPIRATION DATE: AUGUST 31, 2024

Always verify licenses online at MyFloridaLicense.com

Do not alter this document in any form.

This is your license. It is unlawful for anyone other than the licensee to use this document.

2021 FLORIDA PROFIT CORPORATION ANNUAL REPORT

FILED
Apr 30, 2021
Secretary of State
7344250302CC

DOCUMENT# P04000088463

Entity Name: D.B.E. MANAGEMENT, INC.

Current Principal Place of Business:

13313 BRYAN RD
LOXAHATCHEE, FL 33470

Current Mailing Address:

13387 BRYAN RD
LOXAHATCHEE, FL 33470 US

FEI Number: 20-1331070

Certificate of Status Desired: Yes

Name and Address of Current Registered Agent:

ERTLE, DUSTIN B
13313 BRYAN RD
LOXAHATCHEE, FL 33470 US

The above named entity submits this statement for the purpose of changing its registered office or registered agent, or both, in the State of Florida.

SIGNATURE: _____

Electronic Signature of Registered Agent — Date

Officer/Director Detail :

Title	PT	Title	ASST. SECRETARY
Name	ERTLE, DUSTIN B	Name	ALLOE, TAMMIE A
Address	13313 BRYAN RD	Address	13387 BRYAN RD
City-State-Zip:	LOXAHATCHEE FL 33470	City-State-Zip:	LOXAHATCHEE FL 33470

I hereby certify that the information indicated on this report or supplemental report is true and accurate and that my electronic signature shall have the same legal effect as if made under oath; that I am an officer or director of the corporation or the receiver or trustee empowered to execute this report as required by Chapter 607, Florida Statutes; and that my name appears above, or on an attachment with all other like empowered.

SIGNATURE: DUSTIN ERTLE PRESIDENT 04/30/2021

Electronic Signature of Signing Officer/Director Detail — Date

L21000300514

(Requestor's Name)

(Address)

(Address)

(City/State/Zip/Phone #)

☐ PICK-UP ☐ WAIT ☐ MAIL

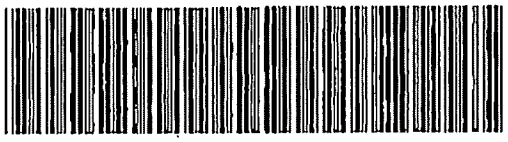
(Business Entity Name)

(Document Number)

Certified Copies _____ Certificates of Status _____

Special Instructions to Filing Officer:

Office Use Only



900369100589

FILED
2021 JUN 29 AM 9:51
SECRETARY OF STATE
TALLAHASSEE, FL

2021 JUL 29 PM 4:19

COGENCYGLOBAL

115 N CALHOUN ST., STE. 4
TALLAHASSEE, FL 32301
P: 866.625.0838
F: 866.625.0839
COGENCYGLOBAL.COM

Account#: I20000000088

Date: 06/29/2021

Name: **Marcel Ogbonna-Amu**

Reference #: **1412964**

Entity Name: **D.B.E. MANAGEMENT, LLC**

- [x] Articles of Incorporation/Authorization to Transact Business
- [ ] Amendment
- [ ] Change of Agent
- [ ] Reinstatement
- [x] Conversion
- [ ] Merger
- [ ] Dissolution/Withdrawal
- [ ] Fictitious Name
- [ ] Other _____

ANY ISSUES, CALL MARCEL:

(518) 213 - 0826

Thank you!

Authorized Amount: **$150.00**

Signature: Marcel Ogbonna-Amu

FILED

2021 JUN 29 AM 9:52

SECRETARY OF STATE
TALLAHASSEE, FL

ARTICLES OF CONVERSION
FOR
"OTHER BUSINESS ENTITY"
INTO
FLORIDA LIMITED LIABILITY COMPANY

This Articles of Conversion and the attached Articles of Organization are submitted to convert the following "Other Business Entity" into a Florida Limited Liability Company in accordance with Section 605.1045, Florida Statutes:

1. The name of the "Other Business Entity" immediately prior to the filing of this Articles of Conversion is D.B.E. MANAGEMENT, INC. (the "Corporation").

2. The "Other Business *Entity*" is a Florida profit corporation first incorporated under the laws of the State of Florida effective June 7, 2004 (Document No.: P04000088463). The "Other Business Entity" currently exists on the official records of the jurisdiction under which it is currently incorporated.

3. The "Other Business Entity's" principal office address is 3313 Bryan Road, Loxahatchee, Florida 33470.

4. The name of the Florida Limited Liability Company as set forth in the attached Articles of Organization is: D.B.E. MANAGEMENT, LLC.

5. The conversion is permitted by the applicable law(s) governing the Corporation and the conversion complies with such law(s) and the requirements of section 605.1043, F.S., in effecting the conversion.

6. The plan of conversion was approved by the converting Corporation in accordance with Chapter 607, F.S.

7. This conversion shall be effective upon filing of this Articles of Conversion with the Secretary of State of the State of Florida.

8. The "Converted or Other Business Entity" has agreed to pay any shareholders having appraisal rights the amount to which they are entitled under ss. 605.1006, 605.1061-605.1072, Florida Statutes.

[SIGNATURE PAGE FOLLOWS]

IN WITNESS WHEREOF, this Articles of Conversion is signed effective as of the 29th day of June, 2021.

LIMITED LIABILITY COMPANY:

D.B.E. MANAGEMENT, LLC

/s/ Dustin B. Ertle
By:_____
Name: Dustin B. Ertle
Title: Manager

OTHER BUSINESS ENTITY:

D.B.E. MANAGEMENT, INC.

/s/ Dustin B. Ertle
By:_____
Name: Dustin B. Ertle
Title: President

FILED

2021 JUN 29 AM 9:52

SECRETARY OF STATE
TALLAHASSEE, FL

ARTICLES OF ORGANIZATION
FOR
D.B.E. MANAGEMENT, LLC

(A Florida Limited Liability Company)

The undersigned, for the purpose of forming a limited liability company under the laws of the State of Florida, pursuant to the Florida Revised Limited Liability Company Act (the "Act"), hereby adopts the following Articles of Organization:

ARTICLE 1
NAME

The name of the Limited Liability Company is D.B.E. MANAGEMENT, LLC (the "Company").

ARTICLE 2
DURATION

The Company shall exist on the date of filing of these Articles with the Secretary of State of the State of Florida. The duration of the Company shall be perpetual.

ARTICLE 3
NATURE OF BUSINESS

The Company is organized for the purpose of transacting any and all lawful business permitted under the Act.

ARTICLE 4
ADDRESS

The initial principal office address and mailing address of the Company is 13313 Bryan Road, Loxahatchee, Florida 33470.

ARTICLE 5
INITIAL REGISTERED AGENT AND REGISTERED OFFICE

The street address of the initial registered office of the Company is 13313 Bryan Road, Loxahatchee, Florida 33470, and the name of the initial registered agent of the Company at that address is Dustin B. Ertle.

ARTICLE 6
MEMBERSHIP CERTIFICATES

Each member's interest in the Company may be evidenced by a membership participation or unit certificate. No member of the Company may transfer, sell, or assign its membership interest in the Company to any other person except as provided for in the Company's Operating Agreement.

ARTICLE 7
MANAGEMENT

The Company shall be manager-managed in accordance with the Company's Operating Agreement. The initial managers of the company shall be:

Dustin B. Ertle
13313 Bryan Road
Loxahatchee, Florida 33470

ARTICLE 9
AMENDMENT

The company reserves the right to amend or repeal any provision contained in these Articles of Organization, and any right conferred upon the members is subject to this reservation.

IN WITNESS WHEREOF the undersigned has executed these Articles this 29th day of June, 2021.

/s/ Dustin B. Ertle

Dustin B. Ertle, Authorized Person

(In accordance with Section 605.0205(3), Florida Statutes, the execution of this document constitutes an affirmation under the penalties of perjury that the facts stated herein are true.)

ACCEPTANCE BY REGISTERED AGENT

Having been named as registered agent and to accept the service of process for the above-stated limited liability company at the place designated in these Articles, Dustin B. Ertle hereby accepts the appointment as registered agent and agrees to act in this capacity. Dustin B. Ertle further agrees to comply with the provisions of all statutes relating to the proper and complete performance of his duties, and is familiar with and accepts the obligations of his position as registered agent as provided for in Chapter 605, F.S.

/s/ Dustin B. Ertle

DUSTIN B. ERTLE

Dated: June 29, 2021

FILED
2021 JUN 29 AM 9:52
SECRETARY OF STATE
TALLAHASSEE, FL



Detail by Entity Name

Florida Limited Liability Company
D.B.E. MANAGEMENT, LLC

Filing Information

Document Number	L21000300514
FEI/EIN Number	NONE
Date Filed	06/29/2021
Effective Date	06/07/2004
State	FL
Status	ACTIVE
Last Event	CONVERSION
Event Date Filed	06/29/2021
Event Effective Date	NONE

Principal Address

13313 BRYAN ROAD
LOXAHATCHEE, FL 33470

Mailing Address

13313 BRYAN ROAD
LOXAHATCHEE, FL 33470

Registered Agent Name & Address

ERTLE, DUSTIN B
13313 BRYAN ROAD
LOXAHATCHEE, FL 33470

Authorized Person(s) Detail

Name & Address

Title MGR

ERTLE, DUSTIN B
13313 BRYAN ROAD
LOXAHATCHEE, FL 33470

Annual Reports

No Annual Reports Filed

Document Images

06/29/2021 -- Florida Limited Liability | View image in PDF format



Detail by Entity Name

Florida Profit Corporation
D.B.E. MANAGEMENT, INC.

Filing Information

Document Number	P04000088463
FEI/EIN Number	20-1331070
Date Filed	06/07/2004
State	FL
Status	INACTIVE
Last Event	CONVERSION
Event Date Filed	06/29/2021
Event Effective Date	NONE

Principal Address

13313 Bryan Rd
Loxahatchee, FL 33470

Changed: 04/30/2017

Mailing Address

13387 Bryan Rd
Loxahatchee, FL 33470

Changed: 04/30/2017

Registered Agent Name & Address

ERTLE, DUSTIN B
13313 Bryan Rd
Loxahatchee, FL 33470

Address Changed: 04/30/2017

Officer/Director Detail

Name & Address

Title PT

ERTLE, DUSTIN B
13313 Bryan Rd

Loxahatchee, FL 33470

Title Asst. Secretary

ALLOE, TAMMIE A
13387 Bryan Rd
Loxahatchee, FL 33470

Annual Reports

Report Year	Filed Date
2019	03/13/2019
2020	03/24/2020
2021	04/30/2021

Document Images

04/30/2021 -- ANNUAL REPORT	View image in PDF format
03/24/2020 -- ANNUAL REPORT	View image in PDF format
03/13/2019 -- ANNUAL REPORT	View image in PDF format
03/05/2018 -- ANNUAL REPORT	View image in PDF format
04/30/2017 -- ANNUAL REPORT	View image in PDF format
03/17/2016 -- Amendment	View image in PDF format
03/11/2016 -- AMENDED ANNUAL REPORT	View image in PDF format
02/18/2016 -- ANNUAL REPORT	View image in PDF format
01/09/2015 -- ANNUAL REPORT	View image in PDF format
02/26/2014 -- ANNUAL REPORT	View image in PDF format
04/25/2013 -- ANNUAL REPORT	View image in PDF format
07/23/2012 -- Amendment	View image in PDF format
04/29/2012 -- ANNUAL REPORT	View image in PDF format
04/26/2011 -- ANNUAL REPORT	View image in PDF format
05/02/2010 -- ANNUAL REPORT	View image in PDF format
04/30/2009 -- REINSTATEMENT	View image in PDF format
01/26/2007 -- REINSTATEMENT	View image in PDF format
06/07/2004 -- Domestic Profit	View image in PDF format

APPLICATION FOR REGISTRATION OF FICTITIOUS NAME

REGISTRATION# G21000093268

Fictitious Name to be Registered: DBE UTILITY SERVICES

Mailing Address of Business: 13313 BRYAN ROAD
LOXAHATCHEE, FL 33470

Florida County of Principal Place of Business: MULTIPLE

FEI Number:

FILED
Jul 16, 2021
Secretary of State

Owner(s) of Fictitious Name:

D.B.E. MANAGEMENT, LLC
13313 BRYAN ROAD
LOXAHATCHEE, FL 33470 US
Florida Document Number: L21000300514
FEI Number: 20-1331070

I the undersigned, being an owner in the above fictitious name, certify that the information indicated on this form is true and accurate. I further certify that the fictitious name to be registered has been advertised at least once in a newspaper as defined in Chapter 50, Florida Statutes, in the county where the principal place of business is located. I understand that the electronic signature below shall have the same legal effect as if made under oath and I am aware that false information submitted in a document to the Department of State constitutes a third degree felony as provided for in s. 817.155, Florida Statutes.

DUSTIN B. ERTLE — 07/16/2021

Electronic Signature(s) — Date

Certificate of Status Requested (X) **Certified Copy Requested (X)**

State of Florida

Department of State

I certify that the attached is a true and correct copy of the Application For Registration of the Fictitious Name DBE UTILITY SERVICES, registered with the Department of State on July 16, 2021, as shown by the records of this office.

The Registration Number of this Fictitious Name is G21000093268.

Given under my hand and the Great Seal of Florida, at Tallahassee, the Capital, this the Seventeenth day of July, 2021

Secretary of State

Form **W-9**
(Rev. October 2018)
Department of the Treasury
Internal Revenue Service

Request for Taxpayer Identification Number and Certification

▶ Go to *www.irs.gov/FormW9* for instructions and the latest information.

Give Form to the requester. Do not send to the IRS.

Print or type. See Specific Instructions on page 3.

1 Name (as shown on your income tax return). Name is required on this line; do not leave this line blank.
DBE MANAGEMENT LLC

2 Business name/disregarded entity name, if different from above
DBE UTILITY SERVICES

3 Check appropriate box for federal tax classification of the person whose name is entered on line 1. Check only one of the following seven boxes.

☐ Individual/sole proprietor or single-member LLC ☐ C Corporation ☐ S Corporation ☐ Partnership ☐ Trust/estate

☑ Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=Partnership) ▶ **P**

Note: Check the appropriate box in the line above for the tax classification of the single-member owner. Do not check LLC if the LLC is classified as a single-member LLC that is disregarded from the owner unless the owner of the LLC is another LLC that is not disregarded from the owner for U.S. federal tax purposes. Otherwise, a single-member LLC that is disregarded from the owner should check the appropriate box for the tax classification of its owner.

☐ Other (see instructions) ▶

4 Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3):
Exempt payee code (if any) _____
Exemption from FATCA reporting code (if any) _____
(Applies to accounts maintained outside the U.S.)

5 Address (number, street, and apt. or suite no.) See instructions.
13387 BRYAN RD

Requester's name and address (optional)

6 City, state, and ZIP code
LOXAHATCHEE FL 33470

7 List account number(s) here (optional)

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the instructions for Part I, later. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN*, later.

Note: If the account is in more than one name, see the instructions for line 1. Also see *What Name and Number To Give the Requester* for guidelines on whose number to enter.

Social security number
			–			–				

or

Employer identification number
2	0	–	1	3	3	1	0	7	0

Part II Certification

Under penalties of perjury, I certify that:

1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and
2. I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and
3. I am a U.S. citizen or other U.S. person (defined below); and
4. The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions for Part II, later.

Sign Here Signature of U.S. person ▶ [signature] Date ▶ 5/3/22

General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Future developments. For the latest information about developments related to Form W-9 and its instructions, such as legislation enacted after they were published, go to *www.irs.gov/FormW9*.

Purpose of Form

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) which may be your social security number (SSN), individual taxpayer identification number (ITIN), adoption taxpayer identification number (ATIN), or employer identification number (EIN), to report on an information return the amount paid to you, or other amount reportable on an information return. Examples of information returns include, but are not limited to, the following.

- Form 1099-INT (interest earned or paid)
- Form 1099-DIV (dividends, including those from stocks or mutual funds)
- Form 1099-MISC (various types of income, prizes, awards, or gross proceeds)
- Form 1099-B (stock or mutual fund sales and certain other transactions by brokers)
- Form 1099-S (proceeds from real estate transactions)
- Form 1099-K (merchant card and third party network transactions)
- Form 1098 (home mortgage interest), 1098-E (student loan interest), 1098-T (tuition)
- Form 1099-C (canceled debt)
- Form 1099-A (acquisition or abandonment of secured property)

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN.

If you do not return Form W-9 to the requester with a TIN, you might be subject to backup withholding. See What is backup withholding, *later.*

St. Johns County Board of County Commissioners

Purchasing Division

ADDENDUM #2

November 8, 2022

To: **Prospective Respondent**
Subject: **Bid No. 23-02; Installation of Forcemain from Wildwood Dr. to Lightsey Rd.**

This Addendum #2 is issued for further Respondent's information and is hereby incorporated into the Bid Documents. Each Respondent will ascertain before submitting a Bid Proposal that he/she has received all Addenda, and **return an original copy of this signed Addendum with the submitted proposal** as provided in the Bid Documents.

Clarifications/Revisions:

1. The submittal deadline for Bid Proposals is hereby extended to 2:00PM EST on Wednesday, November 16, 2022 due to the approaching Tropical Storm Nicole in our area.

Acknowledgment

_____
Signature and Date

_____
Printed Name/Title

_____
Company Name (Print)

END OF ADDENDUM NO. 2

St. Johns County Board of County Commissioners

Purchasing Division

ADDENDUM #1

November 2, 2022

To: **Prospective Respondent**
Subject: **Bid No. 23-02; Installation of Forcemain from Wildwood Dr. to Lightsey Rd.**

This Addendum #1 is issued for further Respondent's information and is hereby incorporated into the Bid Documents. Each Respondent will ascertain before submitting a Proposal that he/she has received all Addenda, and **return an original copy of this signed Addendum with the submitted proposal** as provided in the Bid Documents.

Questions and Answers:

1. Is it up to the contractor/driller to determine the length of bores based on site conditions?
   Answer: The contractor/driller shall determine the length of the bore based on site conditions and shall coordinate proposed pit locations with SJCUD. Minimal deviation (+/- 25') from the shown bore lengths is anticipated.

THE PROPOSAL DUE DATE REMAINS November 9, 2022 AT 2:00 PM EST

Respondent Acknowledgment

_____
Signature and Date

_____
Printed Name/Title

_____
Company Name (Print)

END OF ADDENDUM NO. 1



Board of County Commissioners
St. Johns County, Florida

BID NO: 23-02

INSTALLATION OF FORCEMAIN FROM WILDWOOD DR. TO LIGHTSEY RD.

BID DOCUMENTS
PROJECT SPECIFICATIONS

St. Johns County Purchasing Division
500 San Sebastian View
St. Augustine FL 32084
904.209.0150
www.sjcfl.us/Purchasing/index.aspx

FINAL: 10/3/22

Bid No: 23-02; INSTALLATION OF FORCEMAIN FROM WILDWOOD DR. TO LIGHTSEY RD.

FRONT END BID DOCUMENTS

Instruction to Bidders
Official County Bid Form
Attachments:

- Attachment "A" – St Johns County Board of County Commissioners Affidavit
- Attachment "B" – Certificate as to Corporate Principal
- Attachment "C" – License/Certification List
- Attachment "D" – List of Proposed Sub-Contractors/Suppliers
- Attachment "E" – Conflict of Interest Disclosure Form
- Attachment "F" – Proof of Insurance
- Attachment "G" – Contractor's Qualifications Form
- Attachment "H" – Drug Free Workplace Form
- Attachment "I" – Claims, Liens, Litigation History
- Attachment "J" – E-Verify Affidavit
- Attachment "K" – Local Preference
- Bid Bond
- Sealed Bid Mailing Label

EXHIBITS – (SEPARATE ATTACHMENTS)

EXHIBIT A - Project Technical Specifications dated August 18, 2022

EXHIBIT B - Florida Department of Transportation (FDOT) ROW Utilization Permit - (Permit # 2022-H-297-00198)

EXHIBIT C - The Florida Department of Environmental (FDEP) Notification/Application for Constructing a Domestic Wastewater Collection/Transmission System - (Permit # 0017096-498-DWC)

EXHIBIT D - Construction Plans dated September 13, 2022

FRONT END BID DOCUMENTS

Bid No: 23-02

INSTRUCTION TO BIDDERS

OWNER: The Board of County Commissioners of St. Johns County, Florida ("County") OR ("Owner")

PROJECT: Bid No.: 23-02; INSTALLATION OF FORCEMAIN FROM WILDWOOD DR. TO LIGHTSEY RD.

DEFINITIONS

Whenever the following terms are utilized in the Bid Documents or Contract Documents, they shall have the following meaning:

Addendum (Addenda) Written or graphic instruments issued by the Purchasing Division prior to the time and date for receiving Bids that modify or interpret the Bid Documents by addition, deletion, clarification, or corrections.

Base Bid The portion of a submitted Bid that entails all specified aspects of the Work not otherwise separated into Alternates.

Bid A pricing proposal submitted to the County in response to the County's Invitation for Bids.

Bid Bond A good faith monetary commitment, usually five percent (5%) of the bid price, submitted with a Bid, which a bidder or surety forfeits to the County if the bidder refuses, or is unable to enter into a contract, or furnish the required bonds as provided in the Bid Documents.

Bidder A firm or individual who submits a Bid to the Owner for the work specified in the Bid Documents.

Bid Documents All documents pertaining to a Bid that provide the requirements, restrictions, instructions, specifications of the Work required by the Owner to be completed. The Bid Documents include but are not limited to the Advertisement/Notice to Bidders, Front End Bid Documents, Exhibits, Terms and Conditions, Specifications and Plans including any Addenda issued prior to receipt of Bids.

Contract An agreement between two or more parties, legally binding and enforceable, to perform a specific act or acts or exchange goods for consideration. A purchase order becomes a contract when accepted by a vendor. A unilateral contract is one in which only one party promises performance. A bilateral contract is one in which both parties promise performance.

Contractor An individual or firm having a contract to provide goods, service or construction for a specified price

County St. Johns County, a political subdivision of the State of Florida (F.S. 217.73)

Experience Modification Rate (EMR) Number used by insurance companies to gauge both past cost of injuries and future chances of risk.

Invitation for Bids (Formal or Sealed) A request for firm prices by Advertised Legal Notice. Prices are submitted in sealed envelopes and in conformance with a prescribed format, all of which are opened in public on an appointed hour and date as advertised.

Responsible Bidder A Bidder capable of performing in all respects to fulfill the contract requirements. This includes having the ability to perform, the experience, reliability, capacity, credit, facilities and equipment to meet the contractual obligation.

Responsive Bid A bid, submitted by a Responsible Bidder conforming in all material respects to the Bid Documents.

Specifications A clear, complete and accurate statement of the physical, functional or technical requirements descriptive of an item and if applicable, the procedure to be followed to determine if the requirements are met.

Subcontractor A separate, third party that contracts with a Contractor to perform all or any part of the Contractor's obligations under an awarded Contract.

Unit Price An amount stated in the Bid as a price per unit of measurement for materials or services as specified in the Bid

Documents, which shall include all labor, materials, equipment and any other item/s essential to accomplish the scope of work associated with the Unit Price.

BIDDER'S REPRESENTATION

Each Bidder, by marking their Bid, represents that they have read and understand the Bid Documents and the submitted Bid is made in accordance herewith: Bidder has visited the Site and is familiar with the local conditions under which the Work is to be performed; and the Bid is based upon the materials, systems and equipment described in the Bid Documents without exceptions.

BID DOCUMENTS

Bid Documents may be obtained from www.demandstar.com as stated in the Advertisement or Notice to Bidders. Complete sets of Bid Documents shall be used in preparing the Bid Proposal. St. Johns County shall not assume any responsibility for errors or misinterpretations resulting from the use of complete or incomplete sets of Bid Documents. The Owner, in making copies of the Bid Documents available on the above terms, do so only for the purpose of obtaining Bids on the Work and do not confer a license or grant for any other use.

INTERPRETATION OR CORRECTION OF BID DOCUMENTS

Bidders shall promptly notify the Owner of any ambiguity, inconsistency, or error which they may discover upon examination of the Bid Documents or of the site and local conditions. Bidders requiring clarification of interpretation of the Bid Documents shall make a written request to the Owner, at least **fourteen (14) calendar days** prior to the submittal deadline Bids.

An interpretation, correction, or change of the Bid Documents will be made by Addendum. Interpretation, corrections, or changes of the Bid Documents made in any other manner will not be binding, and Bidders shall not rely upon such interpretation, corrections, and change. No change will be made to the Bid Documents by the Owner or its Representative less than **seven (7) days** prior to Bid receiving date, however, the Owner reserves the authority to decrease this time depending on the necessity of such change.

SUBSTITUTIONS

The materials, products and equipment described in the Bid Documents establish a standard of required function, dimension, appearance and quality to be met by any proposed substitution. No substitution will be considered unless written request for approval has been submitted by the Bidder and has been received by the Owner at least **fourteen (14) calendar days** prior to the date for receipt of Bids. Any proposed substitutions included in submitted Bids, that have not received approval in accordance with this section of the Bid Documents shall not receive consideration, and shall be determined to be non-responsive to the requirements of the Bid Documents.

Each such request shall meet the requirements of the Bid Documents and include the name of the material or equipment for which it is to be substituted and a complete description of the proposed substitute, including drawings, cuts, performance test data, and any other information necessary for an evaluation of the proposed substitution. A statement setting forth any changes in other materials, equipment or work that incorporation of the substitute would require shall be included. The burden of proof of the merit of the proposed substitute is upon the Bidder. The Project Manager or Department Head shall review any and all proposed substitutions and determine their acceptability. The Project Manager or Department Head's approval or disapproval of a proposed substitution shall be final.

If County Staff approves any proposed substitution, such approval will be set forth in an Addendum. Bidders shall **not** rely upon approval made in any other manner.

PRE-BID MEETING

A NON-MANDATORY Pre-Bid Meeting will be held on Tuesday, October 18, 2022 at 9:00 AM EDST at the St. Johns County Utility Department, 1205 State Road 16, St. Augustine, FL 32084. Attendance for prime bidders at the Pre-Bid Meeting is highly recommended. Please do not park in designated customer service parking spots.

DESIGNATED POINT OF CONTACT

The County's Designated Point of Contact for this Bid is Bryan Matus, Senior Purchasing Coordinator. Any and all questions and/or inquiries related to this Bid shall be directed, ***in writing***, via email to Bryan Matus at bmatus@sjcfl.us. In the event the Designated Point of Contact is absent or otherwise unavailable for more than three (3) business days, suppliers

may contact Leigh A. Daniels, CPPB, Purchasing Manager at ldaniels@sjcfl.us.

The County has a blackout period, also known as a Cone of Silence, that is in force upon issuance of this bid. No Bidder or Proposer, or prospective Bidder or Proposer, or their agents, representatives, or persons acting at the request of such Bidder or Proposer shall contact, communicate with, or discuss any matter relating to this Solicitation with County officers, agents, or employees other than the Purchasing Division, unless otherwise provided for within this solicitation or directed by the Assistant Director of Purchasing & Contracts or designee. Any such communication is a violation of this Policy and shall be grounds for disqualification and removal from further consideration in the procurement process for this solicitation.

This lobbying prohibition during the blackout period includes copying such persons on written communications with the Purchasing Division but does not apply to presentations made to evaluation committees or communications with the County Commission at the meeting where the Commission is considering approval of the proposed contract. This lobbying prohibition ends upon final execution of the Contract or when the solicitation has been canceled.

QUESTIONS

Any and all questions related to this solicitation shall be directed, ***in writing***, to the County's Designated Point of Contact. Questions are due no later than four o'clock **(4:00PM)** on **Wednesday, October 26, 2022,** so that any necessary addenda may be issued in a timely manner. Any questions received after the deadline will not be answered unless previously approved by the Designated Point of Contact.

ADDENDA

Addenda will be posted to www.demandstar.com alongside the Bid Documents. Notifications of the posted Addenda shall be distributed to all Planholders of the Bid Documents (firms that have downloaded the Bid Documents from DemandStar, or that have been added to DemandStar as a Planholder by the County) Copies of Addenda will be made available for inspection wherever Bid Documents are on file for that purpose.

Each Bidder is responsible for incorporating any and all issued Addenda into their submitted Bid. Bidders shall acknowledge receipt of all issued addenda in the space provided in the Official County Bid Form, and include a signed copy of each issued addendum in the submitted Bid. Failure to acknowledge all issued addenda may result in a Bid being deemed non-responsive to the requirements of the Bid Documents.

BID SUBMITTAL REQUIREMENTS

Supplier must submit **ONE (1) ORIGINAL** on the on the required forms provided herein no later than two o'clock **(2:00PM EDST) on Wednesday, November 9, 2022.** All blanks on the Bid Form shall be filled in by typewriter or manually in blue or black ink. Bidders shall not include the Front End Bid Documents with their Bid. Bidders shall complete, sign and submit, at a minimum, the Official County Bid Forms, all required Attachments, and Addenda as provided herein.

Bids must be placed in a sealed envelope or container, addressed to St. Johns County Purchasing Division, and plainly marked with the Bidder's return address and "**Bid No: 23-02; INSTALLATION OF FORCEMAIN FROM WILDWOOD DR. TO LIGHTSEY RD.**".

See Example Below:

ABC Company, Inc.
123 Aviles Street
St. Augustine, FL 32084

St. Johns County Purchasing Division
500 San Sebastian View
St. Augustine, FL 32084
BID NO.: 23-XX– SEALED BID FOR SAMPLE PROJECT

At the end of this document, a mailing label is provided for convenience. Bidders shall affix the provided label to the outside of the sealed envelope/container to submit their Bid.

Bidder shall assume full responsibility for timely delivery at the location designated for receipts of Bids. Bids shall be

deposited at the designated location prior to the time and date for receipt of Bids indicated in the Advertisement/Notice to Bidders, or any time extension thereof made by Addendum. Bids received after the time and date for receipt of Bids will be returned to the sender unopened.

Oral, telephonic, telegraphic or electronic Bids are invalid and will not receive consideration.

Where so indicated by the makeup of the Bid Form, sums shall be expressed in both words and figures, and in the case of discrepancy between the two, the amount expressed in words shall govern.

Any interlineations, alteration or erasure must be initialed by the signer of the Bid; failure to do so may cause the Bidder's proposal to be considered non-responsive.

Bidder shall make no stipulation on the Bid Form nor qualify his Bid in any manner, to do so will classify the Bid as being non-responsive, and may result in the Bidder being removed from consideration for award.

Each submitted copy of the Bid Proposal shall include the full legal company name, address, telephone number and legal name of an authorized representative for the Bidder and a statement as to whether the Bidder is a sole proprietor, partnership, corporation, or any other legal entity. Each copy of the submitted Bid shall be signed by the person or persons legally authorized to bind the Bidder to a contract. A Bid by a corporation shall further give the state of incorporation and have the corporation seal affixed.

A Bid submitted by an agent shall have a current Power of Attorney attached certifying agent's authority to bind the Bidder.

Bids submitted to the County in response to this Invitation for Bids must be irrevocable and Bidders must hold firm the submitted pricing for a period of no less than ninety (90) consecutive calendar days from the submittal deadline.

TAXES

Project is subject to Federal Excise and Florida Sales Taxes, which must be included in the Bids submitted.

BID SECURITY

Each submitted Bid shall be accompanied by a Bid Security, submitted on the Bid Bond Form provided herein, or in the form of a certified or cashier's check, in the amount of **five percent (5%) of the Total Bid Price** submitted on the Official County Bid Form, pledging that the Bidder will enter into a contract with the Owner on the terms stated in the Bid and will, if required, furnish bonds as described hereunder covering the faithful performance of the Contract and the payment of all obligations arising thereunder. Should the Bidder refuse to enter into such Contract or fail to furnish such bonds to the Owner, if required, the amount of the Bid Security shall be forfeited, not as penalty, but as liquidated damages.

A Bid Security in the form of a certified or cashier's check must be made payable to the Board of County Commissioners of St. Johns County. Bidders submitting a certified or cashier's check as the bid security are not required to submit **Attachment "B"** – Certificate as to Corporate Principal or the Bid Bond forms provided herein.

A Bid Security in the form of a Bid Bond shall be written on the form provided herein, with an acceptable surety, and the Attorney-in-Fact who shall execute the bond on behalf of the Surety shall affix to the bond a certified and current copy of his Power of Attorney. The Surety Company shall meet all requirements as provided under the Surety Bonds section below. Any Bidder submitting a Bid Security in the form of a Bid Bond must also submit **Attachment "B"** – Certificate as to Corporate Principal.

The Owner shall have the right to retain the Bid Security of Bidders until either: (a) the Contract is executed and bonds, if required, have been furnished, or (b) the specified time has elapsed so that Bids may be withdrawn, or (c) all Bids have been rejected.

BID BOND INSTRUCTIONS

If a Bidder chooses to submit a Bid Bond on the form provided herein, he must submit the bond as follows:

1. Prepare and submit one (1) original of the required Bid Bond Forms as shown above;

2. Type or print Bidder's and Surety's names, mailing addresses, in the same language as in the Bid Documents;

3. Affix the Corporate Seal, and type or print the name of the Surety on the line provided and affix its corporate seal;

4. Attach a copy of Surety agent's Power of Attorney, unless the Power of Attorney has been recorded in St. Johns County. If it has been recorded, give the record book and page. If not recorded, the copy of the Power of Attorney must have an original signature of the Secretary or Assistant Secretary of Surety certifying the copy. The Surety's corporate seal must be affixed.

BID POSTPONEMENT/CANCELLATION

The County may, at its sole and absolute discretion, reject any bids that are not submitted in accordance with the requirements provided in the Bid Documents. The County may re-advertise this Bid; postpone or cancel, at any time, this Invitation for Bids process; or waive any irregularities in the Bid Documents or in the Bids received in response to this Invitation for Bids.

LOCAL PREFERENCE

The County shall review all submitted bids to determine whether or not there is a Local Business within ten percent (10%) of the responsive, responsible low bid. If so, County shall verify all qualification requirements to validate the Vendor as a Local Business, in accordance with Section 16.3, SJC Purchasing Policy. If the lowest bid from a Local Business is responsive and the Bidder is responsible to perform the work, and the submitted bid is within ten percent (10%) of the low bid, the Local Bidder shall have forty eight (48) hours to agree, in writing, to match the low bid amount. If the Local Bidder agrees to match the low bid amount within the timeframe provided, the Local Bidder shall be awarded the bid, provided they meet any and all other requirements of the County. If the Local Bidder refuses, or fails to agree to match the low bid, the County shall consider the non-local low bid for award (see **Attachment "K"**).

In order to receive local preference consideration, vendor must qualify as a local business, and self-perform, or have perform by subcontractors that qualify as a local business, a minimum of fifty percent (50%) of all work. Fifty percent (50%) of all work must equal fifty percent (50%) of the contract price.

MODIFICATION OR WITHDRAWAL OF BID

A Bid may not be modified, withdrawn or canceled by the Bidder during the stipulated time period following the submittal deadline for Bids, and Bidder so agrees in submitting his Bid.

Any Bids submitted prior to the submittal deadline for Bids may be modified or withdrawn by the Bidder only by written notice to the County by email or letter. Such notice shall provide whether Bidder is withdrawing the submitted Bid for modification or for removal from consideration. Any Bid withdrawn by the Bidder for removal from consideration, prior to the submittal deadline for Bids shall be returned to the Bidder, unopened.

For Bids withdrawn for modification, Bidder shall provide written notice as stated above, and shall either collect the submitted Bid for modification and resubmittal, or shall send by mail, a modified Bid, for the purposes of replacing the originally submitted Bid, provided the modified Bid complies with the requirements provided in the Bid Documents. Any modified Bid must be re-submitted prior to the submittal deadline for Bids.

Bid Security, if applicable, shall be adjusted as necessary to remain five percent (5%) of the Bid as modified or resubmitted.

COSTS INCURRED BY BIDDERS

Bidders are responsible for any and all costs associated with the preparation, development and submittal of a Bid in response to this Invitation for Bids. Bidders are additionally solely responsible for any and all costs associated with attendance at any meetings, presentations or other activities conducted as part of this solicitation. It is expressly understood that no Bidder may seek or claim any award and/or reimbursement from the County for any expenses, costs, and/or fees (including attorneys' fees) borne by any Bidder, during the entire solicitation process. Such expenses, costs and/or fees (including attorneys' fees) are the sole responsibility of the Bidder.

CONSIDERATION OF BIDS

Opening of Bids

Unless stated otherwise in an Addendum to the Bid Documents, Bids properly submitted by or before the submittal deadline will be opened publicly and a tabulation of the submitted Bids will be publicly posted in accordance with SJC Purchasing Policy and Florida law.

Rejection of Bids
The Owner reserves the right to reject any or all Bids and in particular to reject a Bid not accompanied by any required Bid Security or data required by the Bid Documents or a Bid in any way incomplete or irregular.

Acceptance of Bid (Award):
The Owner shall have the right to determine the low Bidder on the basis of the Total Bid Amount, or the sum of the Base Bid and/or the Alternates (if applicable) in order to best serve the interest of the County.

It is the intent of the Owner to award a contract to the lowest responsible Bidder provided the submitted Bid is materially responsive to the requirements of the Bid Documents, if judged to reasonable, and does not exceed the funds budgeted by the County for the Project.

If the Contract is awarded, it will be awarded within a minimum of ninety (90) days from the date of the Bid opening, or as designated in the Bid Documents.

MINIMUM QUALIFICATION OF CONTRACTORS
Bidders must be fully licensed/authorized to do business in the State of Florida, must be registered with the State of Florida Division of Corporations, and Prime Contractor must hold a current Certified General Contractor's or Certified Underground Utility Contractor's license at the time the bid is due.

Additionally, the Bidder must be currently Florida Department of Transportation (FDOT) pre-qualified in the following work class: (40) Underground Utility (Water and Sewer). A letter from FDOT confirming pre-qualification, at the time of bid submittal, in the required work class must be submitted with the sealed bid proposal. A letter from FDOT confirming pre-qualification, at the time of bid submittal, in the required work classes must be submitted.

Bidders must have successfully completed, as a Prime Contractor or Sub-Contractor, at least three (3) projects, in the past five (5) years, of similar type, size, with FDOT right of ways and dollar value of the project described herein.

The Bidder or Sub-contractor on a referenced project must have completed or were responsible for the completion of the project activity consisting of the same requirements as stated above.

Within the bid submittal, failure to demonstrate the minimum experience stated above shall cause a Bidder to be deemed non-responsive and removed from further consideration.

St. Johns County reserves the right to request additional information regarding qualifications and to use this information for the purpose of awarding a contract.

Proof of qualifications shall be provided by completing and submitting **Attachment "G"** – Contractor's Qualifications Form and **Attachment "C"** – License/Certification List along with a copy of each license and certificate listed. All licenses, certifications and pre-qualifications must be valid and current on the date bids are submitted.

Bidders to whom award of a contract is under consideration shall submit to the County, upon request, a properly executed Contractor's Qualification Statement of AIA Document A305, unless such a statement has been previously required and submitted as a prerequisite to the issuance of Bid Documents.

SUB-CONTRACTORS
Each Bidder shall submit to the County, a list of proposed Subcontractors and major materials suppliers to be used if awarded the contract. A copy of the form, **Attachment "D"**, is provided in the Bid Documents.

Upon request by the County, the successful Bidder shall within seven (7) days thereafter, submit all data required to establish to the satisfaction of the County, the reliability and responsibility of the proposed Subcontractors to furnish and perform

portions of work described in the Specifications. Sub-contractors and other persons and organizations proposed by the Bidder and accepted by the County, must be used on the work for which they were proposed and accepted and shall not be changed except with the written approval of the County.

Prior to the award of the Contract, the County will notify the Bidder in writing if either the County, after due investigation, has reasonable and substantial objection to any person or organization proposed as a Subcontractor. The Bidder then may, at their option, withdraw their Bid without forfeiture of Bid Security or submit an acceptable substitute at no increase in Bid price. If the Bidder fails to submit an acceptable substitute within seven (7) days of the original notification, the County then may, at their option, disqualify the Bidder, at no cost to the County.

The County reserves the right to disqualify any Bidder, proposed Subcontractor, Vendor, or material supplier for failure to meet minimum qualification requirements, minimum experience requirements, for previously documented failure either with performance or quality.

EMPLOYMENT ELIGIBILITY and MANDATORY USE of E-VERIFY

As a condition precedent to entering into the awarded Agreement, and in accordance with section 448.095, F.S., the awarded Contractor and its subcontractors shall register with and use the E-Verify system to verify the work authorization status of all employees hired on or after January 1, 2021 (see **Attachment "J"**).

a. Contractor shall require each of its subcontractors to provide Contractor with an affidavit stating that the subcontractor does not employ, contract with, or subcontract with an unauthorized alien. Contractor shall maintain a copy of such affidavit for the duration of the awarded Agreement.

b. The County, Contractor, or any subcontractor who has a good faith belief that a person or entity with which it is contracting has knowingly violated section 448.09(1), F.S. or these provisions regarding employment eligibility shall terminate the contract with the person or entity.

c. The County, upon good faith belief that a subcontractor knowingly violated these provisions regarding employment eligibility, but Contractor otherwise complied, shall promptly notify Contractor and Contractor shall immediately terminate the contract with the subcontractor.

d. The County and Contractor hereby acknowledge and mutually agree that, a contract terminated pursuant to these provisions regarding employment eligibility is not a breach of contract and may not be considered as such. Any contract terminated pursuant to these provisions regarding employment eligibility may be challenged in accordance with section 448.095(2)(d), F.S.

e. Contractor acknowledges that, in the event that the County terminates the awarded Agreement for Contractor's breach of these provisions regarding employment eligibility, then Contractor may not be awarded a public contract for at least one (1) year after such termination. Contractor further acknowledges that Contractor is liable for any additional costs incurred by the County as a result of the County's termination of the awarded Agreement for breach of these provisions regarding employment eligibility.

f. Contractor shall incorporate in all subcontracts made pursuant to the awarded Agreement the provisions contained herein regarding employment eligibility.

PUBLIC CONSTRUCTION BOND

The awarded Contractor shall be required to obtain and submit a recorded Public Construction Bond covering the faithful performance of the Contract and the payment of all obligations arising thereunder in full amount of the awarded Contract, with such acceptable sureties, secured through the Bidder's usual sources as may be agreeable to the parties. The Contractor shall furnish the required bond, after full execution of the awarded Contract. The Bond shall be released upon satisfactory completion of the project.

SURETY BOND

Acceptable Surety Companies: To be responsible to the Owner as Surety on Bonds, Surety shall comply with the following provisions:

1. Surety must be licensed to do business in the State of Florida;
2. Surety must have been in business and have a record of successful continuous operations for at least three (3) years;
3. Surety shall not have exposed itself to any loss on any one risk in an amount exceeding twenty percent (20%) of its surplus to policyholders;
4. Surety must have fulfilled all of its obligations on all other bonds given to the Owner;
5. Surety must have good underwriting, economic management, adequate reserves for undisclosed liabilities, and net resources for unusual stock and sound investment.

Time of Delivery and Form of Bonds

The Public Construction Bond form will be provided to the awarded Contractor with the fully executed contract. The Contractor shall provide the recorded Public Construction Bond to the County within three (3) business days of receipt of the bond form and executed contract. **The Public Construction Bond must be recorded after the contract is signed by all parties.**

Contractor shall record the Public Construction Bond with the St. Johns County Clerk of Courts, and obtain a certified copy of the recorded bond and provide to the SJC Purchasing Division. No work shall commence until the required bond has been delivered to the Owner. Upon receipt of the certified copy of the recorded bond, the Owner may issue a Notice to Proceed.

Unless otherwise specified in the Bid Documents, the bonds shall be written on the form provided herein. The Bidder shall require the Attorney-in-Fact who executes the required bonds on behalf of the Surety to affix thereto a certified and current copy of his Power of Attorney authorizing his firm to act as agent for the Surety in issuing the bonds.

INDEMNIFICATION

Contractor shall indemnify and hold harmless the County and 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 this Contract.

To the extent permitted by, and in accordance with Section 725.06 of the Florida Statues, Contractor further agrees that "damages, losses and costs", includes fines, citations, court judgments, insurance claims, restoration costs or other liability, 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 this Contract.

To the extent permitted by, and in accordance with Section 725.06 of the Florida Statues, for purposes of indemnity, the "persons employed or utilized by Contractor" shall be construed to include, but not be limited to, Contractor, its staff, employees, subcontractors, all deliverers, suppliers, furnishers of materials or services or anyone acting for, on behalf of, or at the request of Contractor.

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

Contractor's indemnity and hold harmless obligations hereunder shall extend to all Claims against the County by any third party or third-party beneficiary of this Contract and all liabilities, damages, losses and costs related thereto.

This indemnification will not be valid in the instance where the loss is caused by the gross negligence, or willful, wanton or intentional misconduct of any Indemnified Party.

If any provision(s), or portion(s) of a provision(s) of this Section, or the application thereof to any person or circumstance shall, to any extent, be held to be invalid, illegal or unenforceable for any reason whatsoever, the validity, legality and enforceability of the remaining provision(s), or part of the provision(s), shall not in any way be affected or impaired thereby; and shall be interpreted to the fullest extent possible to be enforceable and to give effect to the intent manifested by the provision(s), or portion(s) thereof, held invalid, illegal or unenforceable.

Contractor shall further indemnify and hold harmless the County its officers and employees from and against all Claims arising out of any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents and shall defend such Claims in connection with any alleged infringement of such rights.

Any indemnification provisions provided in the Contract shall survive expiration or earlier termination of the Contract.

FORCE MAJEURE

Contractor shall not be liable for failure to carry out the terms of this Agreement to the extent such failure is due to a Force Majeure event, except for failures that could have been reasonably foreseen and guarded against so as to avoid or reduce the adverse impact thereof. A Force Majeure event is hereby defined as the failure to carry out any of the terms of this agreement due to any one of the following circumstances beyond the control of the Contractor: (a) the operation and effect of the rules, regulations, or order promulgated by any commission, county, municipality, or governmental agency of the State of Florida or United States, (b) a restraining order, injunction, or similar decree on any court of competent jurisdiction, (c) war, (d) flood, (e) earthquake, (f) fire, (g) severe wind storm, (h) acts of public disturbance, (i) quarantine restrictions, (j) epidemics, (k) strikes, (l) freight embargoes, or (m) sabotage. The times specified herein for performances include delays that can ordinarily be anticipated due to adverse weather conditions. The County is not obligated to grant an extension of time due to the adverse weather condition unless such conditions rise to the level of Force Majeure.

TERMINATION

The County may, by written notice to Contractor, terminate the awarded Contract in whole or in part at any time for the County's convenience or for the default of the Contractor.

If, at any time, the awarded Contract is terminated by the County, whether for cause or for convenience, the County may, at its sole discretion, negotiate with the second lowest, responsible, responsive bidder for completion of the required Work if it serves the best interest of the County to do so.

FORM OF AGREEMENT BETWEEN OWNER AND CONTRACTOR

Unless otherwise provided in the Bid Documents, the Agreement for Work will be written on the County's Master Construction Agreement.

CONTRACT TIME

The Contractor shall have ten (10) business days from Contractor's receipt of Notice of Award, to sign and return the awarded Contract". The County intends to sign and return a fully executed Contract no later than seven (7) business days from receipt of all required documents from the Contractor, but no later than seventeen (17) consecutive calendar days from issuance of Notice of Award.

The Contract Time for completion of Work under the awarded Contract shall be commenced within **ten (10)** business days of the date provided in the Notice to Proceed. Construction of the project shall reach Substantial Completion within **three hundred thirty (330)** consecutive calendar days of the date provided in the Notice to Proceed, and shall reach Final Completion within **thirty (30)** consecutive calendar days of the date of Substantial Completion.

If Contractor fails to achieve Substantial Completion or Final Completion of the Work by its applicable date, then the County shall be entitled to withhold from any amounts otherwise due Contractor or to be paid as a debt due the sum of one thousand five hundred dollars **($1,500.00)** per day for each and every calendar day of unexcused delay "Liquidated Damages". The parties agree that such Liquidated Damages are not a penalty but rather a genuine pre-estimate of monetary damages sustained by the County for loss of revenue and/or increased project administration expenses related to this Contract because Contractor failed to perform and complete Work within the time fixed for completion or additional time granted pursuant to the provisions hereof. The assessment of Liquidated Damages is without prejudice to the County's rights of termination and Contractor's obligation to complete the Work.

Should Contractor fall behind the approved Work schedule; the County reserves the right to deduct Liquidated Damages based on an estimated period of late completion. The County need not wait until completion of Work to withhold Liquidated Damages from Contractor's progress payments.

INSURANCE

Bidders must include in the submitted Bid, proof of at least the minimum coverage amounts in the type(s) of insurance policies as provided below. Failure to submit proof of current coverage or certification from a qualified insurance provider of the Bidder's ability to obtain the required coverages upon award may be grounds for Bidder being deemed non-responsive and removed from further consideration.

All insurance policies shall be satisfactory to the County and be issued by companies authorized and duly licensed to transact business in the State of Florida. Contractor shall furnish proof of insurance to the County prior to execution of the Contract. No Work shall commence under the awarded Contract until Contractor has obtained all insurance coverages required by the Contract. Certificates of insurance shall clearly indicate Contractor has obtained insurance of the type, amount, and classification as required by the Contract. Required insurance coverage shall be maintained in force, including coverage for Additional Insureds, until Final Completion of all Work including Warranty Work.

No less than ten (10) days written notice shall be provided to the County prior to cancellation, non-renewal or any material change of required insurance policies. Yearly renewal certificates shall be provided to the County within thirty (30) days of expiration of the current policy.

The types and amounts of insurance required under the Contract do not in any way limit the liability of Contractor including under any warranty or indemnity provision of the Contract or any other obligation whatsoever Contractor may have to the County or others. Nothing in the Contract shall limit the Contractor to the minimum required insurance coverages found in the Contract.

The term "Additional Insured" shall mean St. John's County, its elected officials, officers, employees, agents and representatives. Certificates of insurance shall specifically name each Additional Insured for all policies of insurance except Workers' Compensation and Professional Liability. A copy of the endorsement showing the required coverages must accompany the certificate of insurance.

Certificate Holder Address: St. Johns County, a political subdivision of the State of Florida
500 San Sebastian View
St. Augustine, FL 32084
Attn: Purchasing Division

Contractor shall procure and maintain during the life of the awarded Contract, adequate Workers' Compensation Insurance in at least such amounts as is required by law for all of its employees per Florida Statute 440.02.

Contractor shall procure and maintain during the life of the awarded Contract, Comprehensive General Liability Insurance with minimum limits of $1,000,000 per occurrence, $2,000,000 aggregate, including bodily injury (including wrongful death), property damage, products, personal & advertising injury, and completed operations. This insurance must provide coverage for all Claims that may arise from the services and/or operations completed under the Contract, whether such services or operations are by Contractor or anyone directly or indirectly employed by them. Such insurance(s) shall also be primary and non-contributory with regard to insurance carried by the Additional Insureds.

Contractor shall procure and maintain during the life of the awarded Contract, Comprehensive Automobile Liability Insurance with minimum limits of $2,000,000 combined single limit for bodily injury and property damage liability and insuring liability arising out of or in any way related directly or indirectly to the ownership, maintenance or use of any owned, non-owned or rented/hired automobiles.

The required insurance limits identified above may be satisfied by a combination of a primary policy and/or Umbrella or Excess Liability Insurance policy. Contractor shall require each lower-tier subcontractor to comply with all insurance requirements appropriate for its scope of work, and any deficiency shall not relieve Contractor of its responsibility herein. Upon written request, Contractor shall provide County with copies of lower-tier subcontractor certificates of insurance.

Providing and maintaining adequate insurance coverage is a material obligation of Contractor. County has no obligation or duty to advise Contractor of any non-compliance with the insurance requirements contained in this Section. If Contractor fails to obtain and maintain all of the insurance coverages required herein, Contractor shall indemnify and hold harmless

the Additional Insureds from and against any and all Claims that would have been covered by such insurance had Contractor complied with its obligations herein.

County reserves the right to adjust the above minimum insurance requirements or require additional insurance coverages to address other insurable hazards.

GOVERNING LAWS & REGULATIONS

The Contractor shall be responsible for being familiar and complying with any and all federal, state, and local laws, ordinances, rules and regulations that, in any manner, affect the work required under the awarded Contract. The awarded Contract shall be governed by the laws of the State of Florida and St. Johns County both as to interpretation and performance.

OSHA REQUIREMENTS

The Contractor warrants that the product, products, or services supplied to St. Johns County shall conform in all respects to the standards set forth in the Occupational Safety and Health Act (OSHA) of 1970 as amended and the failure to comply will be considered a breach of contract. St. Johns County shall be held harmless against any unsafe conditions and contractor employee incidents.

COMPLIANCE WITH OCCUPATIONAL SAFETY AND HEALTH ACT

Contractor certifies that all material, equipment, services, etc., furnished in this bid meets all OSHA requirements for the applicable Sectors. Bidder further certifies that, if he is the successful bidder, and the material, equipment, service, etc., delivered or provided is subsequently found to be deficient in any OSHA requirement in effect on date of delivery or service fulfillment date, all costs necessary to bring the material, equipment, service, etc., into compliance with the aforementioned requirements shall be borne by the bidder. All Personal Protective Equipment used by the contractor and their employees shall be ANSI certified and meet OSHA standards.

TRAINING AND EDUCATION (APPLICABLE ONLY WITH CONSTRUCTION SERVICES)

Contractors will ensure that Contractor employees are trained appropriately for their work tasking. The minimum requirements are found in Federal and State Regulations. Examples of this training are (but not limited to):

- Lockout Tagout
- Fall Protection
- Electrical Safety and the National Electrical Code (NEC)
- Confined Space Entry
- Welding/Cutting/Brazing
- Specific Chemical Hazards
- Excavations and Trenching
- Heavy Equipment Operation

Special emphasis should be given towards training and compliance with the Construction industry's "Focus Four" established by OSHA as an outreach program to the construction industry and its workers. Training, education, and awareness should be provided in the areas of: 1) Fall Hazards 2) Caught-In and Between Hazards 3) Struck-By Hazards and 4) Electrocution Hazards.

TOXIC SUBSTANCES/FEDERAL HAZARD COMMUNICATION "RIGHT TO KNOW AND UNDERSTAND" REGULATIONS

The Federal "Right to Know and Understand" Regulation (also known as the Hazard Communication / Globally Harmonized System of Classification and Labeling of Chemicals (GHS) implemented by OSHA requires employers to inform their employees of any toxic substances to which they may be exposed in the workplace, and to provide training in safe chemical storage, labeling, handling practices and emergency procedures.

Accordingly, the Contractor(s) performing under this contract shall be required to provide two (2) complete sets of Safety Data Sheets (SDS) to each of the departments utilizing the awarded products. This information should be provided at the time when the initial delivery is made, on a department-by-department basis. If performing work on site, it is preferred that each contractor bring their hazardous communication program and SDS in a binder labeled with the contractor's name and

identified as a Hazardous Communication/GHS Program. Upon leaving the jobsite and the removal of all hazardous materials, contractors shall take their information with them.

The transport, use, and disposal of toxic substances must be conducted in accordance with DEP/EPA regulations.

Upon request, contractors working at St. Johns County facilities or jobsites will be given access to the written Hazardous Communication Program and informed where to locate SDS.

TEMPORARY TRAFFIC CONTROL (TTC)/MAINTENANCE OF TRAFFIC (MOT) (APPLICABLE ONLY WITH CONSTRUCTION SERVICES)

The Contractor must comply with the Florida Department of Transportation's (DOT) Temporary Traffic Control (TTC) and the Manual on Uniform Traffic Control Devices (MUTCD) in the planning, development, design, implementation, operation, enforcement and inspection of work zone related transportation management and temporary traffic control on streets and highways within the State Highway System right-of-way. Training in the Advanced, Intermediate, and Flagger categories must be completed by the Contractor for their employee when performing right-of-way work while under contract with St. Johns County. Contractor employees must wear a Class II (daytime), Class III (night/limited visibility) high-visibility safety vest or equivalent high-visibility apparel while performing any work that places them in the right-of-way.

OWNER DIRECT PURCHASE

St. Johns County reserves the right to Owner Direct Purchase materials or equipment in accordance with County Purchasing Policy, Section 6.2.12, or implement other means in order to achieve related sales tax savings or other cost savings.

PUBLIC RECORDS

A. The cost of reproduction, access to, disclosure, non-disclosure, or exemption of records, data, documents, and/or materials, associated with this Agreement shall be subject to the applicable provisions of the Florida Public Records Law (Chapter 119, Florida Statutes), and other applicable State and Federal provisions. Access to such public records, may not be blocked, thwarted, and/or hindered by placing the public records in the possession of a third party, or an unaffiliated party.

B. In accordance with Florida law, to the extent that Contractor's performance under this Contract constitutes an act on behalf of the County, Contractor shall comply with all requirements of Florida's public records law. Specifically, if Contractor is expressly authorized, and acts on behalf of the County under this Agreement, Contractor shall:

(1) Keep and maintain public records that ordinarily and necessarily would be required by the County in order to perform the Services;

(2) Upon request from the County's custodian of public records, provide the County with a copy of the requested records or allow the records to be inspected or copied within a reasonable time at a cost that does not exceed the cost as provided in Chapter 119, Florida Statutes, or as otherwise provided by law;

(3) Ensure that public records related to this Agreement that are exempt or confidential and exempt from public records disclosure requirements are not disclosed except as authorized by applicable law for the duration of this Agreement and following completion of this Agreement if the Contractor does not transfer the records to the County; and

(4) Upon completion of this Agreement, transfer, at no cost, to the County all public records in possession of the Contractor or keep and maintain public records required by the County to perform the Services.

If the Contractor transfers all public records to the County upon completion of this Agreement, the Contractor shall destroy any duplicate public records that are exempt or confidential and exempt from public records disclosure requirements. If the Contractor keeps and maintains public records upon completion of this Agreement, the Contractor shall meet all applicable requirements for retaining public records. All records stored electronically must be provided to the County, upon request from the County's custodian of public records, in a format that is compatible with the County's information technology systems.

Failure by the Contractor to comply with the requirements of this section shall be grounds for immediate, unilateral

termination of this Agreement by the County.

IF THE CONTRACTOR HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO ITS DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS AGREEMENT, CONTACT THE CUSTODIAN OF PUBLIC RECORDS AT: 500 San Sebastian View, St. Augustine, FL 32084, Phone: (904) 209-0805, Email: publicrecords@sjcfl.us

END OF SECTION

OFFICIAL COUNTY BID FORM WITH ATTACHMENTS

BID NO: 23-02

OFFICIAL COUNTY BID FORM
ST. JOHNS COUNTY, FLORIDA

TO: THE BOARD OF COUNTY COMMISSIONERS OF ST. JOHNS COUNTY, FLORIDA

DATE SUBMITTED: _____

BID PROPOSAL OF

_____
Full Legal Company Name of Bidder

_____
Mailing Address Telephone Number Fax Number

Bidders: Having become familiar with requirements of the project, and having carefully examined the Bid Documents entitled for **Bid No: 23-02, INSTALLATION OF FORCEMAIN FROM WILDWOOD DR. TO LIGHTSEY RD.** in St. Johns County, Florida, the undersigned proposes to furnish all materials, labor and equipment, supervision and all other requirements necessary to complete the required Work for the following Total Bid Price:

TOTAL BID PRICE:

$_____
Total Bid Price (Numerical)

_____/100 Dollars
Total Bid Price (Amount written or typed in words)

Bidder shall insert the Lump Sum Bid Price in numerals and in words above. In the event of a discrepancy between the two amounts shall be determined by the amount written in words.

During the preparation of the Bid, the following addenda, if any, were received:

No.: _____Date Received:

No.: _____Date Received:

No.: _____Date Received:

The Undersigned hereby declares that no person or persons, firm, or corporation, other than the undersigned are interested in this submitted Bid, as principals, and that this Bid is made without collusion with any person, firm, or corporation, and the undersigned has carefully examined, is thoroughly familiar with, and has incorporated the requirements and specifications of the Bid Documents in this submitted Bid.

The Undersigned certifies that a full examination of the locations of the proposed work and the sources of supply of materials has been completed, and agrees to furnish all necessary labor, equipment and materials, fully understanding that any quantities shown herein are approximate only, and will fully complete all requirements provided herein within the same time limit specified in the Bid Documents as indicated above.

If the Undersigned is notified of the acceptance of this Bid by the County within ninety (90) consecutive calendar days of the submittal deadline for Bids, the Undersigned further agrees to execute a contract in accordance with the provisions of the Bid Documents.

The Undersigned further agrees that security in the form of a Bid Bond, certified or cashier's check in the amount of not less than five percent (5%) of Total Bid Price, payable to the Owner, accompanies this Bid; that the amount is not to be construed as a penalty, but as liquidated damages which said Owner will sustain by failure of the Undersigned to execute and deliver the Contract and Bond as provided in the Bid Documents; thereupon, the security shall become the property of the Owner. If this Bid is not accepted within ninety (90) consecutive calendar days of the submittal deadline for Bids, or if the Undersigned delivers the executed Contract, all required documents and the required Bond, as provided in the Bid Documents, the Security shall be returned to the Bidder within seven (7) business days of issuance of Notice to Proceed.

The undersigned pledges to provide the materials and services as specified in the Bid Documents barring delays due to strikes, fires, transportation difficulties or other causes unforeseeable and beyond the control of the Undersigned.

The Undersigned declares that the statements and representations made in this Bid are true in every respect and that the Bid is, in all respects, fair and made without collusion or fraud, and that no member of the St. Johns County Board, or any other agent or employee of the County, directly or indirectly, is interested in this Bid or in any profits expected to accrue therefrom.

CORPORATE/COMPANY

Full Legal Company Name:_____(Seal)

By:_____ _____
Signature of Authorized Representative (Name & Title typed or printed)

By:_____ _____
Signature of Authorized Representative (Name & Title typed or printed)

Address:_____

Telephone No.: (___)_____ Fax No.: (___)_____

Email Address for Authorized Company Representative: _____

Federal I.D. Tax Number:_____ DUNS #: _____
(If applicable)

INDIVIDUAL

Name:_____
(Signature) (Name typed or printed) (Title)

Address:_____

Telephone No.: (___)_____ Fax No.: _____

Email Address: _____

Federal I.D. Tax Number: _____

Submittal Requirements:

Official County Bid Form, Attachments, and Bid Bond must be completed, along with a fully acknowledged copy of each Addendum applicable to this Bid and submitted with each copy of the Bid Proposal.

BID NO: 23-02

ATTACHMENT "A"

ST. JOHNS COUNTY AFFIDAVIT

Bidder shall complete and submit a sworn statement as part of the submitted Bid. This sworn statement shall be an Affidavit in the following form, executed by an officer/principal of the Bidder, and shall be sworn to before a person who is authorized by law to administer oaths.

STATE OF _____

COUNTY OF _____

The Undersigned authority,_____ ("Affiant"), who being duly sworn, deposes and states that he/she is the _____ (Title) of the Bidder _____ (Full Legal Name of Bidder) submitting the attached Bid for the services provided in the Bid Documents for Bid No: 23-02 INSTALLATION OF FORCEMAIN FROM WILDWOOD DR. TO LIGHTSEY RD., in St. Johns County, Florida.

The Affiant further states that no more than one Bid for the above-referenced project will be submitted from the Bidder, the Affiant, their firm or corporation under the same or different name, and that such Bidder has no financial interest in the firm of another Bidder for the same work. Affiant also states that neither he/she, the firm, association nor corporation of the Bidder has either directly or indirectly entered into any agreement, participated in any collusion, nor otherwise taken any action in restraint of free competitive bidding in connection with this firm's Bid on the above-described project. Furthermore, neither the firm nor any of its officers are barred from participating in public contract lettings in the State of Florida or any other state.

DATED this _____ day of _____, 20____.

_____
Signature of Affiant

_____
Printed Name & Title of Affiant

_____
Full Legal Name of Bidder

Sworn to (or affirmed) and subscribed before me by means of ☐ physical presence or ☐ online notarization, this ____ day of _____, 20____, by Affiant who is personally known to me or has produced_____ as identification. Type and number of I.D. produced: _____.

_____
Notary Public
My Commission Expires:_____

BIDDER MUST EXECUTE AND ATTACH THIS AFFADAVIT TO SUBMITTED BID.

BID NO: 23-02

ATTACHMENT "B"

CERTIFICATE AS TO CORPORATE PRINCIPAL

I, _____, certify that I am the Secretary of the corporation named as Principal in the foregoing; that _____, (Authorized Representative of Bidder) who signed the Bond(s) on behalf of the Bidder, was then _____ (Title) of said corporation; that I know his/her signature; and his/her signature thereto is genuine; and that said bond(s) was duly signed, sealed, and attested to on behalf of said corporation by authority of its governing body.

_____
Signature of Secretary

_____
Full Legal Name of Corporation (Bidder)

STATE OF _____

COUNTY OF _____

Before and by me, a Notary Public duly commissioned, qualified and acting personally, being duly sworn upon oath by means of ☐ physical presence or ☐ online notarization, _____ (Authorized Representative of Bidder) states that he/she is authorized to execute the foregoing Bid Bond on behalf of the Bidder named therein in favor of St. Johns County, Florida.

Subscribed and sworn to me on this ____ day of _____, 2022, by the Authorized Representative of Bidder, who is personally known to me or has produced _____ as identification. Type and Number of I.D. produced: _____.

_____
Notary Public
My Commission Expires:_____

(Attach Power of Attorney to original Bid Bond and Financial Statement of Surety Company)

BID NO: 23-02

ATTACHMENT "C"

LICENSE / CERTIFICATION LIST

Bidder shall list all **current** licenses and certifications held by the firm and/or Key Personnel of the Bidder. Failure to demonstrate any required licenses or certifications which are stated as a minimum qualification, shall be grounds for disqualification and removal from further consideration. A copy of each license or associated document(s) shall be attached to this form and submitted with the Bid.

License Name	License #	Issuing Agency	Expiration Date
State of Florida Business License			
FL Certified General Contractor's License			
FL Certified Underground Utility Contractor's License			
FDOT Pre-Qualification – 40 Underground Utilities (Water & Sewer)			

BID NO: 23-02

ATTACHMENT "D"

LIST OF PROPOSED SUB-CONTRACTORS / SUPPLIER LIST

Bidder shall submit any and all proposed sub-contractors and major material suppliers below for review/approval by the County. Bidder shall attach any and all licenses or certifications required for the proposed sub-contractor to perform the intended portion of the Work as stated below. All subcontractors and major materials suppliers are subject to approval of Owner.

Company Name	Division/Discipline	Primary Contact Name	Contact Number and Email Address
	FL Certified Underground Utility Contractor		

BID NO: 23-02

ATTACHMENT "E"
ST. JOHNS COUNTY BOARD OF COUNTY COMMISSIONERS
CONFLICT OF INTEREST DISCLOSURE FORM

Project (BID) Number/Description: Bid No: 23-02 INSTALLATION OF FORCEMAIN FROM WILDWOOD DR. TO LIGHTSEY RD.

The term "conflict of interest" refers to situations in which financial or other considerations may adversely affect, or have the appearance of adversely affecting a Bidder's professional judgment in completing work for the benefit of St. Johns County ("County"). The bias such conflicts could conceivably impart may inappropriately affect the goals, processes, methods of analysis or outcomes desired by the County.

Contractors are expected to safeguard their ability to make objective, fair, and impartial decisions when performing work for the benefit of the County. Contractors, therefore must there avoid situations in which financial or other considerations may adversely affect, or have the appearance of adversely affecting the consultant's/contractor's professional judgement when completing work for the benefit of the County.

The mere appearance of a conflict may be as serious and potentially damaging as an actual distortion of goals, processes, methods of analysis or outcomes. Reports of conflicts based upon appearances can undermine public trust in ways that may not be adequately restored even when the mitigating facts of a situation are brought to light. Apparent conflicts, therefore, should be disclosed and evaluated with the same vigor as actual conflicts.

It is expressly understood that failure to disclose conflicts of interest as described herein may result in immediate disqualification from evaluation or immediate termination from work for the County.

Please check the appropriate statement:

☐ I hereby attest that the undersigned Bidder has no actual or potential conflict of interest due to any other clients, contracts, or property interests for completing work on the above referenced project.

☐ The undersigned Bidder, by attachment to this form, submits information which may be a potential conflict of interest due to other clients, contracts or property interests for completing work on the above referenced project.

Full Legal Name of Bidder: _____

Authorized Representative(s):

_____ _____
Signature Print Name/Title

_____ _____
Signature Print Name/Title

BID NO: 23-02

ATTACHMENT "F"

CERTIFICATE OF INSURANCE

INSERT CERTIFICATE OF INSURANCE HERE

Bidders shall provide certificates of insurance as part of their submittal package. Certificates of Insurance shall meet or exceed the requirements as described under Insurance.

Failure to provide proof of current insurance coverage or ability to obtain the required coverages may result in being deemed non-responsive and remove from further consideration.

(Attach or insert a copy of "Certificate of Insurance" here)

BID NO: 23-02

ATTACHMENT "G"
CONTRACTOR'S QUALIFICATIONS FORM

Bidder certifies, and has attached to the submitted Bid proof of current and valid licensure to perform the Work in the State of Florida and St. Johns County, and as specified in the Bid Documents. Any material misrepresentation, as determined by the County, shall result in disqualification.

By: _____
Full Legal Name of Bidder

_____ _____
Authorized Representative Signature Date

Contractor's Project Experience

Bidder must be fully licensed to do business in the State of Florida and hold a current Certified General Contractor's or Certified Underground Utility Contractor's license at the time the bid is due. Bidders must have successfully completed, as a Prime Contractor or Sub-Contractor, at least three (3) projects, in the past five (5) years, of similar type, size with FDOT right of ways and dollar value of the project described herein.

Contractor's Project Experience Details Project No. 1	
Name of Project:	
Project Manager Name:	
Superintendent Name:	
Project Description:	
Owner Information	
Name:	
Address:	
Contact Person:	
Telephone Number:	
Engineer/Architect Information	
Name:	
Address:	
Contact Person:	

Contractor's Project Experience Details Project No. 1	
Telephone Number:	
Contract Dates	
Started:	
Original Contractual Completion:	
Final Contractual Completion:	
Actual Completion:	
Contract Value	
Original Contract Value:	
Final Contract Value:	
Value of Change Orders to Date:	
Value of Outstanding Claims to Date:	
Bonding Company Information	
Name:	
Address:	
Contact Person:	
Telephone Number:	
Major Subcontractor Information	
Name:	
Address:	
Contact Person:	
Telephone Number:	
Name:	
Address:	
Contact Person:	
Telephone Number:	
Name:	
Address:	
Contact Person:	
Telephone Number:	

Contractor's Project Experience Details Project No. 2	
Name of Project:	
Project Manager Name:	
Superintendent Name:	
Project Description:	
Owner Information	
Name:	
Address:	
Contact Person:	
Telephone Number:	
Engineer/Architect Information	
Name:	
Address:	
Contact Person:	
Telephone Number:	
Contract Dates	
Started:	
Original Contractual Completion:	
Final Contractual Completion:	
Actual Completion:	
Contract Value	
Original Contract Value:	
Final Contract Value:	
Value of Change Orders to Date:	
Value of Outstanding Claims to Date:	
Bonding Company Information	
Name:	
Address:	
Contact Person:	
Telephone Number:	

Contractor's Project Experience Details Project No. 2	
Major Subcontractor Information	
Name:	
Address:	
Contact Person:	
Telephone Number:	
Name:	
Address:	
Contact Person:	
Telephone Number:	
Name:	
Address:	
Contact Person:	
Telephone Number:	

Contractor's Project Experience Details Project No. 3	
Name of Project:	
Project Manager Name:	
Superintendent Name:	
Project Description:	
Owner Information	
Name:	
Address:	
Contact Person:	
Telephone Number:	
Engineer/Architect Information	
Name:	
Address:	
Contact Person:	
Telephone Number:	
Contract Dates	
Started:	
Original Contractual Completion:	
Final Contractual Completion:	
Actual Completion:	
Contract Value	
Original Contract Value:	
Final Contract Value:	
Value of Change Orders to Date:	
Value of Outstanding Claims to Date:	
Bonding Company Information	
Name:	
Address:	
Contact Person:	
Telephone Number:	

Contractor's Project Experience Details Project No. 3	
Major Subcontractor Information	
Name:	
Address:	
Contact Person:	
Telephone Number:	
Name:	
Address:	
Contact Person:	
Telephone Number:	
Name:	
Address:	
Contact Person:	
Telephone Number:	

Additional Questions

Bidder shall attach hereto and submit any and all current work in progress that is similar to the Work specified in the Bid Documents. The Bidder shall provide, at a minimum, the following: Project Information (title, duration, value, status, anticipated completion), and Owner Information (name, location contact person, phone number, email address).

BID NO: 23-02

ATTACHMENT "H"

DRUG-FREE WORKPLACE FORM

The undersigned firm, in accordance with Florida Statute 287.087 hereby certifies that

_____ does:
Name of Firm

1. Publish a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession or use of a controlled substance is prohibited in the workplace and specifying the actions that will be taken against employees for violations of such prohibition.

2. Inform employees about the danger of drug abuse in the workplace, the business' policy of maintaining a drug-free workplace, any available drug counseling, rehabilitation, employee assistance programs and the penalties that may be imposed upon employees for drug abuse violations.

3. Give each employee engaged in providing the contractual services that are described in St. Johns County's request for proposals to provide bond underwriter services a copy of the statement specified in paragraph 1.

4. In the statement specified in paragraph 1, notify the employees that, as a condition of working on the contractual services described in paragraph 3, the employee will abide by the terms of the statement and will notify the employer of any conviction of, or plea of guilty or nolo contendere to, any violation of Florida Statute 893, as amended, or of any controlled substance law of the United States or any state, for a violation occurring in the workplace no later than five (5) days after such conviction or plea.

5. Impose a sanction on, or require the satisfactory participation in a drug abuse assistance or rehabilitation program if such is available in the employee's community by, any employee who is so convicted.

6. Consistent with applicable provisions with State or Federal law, rule, or regulation, make a good faith effort to continue to maintain a drug-free workplace through implementation of paragraphs 1 through 5.

As the person authorized to sign this statement, I certify that this firm complies fully with the above requirements.

_____
Signature

_____
Date

Bid No: 23-02

ATTACHMENT "I"

CLAIMS, LIENS, LITIGATION HISTORY

(Complete and Submit)

1. Within the past 7 years, has your organization filed suit or a formal claim against a project owner (as a prime or subcontractor) or been sued by or had a formal claim filed by an owner, subcontractor or supplier resulting from a construction dispute? Yes_____ No_____ If yes, please attach additional sheet(s) to include:

   Description of every action Captions of the Litigation or Arbitration
   Amount at issue: _____ Name (s) of the attorneys representing all parties:

   _____

   Amount actually recovered, if any: _____
   Name(s) of the project owner(s)/manager(s) to include address and phone number:

   _____

2. List all pending litigation and or arbitration.

3. List and explain all litigation and arbitration within the past seven (7) years - pending, resolved, dismissed, etc.

4. Within the past 7 years, please list all Liens, including Federal, State and Local, which have been filed against your Company. List in detail the type of Lien, date, amount and current status of each Lien._____

   _____

   _____

   _____

5. Have you ever abandoned a job, been terminated or had a performance/surety bond called to complete a job?
   Yes_____ No_____ If yes, please explain in detail: _____

   _____

   _____

   _____

6. For all claims filed against your company within the past five-(5) years, have all been resolved satisfactorily with final judgment in favor of your company within 90 days of the date the judgment became final? Yes _____ No_____
   If no, please explain why? _____

   _____

   _____

7. List the status of all pending claims currently filed against your company:_____

   _____

   _____

   _____

Liquidated Damages

1. Has a project owner ever withheld retainage, issued liquidated damages or made a claim against any Performance and Payment Bonds? Yes_____ No_____ If yes, please explain in detail: _____

   _____

   _____

(Use additional or supplemental pages as needed)

ATTACHMENT "J"

E-VERIFY AFFIDAVIT

Contract No.: Bid No: 23-02 INSTALLATION OF FORCEMAIN FROM WILDWOOD DR. TO LIGHTSEY RD.

STATE OF _____
COUNTY OF _____

I, _____ (hereinafter "Affiant"), being duly authorized by and on behalf of _____(hereinafter "Contractor") hereby swears or affirms as follows:

1. Contractor understands that E-Verify, authorized by Illegal Immigration Reform and Immigrant Responsibility Act of 1996 (IIRIRA), is a web-based system provided by the United States Department of Homeland Security, through which employers electronically confirm the employment eligibility of their employees.

2. For the duration of Contract No. _____ (hereinafter "Agreement"), in accordance with section 448.095, F.S., Contractor shall utilize the U.S. Department of Homeland Security's E-Verify system to verify the employment eligibility of all new employees hired by the Contractor and shall expressly require any subcontractors performing work or providing services pursuant to the Agreement to likewise utilize the U.S. Department of Homeland Security's E-Verify system to verify the employment eligibility of all new employees hired by the subcontractor.

3. Contractor shall comply with all applicable provisions of section 448.095, F.S., and will incorporate in all subcontracts the obligation to comply with section 448.095, F.S.

4. Contractor understands and agrees that its failure to comply with all applicable provisions of section 448.095, F.S. or its failure to ensure that all employees and subcontractors performing work under the Agreement are legally authorized to work in the United States and the State of Florida constitute a breach of the Agreement for which St. Johns County may immediately terminate the Agreement without notice and without penalty. The Contractor further understands and agrees that in the event of such termination, Contractor shall be liable to the St. Johns County for any costs incurred by the St. Johns County resulting from Contractor's breach.

DATED this _____ day of _____, 20____.

_____
Signature of Affiant

_____
Printed Name of Affiant

_____
Printed Title of Affiant

_____
Full Legal Name of Consultant/Contractor

Sworn to (or affirmed) and subscribed before me by means of ☐ physical presence or ☐ online notarization, this ____ day of _____, 20____, by _____{*insert name and title of Affiant*}, who is personally known to me or has produced_____ as identification.

_____
Notary Public
My Commission Expires:_____

Bid No: 23-02

ATTACHMENT "K"

LOCAL PREFERENCE

Any Respondent that meets the criteria of a Local Business, in accordance with Section 16.3 of the SJC Purchasing Policy, must complete and sign this Attachment "K to indicate their qualification to receive local preference. All required documentation to demonstrate that the Respondent meets all qualification criteria as a local business must be included in the submitted proposal/submittal with this Attachment "K".

In order to qualify for local preference Respondent must provide sufficient documentation to demonstrate:

- A physical, brick and mortar place of business located within the geographic boundaries of St. Johns County, with a valid mailing address, in an area zoned for the conduct of such business, from which the Supplier has operated or performed business on a day-to-day basis that is substantially similar to those specified in the solicitation for a period of at least one (1) calendar year prior to the issuance of the solicitation. No PO Boxes shall be accepted.

- Local address above must be registered as the Supplier's principal place of business with the Divisions of Corporations Florida Department of State for at least one (1) calendar year prior to the issuance of this BID.

- Submit current and valid Local Business Tax Receipt, and must have Local Business Tax Receipts issued by the St. Johns County Tax Collector from at least one (1) calendar year prior to issuance of this BID.

- Must qualify as a local business as shown above **AND** self-perform a minimum of fifty percent (50%) of all services under the awarded Contract, or must have a minimum of fifty percent (50%) of all services performed by qualified local businesses as sub-contractors or sub-consultants.

If qualifying for local preference through the use of qualified local sub-contractors or sub-consultants, Respondent must submit all required documentation to demonstrate the above requirements of all proposed sub-contractors and sub-consultants for local preference consideration with the submitted proposal.

Respondent is a Local Business as defined in Section 16.3, SJC Purchasing Policy _____

Respondent is **not** a Local Business as defined in Section 16.3, SJC Purchasing Policy _____

_____
Signature – Authorized Respondent Representative

_____
Printed Name & Title

_____
Date of Signature

BID NO: 23-02

BID BOND

STATE OF _____
COUNTY OF ST. JOHNS

KNOW ALL PERSONS BY THESE PRESENTS, that we, the undersigned _____ (Full Legal Name of Bidder) as Principal, at _____ (Address) and _____ as Surety, hereby hold and firmly bind ourselves, our heirs, executors, administrators, and successors and assigns, jointly and severally, by these presents, unto St. Johns County, Florida, as Obligee, in the penal sum of five percent (5%) of the Total Bid Price, or _____ _____ Dollars ($_____) lawful money of the United States.

WHEREAS, the Principal has submitted a Bid for **Bid No: 23-02; INSTALLATION OF FORCEMAIN FROM WILDWOOD DR. TO LIGHTSEY RD.** dated _____, 2022:

(a) If the Principal shall not withdraw said Bid within ninety (90) days of the opening of Bids by the Owner, and shall enter into a written Contract with the County within ten (10) business days after prescribed forms are provided to Principal for signature, in accordance with the Bid Documents, and give Bond with good and sufficient Surety or Sureties, as may be required, for the faithful performance and proper fulfillment of such Contract, then the above obligations shall be void and of no effect, otherwise to remain in full force and effect.

(b) In the event of the withdrawal of said Bid within the period specified, or the failure to enter into such Contract and give such Bond within the time specified, the Principal shall pay the County the lesser of the following amounts: 1) the amount of this bond as hereinabove set forth, of 2) the difference between the amount specified in the Principal's Bid and such larger amount for which the Owner may in good faith contract with another party to perform the work covered by said bid including the administrative costs to effect such contract, then this obligation shall be void and of no effect, otherwise to remain in full force and effect.

IN WITNESS WHEREOF, the above bound parties have signed and sealed this instrument under their several seals, on this _____ day of _____, 20___, the name and corporate seal of Principal and Surety being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

BID NO: 23-02

PRINCIPAL:

WITNESSES:

_____

_____

_____

_____
Full Legal Name of Principal

_____
Signature of Authorized Officer

_____
Printed Name & Title of Signing Officer

_____
Mailing Address

_____
City, State, Zip Code

_____
Email Address of Signing Officer

SURETY:

_____
Full Legal Name of Surety

_____
Signature of Authorized Surety Agent

_____
Mailing Address of Local Agency

_____
City, State, Zip Code

_____
Email Address of Surety Agent

_____
Attorney-In-Fact Signature

SEALED BID MAILING LABEL

Cut along the outer border and affix this label to your sealed bid envelope to identify it as a "Sealed BID"

SEALED BID • DO NOT OPEN



SEALED BID NO.:	**BID NO: 23-02**
BID TITLE:	**INSTALLATION OF FORCEMAIN FROM WILDWOOD DR. TO LIGHTSEY RD.**
DUE DATE/TIME:	**By 2:00PM – November 9, 2022**
SUBMITTED BY:	
	Company Name
	Company Address
	Company Address
DELIVER TO:	St. Johns County Purchasing Division 500 San Sebastian View St. Augustine FL 32084

END OF DOCUMENT



Board of County Commissioners
St. Johns County, Florida

SR 207 FORCEMAIN EXTENSION

TECHNICAL SPECIFICATIONS

August 18, 2022

St. Johns County Utility Department
1205 State Road 16
St. Augustine, FL 32084
(904) 209-2700

SR207 FORCEMAIN EXTENSION
TECHNICAL SPECIFICATIONS

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SECTION 01001 - GENERAL REQUIREMENTS

PART 1 GENERAL

A. A brief description of the Work is stated in the Advertisement for Bids. To determine the full scope of the project or any particular part of the project, coordinate the applicable information in the several parts of these Contract Documents.

1.02 SITE INVESTIGATION AND REPRESENTATION

A. The Contractor acknowledges satisfaction as to the nature and location of the Work, the general and local conditions, particularly those bearing upon availability of transportation, access to the site, disposal, handling and storage of materials, availability of labor, water, electric power, roads, and uncertainties of weather, river stages, or similar physical conditions at the site, the conformation and conditions of the ground, the character of equipment and facilities needed preliminary to and during the prosecution of the Work, and all other matters which can in any way affect the Work or the cost thereof under this Contract.

B. The Contractor further acknowledges satisfaction as to character, quality, and quantity of surface and subsurface materials to be encountered from his inspection of the site and from reviewing any available records of exploratory Work furnished by the Owner or included in these Documents. Failure by the Contractor to become acquainted with the physical conditions of the site and all the available information will not relieve the Contractor from responsibility for properly estimating the difficulty or cost of successfully performing the Work.

C. The Contractor warrants that as a result of examination and investigation of all the aforesaid data, the Contractor can perform the Work in a good and workmanlike manner and to the satisfaction of the Owner. The Owner assumes no responsibility for any representations made by any of its officers or agents during or prior to the execution of this Contract, unless (1) such representations are expressly stated in the Contract, and (2) the Contract expressly provides that the responsibility is assumed by the Owner.

1.03 INFORMATION ON SITE CONDITIONS

A. General: Any information obtained by the Engineer regarding site conditions, groundwater elevations, existing construction of site facilities as applicable, and similar data will be available for inspection at the office of the Engineer upon request. Such information is offered as supplementary information only. Neither the Engineer nor the Owner assumes any responsibility for the completeness or interpretation of such supplementary information.

1.04 CONTRACTOR'S RESPONSIBILITY FOR UTILITY PROPERTIES AND SERVICE

A. Utilities and structures adjacent to or expected to be encountered in the Work are the Contractor's sole responsibility to locate. A utility notification service is available and it

is encouraged that it be used to notify those utilities that participate in the service.

B. Where the Contractor's operations could cause damage or inconvenience to telephone, television, power, oil, gas, water, sewer, or irrigation systems, the operations shall be suspended until all arrangements necessary for the protection of these utilities and services have been made by the Contractor.

C. Notify all utility offices which are affected by the construction operation at least forty-eight (48) hours in advance. Under no circumstances expose any utility without first obtaining permission from the appropriate agency. Once permission has been granted, locate, expose, and provide temporary support for all existing underground utilities.

D. The Contractor shall be solely and directly responsible to the Owner and operators of such properties for any damage, injury, expense, loss, inconvenience, delay, suits, actions, or claims of any character brought because of any injuries or damage which may result from the construction operations under this Contract.

E. Neither the Owner nor its officers or agents shall be responsible to the Contractor for damages as a result of the Contractor's failure to protect utilities encountered in the Work.

F. If the Contractor while performing the Contract discovers utility facilities not identified by the public agency in the Contract Drawings or Specifications, he shall immediately notify the public agency and utility in writing.

G. The public utility, where they are the Owner, shall have the sole discretion to perform repairs or relocation Work or permit the Contractor to do such repairs or relocation Work at a reasonable price.

H. The Contractor shall replace, at his own expense, all existing utilities or structures removed or damage during construction, unless otherwise provided for in these Contract Documents or ordered by the Engineer.

1.05 SCHEDULING

A. Prior to starting the Work, confer with the Engineer and Owner's representative to develop an approved Work schedule. Do not make connections between existing Work and new Work until necessary inspection and tests have been completed on the new Work and it is found to conform in all respects to the requirements of the Contract Documents.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 SHUTDOWN OR ALTERATION OF EXISTING OPERATIONS OR UTILITIES

A. Connections to existing services or utilities, or other Work that requires the temporary shutdown of any existing operations or utilities shall be planned in detail with appropriate scheduling of the Work and coordinated with the Owner or Engineer. The

approved schedule for shutdown or restart shall be indicated on the Contractor's Progress Schedule, and advance notice shall be given in order that the Owner or Engineer may witness the shutdown, tie-in, and startup.

B. All materials and equipment (including emergency equipment) necessary to expedite tie-ins shall be on hand prior to the shutdown of existing services or utilities.

3.02 OPERATION OF EXISTING SYSTEM PROHIBITED

A. At no time undertake to close off any lines or open valves or take any other action which would affect the operation of the existing system, except as specifically required by the Drawings and Specifications and after approval is granted by the Owner. Request approval to change the system operation three (3) working days in advance of the time that interruption of the existing system is required.

3.03 EQUIPMENT AND SYSTEM TESTING

A. Functional (or run) testing, in the presence of the manufacturer's representative and/or Engineer, will be required for each item of equipment following installation. Functional testing is defined, as that testing necessary to determine if installed equipment and systems will operate as intended.

B. In addition to the functional test, specific performance testing of installed equipment and systems shall be conducted by the Contractor as required in the section specifying the equipment or system.

C. The Contractor shall furnish all labor, materials, tools, equipment, instruments, and services necessary to perform the functional and performance testing.

3.04 INTERFERING STRUCTURES

A. Take necessary precautions to prevent damage to existing structures whether on the surface, aboveground, or underground. An attempt has been made to show major structures on the Drawings. The completeness and accuracy of information shown cannot be guaranteed, and it is presented simply as a guide to avoid known possible difficulties.

B. Protect underground and aboveground existing structures from damage, whether or not they lie within the limits of the easements obtained by the Owner. Where such existing fences, gates, barns, sheds, buildings, or any other structure must be removed in order to properly carry out the construction, or are damaged during construction, restore to their original condition to the satisfaction of the property owner involved at the Contractor's own expense. Notify the Engineer of any damaged underground structure, and make repairs or replacements before backfilling.

C. Without additional compensation, the Contractor may remove and replace in a condition as good as or better than original, such small miscellaneous structures as fences, mailboxes, and signposts that interfere with the Contractor's operation.

3.05 FIELD RELOCATION

A. During the progress of construction, it is expected that minor relocations of the Work will be necessary. Such relocations shall be made only by direction of the Engineer. If existing structures are encountered which prevent the construction, and which are not properly shown on the Drawings, notify the Engineer before continuing with the construction in order that the Engineer may make such field revisions as necessary to avoid conflict with the existing structures. If the Contractor fails to so notify the Engineer when an existing structure is encountered, and proceeds with the construction despite this interference, he shall do so at his own risk.

3.06 SALVAGE OF EQUIPMENT AND MATERIALS REMOVED

A. If existing equipment or materials are removed and replaced, they shall be salvaged by the Owner. Upon removal and replacement, the Contractor shall place the equipment or materials at an on-site location directed by the Owner.

3.07 RECEIVING, INSPECTION, AND UNLOADING PRODUCTS

A. Contractor shall record the receipt of products at the job site.

B. Upon receipt of products at the job site, Contractor shall inspect for completeness and evidence of damage during shipment.

1. Owner's representative may be present for inspection.
2. Should there appear to be damage, notify the Owner's representative immediately and inform the Manufacturers and the Transportation Company.
3. Expedite replacement of damaged, incomplete, or lost items.

C. After completion of inspection, unload products in accordance with manufacturer's instructions for unloading, or as specified. Do not unload damaged or incomplete products to be returned to manufacturer for replacement, except as necessary to expedite return shipment.

3.08 TEMPORARY SERVICES

A. Temporary Water: The Contractor shall provide all water required to accomplish the actual construction, including water required for testing, flushing, and disinfection. Temporary piping for transporting the water to the Work shall be paid for by the Contractor. The Owner will provide a hydrant meter for billing purposes.

B. Temporary Electric Power: The Contractor shall be responsible for obtaining a source of electric power for construction. The Contractor shall pay the cost of electric services for construction and testing until substantial completion is achieved. Temporary electric power installation shall meet the construction safety requirements of OSHA, State, and other governing agencies.

C. Sanitary Facilities: The Contractor shall provide and maintain sanitary facilities for his employees and his subcontractors' employees that will comply with the regulations of the local and state departments of health and as directed by the Engineer.

3.9 HANDLING, STORAGE, AND MAINTENANCE OF PRODUCTS

A. Handle products in accordance with the manufacturer's written recommendations, and in a manner to prevent damage.

B. Store products prior to installation as recommended by the manufacturer.

1. Store products such as pipe and reinforcing steel off the ground in approved storage yards.
2. Store items subject to damage by the elements, vandalism, or theft in secure buildings.
3. Provide environmentally controlled storage facilities for items requiring environmental control for protection.

C. Provide manufacturer's recommended maintenance during storage, installation, and until products are accepted for use by Owner.

D. Store products to provide access for inspection and inventory control. Contractor shall document products in storage to facilitate inspection and to estimate progress payments for products delivered but not installed in the Work.

3.10 STORAGE OF MATERIALS

A. Materials shall be so stored as to ensure the preservation of their quality and fitness for the Work. When considered necessary, they shall be placed on wooden platforms or other hard, clean surfaces, and not on the ground. Stored materials shall be located so as to facilitate prompt inspection. Private property shall not be used for storage purposes without the written permission of the Owner or lessee.

B. Delicate instruments and materials subject to vandalism shall be placed under locked cover and, if necessary, provide with temperature control as recommended by the manufacturer.

PART 4 SAFETY AND CONVENIENCE

4.01 CONSTRUCTION SAFETY PROGRAM

A. The Contractor shall develop and maintain for the duration of this Contract, a safety program that will effectively incorporate and implement all required safety provisions. The Contractor shall appoint an employee who is qualified and authorized to supervise and enforce compliance with the safety program.

B. The duty of the Engineer to conduct construction review of the Contractor's performance is not intended to include a review or approval of the adequacy of the Contractor's safety supervisor, the safety program, or any safety measures taken in, on, or near the construction site.

4.02 SAFETY EQUIPMENT

A. The Contractor, as part of his safety program, shall maintain at his office or other well-known place at the job site, safety equipment applicable to the Work as prescribed by the governing safety authorities, all articles necessary for giving first-aid to the injured, and shall establish the procedure for the immediate removal to a hospital or a doctor's care of any person who may be injured on the job site.

B. The Contractor shall do all Work necessary to protect the general public from hazards, including, but not limited to, pedestrian sidewalk or walkway, and trenches or excavations in roadway. Barricades, lanterns, and proper signs shall be furnished in sufficient amount to safeguard the public and the Work.

C. The performance of all Work and all completed construction, particularly with respect to ladders, platforms, structure openings, scaffolding, shoring, lagging, machinery guards and the like, shall be in accordance with the applicable governing safety authorities.

D. During construction, the Contractor shall construct and at all times maintain satisfactory and substantial temporary chain link fencing, solid fencing, railing, barricades or steel plates, as applicable, at all openings, obstruction, or other hazards in streets, sidewalks, floors, roofs, and walkways. All such barriers shall have adequate warning light as necessary, or required, for safety.

4.03 ACCIDENT REPORTS

A. If death or serious injuries or serious damage are caused, the accident shall be reported immediately by telephone or messenger to the Engineer. In addition, the Contractor must promptly report in writing to the Engineer all accidents whatsoever arising out of or in connection with, the performance of the Work whether on, or adjacent to, the site, giving full details and statements of witnesses.

B. If claim is made by anyone against the Contractor or any subcontractor on account of any accidents, the Contractor shall promptly report the facts in writing to the Engineer, giving full details of the claim.

4.04 SAFE ACCESS BY FEDERAL, STATE, AND LOCAL GOVERNMENT OFFICIALS

A. Authorized representatives of the Florida Department of Environmental Protection and other government officials shall at all time have safe access to the Work, and the Contractor shall provide proper facilities for such access and inspection.

4.05 PROTECTION OF PROPERTY

A. Protect stored materials, cultivated trees and crops, and other items located adjacent to the proposed Work. Notify property owners affected by the construction at least forty-eight (48) hours in advance of the time construction begins. During construction operations, construct and maintain such facilities as may be required to provide access by all property owners to their property. No person shall be cut off from access to his residence or place of business for a period exceeding eight (8) hours, unless the

Contractor has made special arrangements with the affected persons.

4.06 FIRE PREVENTION AND PROTECTION

A. The Contractor shall perform all Work in a fire-safe manner. He shall supply and maintain on the site adequate fire-fighting equipment capable of extinguishing incipient fires. The Contractor shall comply with applicable Federal, State, and local fire-prevention regulations. Where these regulations do not apply, applicable parts of the National Fire Prevention Standard for Safeguarding Building Construction Operation (NFPA No. 241) shall be followed.

4.07 TRAFFIC MAINTENANCE AND SAFETY

A. Comply with all rules and regulations of the State, County, and City authorities regarding closing or restricting the use of public streets or highways. No public or private road shall be closed, except by express permission of the Owner. Conduct the Work so as to assure the least possible obstruction to traffic and normal commercial pursuits. Protect all obstructions within traveled roadways by installing approved signs, barricades, and lights where necessary for the safety of the public. The convenience of the general public and residents adjacent to the project and the protection of persons and property are of prime importance and shall be provided for in an adequate and satisfactory manner.

B. When flagmen and guards are required by regulation or when deemed necessary for safety, they shall be furnished with approved orange wearing apparel and other regulation traffic-control devices.

4.08 ACCESS AND NOTIFICATION FOR POLICE, FIRE, AND POSTAL SERVICE

A. Notify the fire department and police department before closing any street or portion thereof. No closing shall be made without the Owner's approval. Notify said departments when the streets are again passable for emergency vehicles. Conduct operations with the least interference to fire equipment access and at no time prevent such access.

B. The Contractor shall leave a night emergency telephone number or numbers with the police departments, so that contact may be made easily at all times in case of barricade or flare trouble or other emergencies.

C. Maintain postal service facilities in accordance with the requirements of the U.S. Postal Service, and at the completion of the Work in each area, replace them in their original location and in a condition satisfactory to the U.S. Postal Service.

END SECTION

SECTION 01002 - INFORMATION AVAILABLE TO BIDDERS

PART 1 – GENERAL

1.01 REPORTS

A. The ENGINEER has relied upon a specific purpose survey by ETM. The survey has been provided with the drawings. The CONTRACTOR may obtain additional copies of the survey at the cost of reproduction.

The survey is provided for the CONTRACTOR's convenience and is for general information only. The CONTRACTOR is solely responsible for his own interpretations of the data.

1.02 UTILITIES

Existing utilities have been shown on the Drawings insofar as information is reasonably available; however, it will be the CONTRACTOR's responsibility to preserve all existing utilities whether shown on the Plans or not. If utility conflicts are encountered by the CONTRACTOR during construction, he shall give sufficient notice to their owners so that they may make the necessary adjustments. Damage to any utilities which, in the opinion of the OWNER, is caused by carelessness on the part of the CONTRACTOR shall be repaired at the CONTRACTOR's expense. Any delays ensuing from this damage will be considered as inexcusable.

1.03 PERMITS OBTAINED BY THE OWNER

A. The following permits (if required) will be obtained by the OWNER. For permits already received, a copy (without supporting submittal documents) is attached to this specification. For permits not yet received, a copy of these permits will be provided to the CONTRACTOR by the OWNER prior to issuance of the Notice to Proceed. The CONTRACTOR is solely responsible for compliance to all conditions of the permits.
   1. Florida Department of Transportation (FDOT) ROW Utilization Permit (copy attached)
   2. The Florida Department of Environmental (FDEP) Notification/Application for Constructing a Domestic Wastewater Collection/Transmission System

1.04 EASEMENTS/AGREEMENTS OBTAINED BY THE OWNER

A. The OWNER has obtained easements/agreements for this project. The CONTRACTOR is responsible for complying with and satisfying the conditions of the easement/agreements. See Section 01100 for additional requirements of CONTRACTOR obtained easements.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01014 - CONSTRUCTION CONSTRAINTS

PART 1 - GENERAL

1.01 DESCRIPTION

A. Areas of construction under this contract must be coordinated with Florida Department of Transportation, St Johns County, St. Johns County Utilities and private property owners to maintain access to their facilities and to allow construction to be completed.

B. The CONTRACTOR is responsible for all required coordination with property owners and shall provide written notification to all property owners impacted by construction activities 14 days prior to the start of the construction activity within the area of impact.

C. Any Work outside of the allowable hours, weekend work, and work on County recognized holidays will require written approval from the County. The CONTRACTOR shall request written authorization a minimum of 72 hours in advance of the requested work hour extension. The COUNTY recognizes that HDD construction will require continuous operation throughout each HDD drill.

D. If CONTRACTOR is required to coordinate his/her activities in the interface or common areas with other contractors and the utilities, CONTRACTOR must submit to the ENGINEER a description and schedule as to how the common areas will be utilized, recognizing the required coordination with other contractors and the facility operators.

E. During Testing, CONTRACTOR shall make available the manpower, equipment and manufacturer's representatives required to make any necessary testing, adjustments and training of OWNER'S personnel.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01100 - SUMMARY OF WORK

PART 1 GENERAL

1.01 WORK COVERED BY CONTRACT DOCUMENTS

A. The completed Work will provide the Owner with improvements generally including the following work elements for this wastewater system:

1. Construction of new forcemain extension.
2. Miscellaneous site work associated with the force main extension.

B. All work shall conform to St. Johns County Utility Department Standards and these contract documents. Except as authorized by the Project Director, in case of conflicts between these contract documents and St. Johns County Utility Department's *Manual of Water, Wastewater, and Reuse Design Standards and Specifications*, the stricter standard or specification shall apply.

C. The following standards and specification sections may apply to the project from the *Manual of Water, Wastewater, and Reuse Design Standards and Specifications*:

1. 3.2 Site Preparation, Surface Removal and Restoration
2. 3.3 Excavation, Backfill, Compaction and Grading
3. 3.4 Pressure Pipe Restraint
4. 3.9 Pressure and Leakage Testing of Pressurized Pipe
5. 3.13 Wastewater Force Main Materials
6. 3.14 Wastewater Force Main Installation

D. As-built, Record Drawing survey requirements are called out in Section 01770, Closeout Procedures.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01200 - PROJECT MEETINGS

PART 1 GENERAL

1.01 GENERAL

A. Project Director will schedule physical arrangements for meetings throughout progress of the Work, prepare meeting agenda with regular participant input and distribute with written notice of each meeting, preside at meetings, record minutes to include significant proceedings and decisions, and reproduce and distribute copies of minutes within 5 days after each meeting to participants and parties affected by meeting decisions.

1.02 PRECONSTRUCTION CONFERENCE

A. Within 20 days after Contract Time starts to run, Contractor shall schedule a preconstruction conference. Contractor shall be prepared to discuss the following subjects, as a minimum:

1. Required schedules.
2. Status of Bonds and insurance.
3. Sequencing of critical path work items.
4. Progress payment procedures.
5. Project changes and clarification procedures.
6. Submittal list and schedule.
7. Use of Site, access, office and storage areas, security and temporary facilities.
8. Major product delivery and priorities.
9. Contractor's safety plan and representative.

B. Attendees will include:

1. Project Director and other Owner's representatives.
2. Contractor's office representative.
3. Contractor's resident superintendent.
4. Contractor's quality control representative.
5. Subcontractors' representatives whom Contractor may desire, or Engineer may request to attend.
6. If required by Owner, Engineer's representatives.
7. Others as appropriate.

1.03 PRELIMINARY SCHEDULES REVIEW MEETING

A. As set forth in Paragraph 7.7 of the Agreement and Section 01320, Construction Progress Documentation.

1.04 PROGRESS MEETINGS

A. Project Director will schedule regular progress meetings at Owner's offices conducted bi-weekly to review the Work progress, Progress Schedule, Schedule of Submittals, Application for Payment, contract modifications, and other matters

needing discussion and resolution. One (1) progress meeting per month shall be in person and the second progress meeting may be virtual

B. Attendees will include:
   1. Project Director and other Owner's representative(s), as appropriate.
   2. Contractor, Subcontractors, and Suppliers, as appropriate.
   3. Engineer's representative(s) if required by the Owner.
   4. Others as appropriate.

1.05 OTHER MEETINGS

A. In accordance with Contract Documents and as may be required by Owner and Project Director.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01250 - CONTRACT MODIFICATION PROCEDURES

PART 1 GENERAL

1.01 PROPOSAL REQUESTS

A. Owner may, in anticipation of ordering an addition, deletion, or revision to the Work, request Contractor to prepare a detailed proposal of cost and times to perform contemplated change.

B. Proposal request will include reference number for tracking purposes and detailed description of and reason for proposed change, and such additional information as appropriate and as may be required for Contractor to accurately estimate cost and time impact on Project.

C. Proposal request is for information only; Contractor is neither authorized to execute proposed change nor to stop Work in progress as result of such request.

D. Contract modification procedures, including Contractor claims, field orders and changes in work shall be as specified in Article VII Contract Administration and Article X Changes in the Work of the Standard Agreement.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01290 - PAYMENT PROCEDURES

PART 1 GENERAL

1.01 SUBMITTALS

A. Submittals for payments under this contract shall comply with Article V, Payment of the Contract Price in the Agreement

B. Informational Submittals:

1. Schedule of Values: Submit on Contractor's standard form.
2. Schedule of Estimated Progress Payments:
   a. Submit with initially acceptable Schedule of Values.
   b. Submit adjustments thereto with Application for Payment.
3. Contractor shall use St. Johns County application for payment template as produced by Purchasing.
4. Final Application for Payment.

1.02 SCHEDULE OF VALUES

A. Prepare a separate Schedule of Values for each schedule of the Work under the Agreement as outlined in Article V, Paragraph 5.1 Schedule of Values of the Agreement.

B. Lump Sum Work:

1. Reflect specified cash and contingency allowances and alternates, as applicable.
2. List bonds and insurance premiums, mobilization, demobilization, preliminary and detailed progress schedule preparation, equipment testing, facility startup, and contract closeout separately.

1.03 SCHEDULE OF ESTIMATED PROGRESS PAYMENTS

A. Show estimated payment requests throughout Contract Times aggregating initial Contract Price.

B. Base estimated progress payments on initially acceptable progress schedule. Adjust to reflect subsequent adjustments in progress schedule and Contract Price as reflected by modifications to the Contract Documents.

1.04 APPLICATION FOR PAYMENT

A. Submit Applications for Payment as described in Article V, Paragraph 5.2 Payment Procedure in the Agreement.

B. Include separate line item for each Change Order and Work Change Directive executed prior to date of submission. Provide further breakdown of such as requested by the Project Director.

C. Preparation:

1. Submit Application for Payment, including a Transmittal Summary Form and detailed Application for Payment Form(s) for each schedule as applicable, and such supporting data as may be requested by the Project Director.

1.05 PAYMENT

A. Payment for all Lump Sum Work shown or specified in Contract Documents is included in the Contract Price. Payment will be based on a percentage complete basis for each line item of the accepted Schedule of Values.

B. Owner may decline to or withhold payments as described in Article V, Paragraph 5.3 in the Agreement.

C. Payments to the Contractor for substantial and final completion shall be as described in Article V, Paragraphs 5.5 and 5.6 of the Agreement.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01310 - PROJECT COORDINATION

PART 1 GENERAL

1.01 SUBMITTALS

A. Informational:
   1. Photographs

B. UTILITY NOTIFICATION AND COORDINATION

C. Coordinate the Work with various utilities within Project limits. Notify applicable utilities prior to commencing Work, if damage occurs, or if conflicts or emergencies arise during Work.

1.02 FACILITY OPERATIONS

A. The Contractor's work schedule shall be established on the basis of working a normal work schedule including 5 days per week, single shift, 8 hours per day or 4 days per week, single shift, ten hours per day. Unless otherwise approved by the Owner, normal or general items of work shall be scheduled during the normal work schedule.

B. Continuous operation of Owner's facilities is of critical importance. Schedule and conduct activities to enable existing facilities to operate continuously, unless otherwise specified.

C. The Owner may require the Contractor to perform work outside the normal work schedule for such tasks as tie-in work to existing facilities and work that may impact the continued (non-interruptible service to the Owner's existing utility customers. The Contractor shall plan and anticipate the cost impact of these work schedule limitations.

D. The Contractor shall notify the Project Director at least two (2) business days prior to actual tie-in work. The Project Director and/or another representative of the Owner, must be present during tie-in work.

E. Perform Work continuously during critical connections and changeovers, and as required to prevent interruption of Owner's operations.

F. When necessary, plan, design, and provide various temporary services, utilities, connections, pumping systems, temporary piping and heating, access, and similar items to maintain continuous operations of Owner's facility.

G. Do not close lines, open or close valves, or take other action which would affect the operation of existing systems, except as specifically required by the

Contract Documents and after authorization by Owner and Engineer. Such authorization will be considered within two (2) business days after receipt of

Contractor's written request.

H. Do not proceed with Work affecting a facility's operation without obtaining Owner's and Engineer's advance approval of the need for and duration of such Work.

I. During construction.

1.03 ADJACENT FACILITIES AND PROPERTIES

A. Examination:

1. After Effective Date of the Agreement and before work at sites is started, Contractor and Project Director, and affected property owners, if desired by the Owner, shall make a thorough examination of pre- existing conditions including existing buildings, structures, and other improvements in vicinity of Work, as applicable, which could be damaged by construction operations.
2. Periodic re-examination shall be jointly performed to include, but not limited to, cracks in structures, settlement, leakage, and similar conditions.

B. Documentation:

1. Record and submit documentation of observations made on examination inspections in accordance with paragraph Construction Photographs and Audio-Video Recordings.
2. Upon receipt, Project Director will review, sign, and return one record copy of documentation to Contractor to be kept on file in fieldoffice.
3. Such documentation shall be used as indisputable evidence in ascertaining whether and to what extent damage occurred as a result of Contractor's operations, and is for the protection of adjacent property owners, Contractor, and Owner.

1.04 CONSTRUCTION PHOTOGRAPHS

A. Photographically document all phases of the project including preconstruction, construction progress, andpost-construction.

B. Film handling and development shall be done by a commercial laboratory.

C. Project Director shall have the right to select the subject matter and vantage point from which photographs are to be taken.

D. Pre-Construction and Post-Construction:

1. After Effective Date of the Agreement and before Work at Site is started, and again upon issuance of Substantial Completion, take a minimum of 3 exposures of the Construction Site and property adjacent to perimeter of Construction Sites.
2. Particular emphasis shall be directed to structures both inside and outside the Site.

3. Format: Digital, minimum resolution of 756 by 504 pixels and 24 bit, millions of color.

E. Digital Images:

1. Archive using a commercially available photo management system.
2. Label each disk with Project and Owner's name, and week and year images were produced.

1.05 REFERENCE POINTS AND SURVEYS

A. Owner's Responsibilities:

1. Establish bench marks convenient to Work and at least every 500 feet on pipelines and roads.
2. Establish horizontal reference points or coordinate system with bench marks and reference points for Contractor's use as necessary to lay out Work.

B. Location and elevation of bench marks are shown on Drawings.

C. Contractor's Responsibilities:

1. Provide additional survey and layout required to layout the Work.
2. Notify Project Director at least 5 working days in advance of time when grade and line to be provided by Owner will be needed.
3. Check and establish exact location of existing facilities prior to construction of new facilities and any connections thereto.
4. In event of discrepancy in data or staking provided by Owner, request clarification before proceeding with Work.
5. Retain professional land surveyor or civil engineer registered in state of Project who shall perform or supervise engineering surveying necessary for additional construction staking and layout.
6. Maintain complete accurate log of survey Work as it progresses as a Record Document.
7. On request of Project Director, submit documentation.
8. Provide competent employee(s), tools, stakes, and other equipment and materials as Project Director may require to:
   a. Establish control points, lines, and easement boundaries.
   b. Check layout, survey, and measurement Work performed by others.
   c. Measure quantities for payment purposes.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 CUTTING, FITTING, AND PATCHING

A. Cut, fit, adjust, or patch Work and work of others, including excavation and backfill as required, to make Work complete.

B. Obtain prior written authorization of Project Director before commencing Work to cut or otherwise alter:

1. Structural or reinforcing steel, structural column or beam, elevated slab, trusses, or other structural member.
2. Weather- or moisture-resistant elements.
3. Efficiency, maintenance, or safety of element.
4. Work of others.

C. Refinish surfaces to provide an even finish.

1. Refinish continuous surfaces to nearest intersection.

END OF SECTION

SECTION 01014 - CONSTRUCTION CONSTRAINTS

PART 1 - GENERAL

1.01 DESCRIPTION

A. Areas of construction under this contract must be coordinated with Florida Department of Transportation, St Johns County and private property owners to maintain access to their facilities and to allow construction to be completed.

B. The CONTRACTOR is responsible for all required coordination with property owners and shall provide written notification to all property owners impacted by construction activities 14 days prior to the start of the construction activity within the area of impact.

C. Allowable work hours shall be Monday through Friday from 7:00am through 5:00pm. It is anticipated that some night work will be required and the contractor is to coordinate with SJC on this arrangement. Any Work outside of the stated allowable hours, weekend work, and work on County recognized holidays will require written approval from the County. The CONTRACTOR shall request written authorization a minimum of 72 hours in advance of the requested work hour extension. The COUNTY recognizes that HDD construction will require continuous operation throughout each HDD drill.

D. If CONTRACTOR is required to coordinate his/her activities in the interface or common areas with other contractors and the utilities, CONTRACTOR must submit to the ENGINEER a description and schedule as to how the common areas will be utilized, recognizing the required coordination with other contractors and the facility operators.

E. During Testing, CONTRACTOR shall make available the manpower, equipment and manufacturer's representatives required to make any necessary testing, adjustments and training of OWNER'S personnel.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01320 - CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 GENERAL

1.1 SUBMITTALS

A. Informational Submittals:

1. Preliminary Progress Schedule: Submit at least 7 days prior to preconstruction conference.
2. Detailed Progress Schedule:
   a. Submit initial Detailed Progress Schedule within 60 days after Effective Date of the Agreement.
   b. Submit an Updated Progress Schedule at each update, in accordance with Article Detailed Progress Schedule.
3. Submit with Each Progress Schedule Submission:
   a. Contractor's certification that Progress Schedule submission is actual schedule being utilized for execution of the Work.
   b. Progress Schedule: Four legible copies.
   c. Narrative Progress Report: Same number of copies as specified for Progress Schedule.
4. Prior to final payment, submit a final Updated Progress Schedule.

1.2 PRELIMINARY PROGRESS SCHEDULE

A. In addition to basic requirements outlined in Article VII of the Agreement, show a detailed schedule, beginning with Notice to Proceed, for minimum duration of 90 days, and a summary of balance of Project through Final Completion.

B. Show activities including, but not limited to the following:

1. Notice to Proceed.
2. Permits.
3. Submittals, with review time. Contractor may use Schedule of Submittals specified in Section 01330, Submittal Procedures.
4. Early procurement activities for long lead equipment and materials.
5. Initial Site work.
6. Earthwork.
7. Specified Work sequences and construction constraints.
8. Contract Milestone and Completion Dates.
9. Owner-furnished products delivery dates or ranges of dates.
10. Major structural, mechanical, equipment, electrical, architectural, and instrumentation and control Work.
11. Project close-out summary.
12. Demobilization summary.

C. Update Preliminary Progress Schedule monthly as part of progress payment process. Failure to do so may result in the Owner withholding all or part of the monthly progress payment until the Preliminary Progress Schedule is updated in a manner acceptable to Project Director.

D. Format: In accordance with Article Progress Schedule—Bar Chart.

1.3 DETAILED PROGRESS SCHEDULE

A. In addition to requirements of Article VII in the Agreement, submit Detailed Progress Schedule beginning with Notice to Proceed and continuing through Final Completion.

B. Show the duration and sequences of activities required for complete performance of the Work reflecting means and methods chosen by Contractor.

C. When accepted by Project Director, Detailed Progress Schedule will replace Preliminary Progress Schedule and become Baseline Schedule. Subsequent revisions will be considered as Updated Progress Schedules.

D. Format: In accordance with 1.4 Progress Schedule—Bar Chart.

E. Update monthly to reflect actual progress and occurrences to date, including weather delays.

1.4 PROGRESS SCHEDULE—BAR CHART

A. General: Comprehensive bar chart schedule, generally as outlined in Associated General Contractors of America (AGC) 580, "Construction Project Planning and Scheduling Guidelines." If a conflict occurs between the AGC publication and this Specification, this Specification shall govern.

B. Format:

1. Unless otherwise approved, white paper, 11-inch by 17-inch sheet size.
2. Title Block: Show name of project and Owner, date submitted, revision or update number, and name of scheduler.
3. Identify horizontally, across the top of the schedule, the time frame by year, month, and day.
4. Identify each activity with a unique number and a brief description of the Work associated with that activity.
5. Legend: Describe standard and special symbols used.

C. Contents: Identify, in chronological order, those activities reasonably required to complete the Work, including as applicable, but not limited to:

1. Obtaining permits, submittals for early product procurement, and long lead time items.
2. Mobilization and other preliminary activities.
3. Initial Site work.
4. Specified Work sequences, constraints, and Milestones, including Substantial Completion date(s).
5. Subcontract Work.
6. Submittals.
7. Major equipment design, fabrication, factory testing, and delivery dates.

8. Delivery dates for Owner-furnished products, as specified in Section 01100, Summary of Work.
9. Sitework.
10. Concrete Work.
11. Equipment Work.
12. Mechanical Work.
13. Interfaces with Owner-furnished equipment.
14. Other important Work for each major facility.
15. Testing Activities.
16. Project closeout and cleanup.
17. Demobilization.

1.5 PROGRESS OF THE WORK

A. Updated Progress Schedule shall reflect:

1. Progress of Work to within 5 working days prior to submission.
2. Approved changes in Work scope and activities modified since submission.
3. Delays in Submittals or resubmittals, deliveries, or Work.
4. Adjusted or modified sequences of Work.
5. Other identifiable changes.
6. Revised projections of progress and completion.
7. Report of changed logic.

B. Produce detailed sub-schedules during Project, upon request of Owner or Engineer, to further define critical portions of the Work such as facility shutdowns.

C. If Contractor fails to complete activity by its latest scheduled completion date and this Failure is anticipated to extend Contract Times (or Milestones), Contractor shall, within 7 days of such failure, submit a written statement as to how Contractor intends to correct nonperformance and return to acceptable current Progress Schedule. Actions by Contractor to complete the Work within Contract Times (or Milestones) will not be justification for adjustment to Contract Price or Contract Times.

D. Owner may order Contractor to increase plant, equipment, labor force or working hours if Contractor fails to:

1. Complete a Milestone activity by its completion date.
2. Satisfactorily execute Work as necessary to prevent delay to overall completion of Project, at no additional cost to Owner.

1.6 NARRATIVE PROGRESS REPORT

A. Format:

1. Organize same as Progress Schedule.
2. Identify, on a cover letter, reporting period, date submitted, and name of author of report.

B. Contents:

1. Number of days worked over the period, work force on hand, construction equipment on hand (including utility vehicles such as pickup trucks, maintenance vehicles, stake trucks).
2. General progress of Work, including a listing of activities started and completed over the reporting period, mobilization/demobilization of subcontractors, and major milestones achieved.
3. Contractor's plan for management of Site (e.g., lay down and staging areas, construction traffic), utilization of construction equipment, buildup of trade labor, and identification of potential Contract changes.
4. Identification of new activities and sequences as a result of executed Contract changes.
5. Documentation of weather conditions over the reporting period, and any resulting impacts to the work.
6. Description of actual or potential delays, including related causes, and the steps taken or anticipated to mitigate their impact.
7. Changes to activity logic.
8. Changes to the critical path.
9. Identification of, and accompanying reason for, any activities added or deleted since the last report.
10. Steps taken to recover the schedule from Contractor-caused delays.

1.7 SCHEDULE ACCEPTANCE

A. Project Director's acceptance will demonstrate agreement that:

1. Proposed schedule is accepted with respect to:
   a. Contract Times, including Final Completion and all intermediate Milestones are within the specified times.
   b. Specified Work sequences and constraints are shown as specified.
   c. Specified Owner-furnished Equipment or Material arrival dates, or range of dates, are included.
   d. Access restrictions are accurately reflected.
   e. Testing times are as specified.
   f. Submittal review times are as specified.
   g. Testing duration is as specified, and timing is acceptable. In all other respects, Project Director's acceptance of Contractor's schedule indicates that, in Project Director's judgment, schedule represents reasonable plan for constructing Project in accordance with the Contract Documents. Project Director's review will not make any change in Contract requirements. Lack of comment on any aspect of schedule that is not in accordance with the Contract Documents will not thereby indicate acceptance of that change, unless Contractor has explicitly called the nonconformance to Project Director's attention in submittal. Schedule remains Contractor's responsibility and Contractor retains responsibility for performing all activities, for activity durations, and for activity sequences required to construct Project in accordance with the Contract Documents.

B. Unacceptable Preliminary Progress Schedule:

1. Make requested corrections; resubmit within 10 days.
2. Until acceptable to Project Director as Baseline Progress Schedule, continue review and revision process, during which time Contractor shall update schedule on a monthly basis to reflect actual progress and occurrences to date.

C. Unacceptable Detailed Progress Schedule:

1. Make requested corrections; resubmit within 10 days.
2. Until acceptable to Engineer as Baseline Progress Schedule, continue review and revision process.

D. Narrative Report: All changes to activity duration and sequences, including addition or deletion of activities subsequent to Project Director's acceptance of Baseline Progress Schedule, shall be delineated in Narrative Report current with proposed Updated Progress Schedule.

1.8 ADJUSTMENT OF CONTRACT TIMES

A. Reference Article X Changes in Work in the Agreement and Section 01250, Contract Modification Procedures.

B. Evaluation and reconciliation of Adjustments of Contract Times shall be based on the Updated Progress Schedule at the time of proposed adjustment or claimed delay.

C. Schedule Contingency:

1. Contingency, when used in the context of the Progress Schedule, is time between Contractor's proposed Completion Time and Contract Completion Time.
2. Contingency included in Progress Schedule is a Project resource available to both Contractor and Owner to meet Contract Milestones and Contract Times. Use of Schedule contingency shall be shared to the proportionate benefit of both parties.
3. Use of schedule contingency suppression techniques such as preferential sequencing and extended activity times is prohibited.
4. Pursuant to Contingency sharing provisions of this Specification, no time extensions will be granted, nor will delay damages be paid until a delay occurs which (i) consumes all available contingency time, and (ii) extends Work beyond the Contract Completion date.

D. Claims Based on Contract Times:

1. Where Project Director has not yet rendered formal decision on Contractor's Claim for adjustment of Contract Times, and parties are unable to agree as to amount of adjustment to be reflected in Progress Schedule, Contractor shall reflect an interim adjustment in the Progress Schedule as acceptable to Project Director.

2. It is understood and agreed that such interim acceptance will not be binding on either Contractor or Owner, and will be made only for the purpose of continuing to schedule Work until such time as formal decision has been rendered as to an adjustment, if any, of the Contract Times.
3. Contractor shall revise Progress Schedule prepared thereafter in accordance with Project Director's formal decision.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01330 SUBMITTAL PROCEDURES

PART 1 GENERAL

1.01 DEFINITIONS

A. Action Submittal: Written and graphic information submitted by Contractor that requires Engineer's approval.

B. Informational Submittal: Information submitted by Contractor that does not require Engineer's approval.

1.02 PROCEDURES

A. Direct submittals to Engineer at the following address, unless specified otherwise.

St Johns County Utility Department
1205 State Road 16
St Augustine, FL 32084
Attn: Alan Flood, P.E.

B. Transmittal of Submittal:

1. Contractor shall:
   a. Review each submittal and check for compliance with Contract Documents.
   b. Stamp each submittal with uniform approval stamp before submitting to Engineer.
      1) Stamp to include Project name, submittal number, Specification number, Contractor's reviewer name, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with Contract Documents.
      2) Engineer will not review submittals that do not bear Contractor's approval stamp and will return them without action.
2. Complete, sign, and transmit with each submittal package, one Transmittal of Contractor's Submittal form attached at end of this section.
3. Identify each submittal with the following:
   a. Numbering and Tracking System:
      1) Sequentially number each submittal.
      2) Resubmission of submittal shall have original number with sequential alphabetic suffix.
   b. Specification section and paragraph to which submittal applies.
   c. Project title and Engineer's project number.
   d. Date of transmittal.
   e. Names of Contractor, Subcontractor or Supplier, and manufacturer as appropriate.
4. Identify and describe each deviation or variation from Contract

Documents.

C. Format:

1. Do not base Shop Drawings on reproductions of Contract Documents.
2. Package submittal information by individual Specification section. Do not combine different Specification sections together in submittal package, unless otherwise directed in Specification.
3. Present in a clear and thorough manner and in sufficient detail to show kind, size, arrangement, and function of components, materials, and devices, and compliance with Contract Documents.
4. Index with labeled tab dividers in orderly manner.

D. Timeliness: Schedule and submit in accordance Schedule of Submittals, and requirements of individual Specification sections.

E. Processing Time:

1. Time for review shall commence on Engineer's receipt of submittal.
2. Engineer will act upon Contractor's submittal and transmit response to Contractor not later than 30 days after receipt, unless otherwise specified.
3. Resubmittals will be subject to same review time.
4. No adjustment of Contract Times or Price will be allowed due to delays in progress of Work caused by rejection and subsequent resubmittals.

F. Resubmittals: Clearly identify each correction or change made.

G. Incomplete Submittals:

1. Engineer will return entire submittal for Contractor's revision if preliminary review deems it incomplete.
2. When any of the following are missing, submittal will be deemed incomplete:
   a. Contractor's review stamp, completed and signed.
   b. Transmittal of Contractor's Submittal, completed and signed.
   c. Insufficient number of copies.

H. Submittals not required by Contract Documents:

1. Will not be reviewed and will be returned stamped "Not Subject to Review."
2. Engineer will keep one copy and return all remaining copies to Contractor.

1.03 ACTION SUBMITTALS

A. Prepare and submit Action Submittals required by individual Specification sections.

B. Shop Drawings:

1. Copies: Seven.
2. Identify and Indicate:
    a. Applicable Contract Drawing and Detail number, products, units and assemblies, and system or equipment identification or tag numbers.
    b. Equipment and Component Title: Identical to title shown on Drawings.
    c. Critical field dimensions and relationships to other critical features of Work. Note dimensions established by field measurement.
    d. Project-specific information drawn accurately to scale.
3. Manufacturer's standard schematic drawings and diagrams as follows:
    a. Modify to delete information that is not applicable to the Work.
    b. Supplement standard information to provide information specifically applicable to the Work.
4. Product Data: Provide as specified in individual Specifications.
5. Foreign Manufacturers: When proposed, include following additional information:
    a. Names and addresses of at least two companies that maintain technical service representatives close to Project.
    b. Complete list of spare parts and accessories for each piece of equipment.

C. Samples:

1. Copies: Two, unless otherwise specified in individual Specifications.
2. Preparation: Mount, display, or package Samples in manner specified to facilitate review of quality. Attach label on unexposed side that includes the following:
    a. Manufacturer name.
    b. Model number.
    c. Material.
    d. Sample source.
3. Full-size Samples:
    a. Size as indicated in individual Specification section.
    b. Prepared from same materials to be used for the Work.
    c. Cured and finished in manner specified.
    d. Physically identical with product proposed for use.

D. Action Submittal Dispositions: Engineer will review, mark, and stamp as appropriate, and distribute marked-up copies as noted:

1. Approved:
    a. Contractor may incorporate product(s) or implement Work covered by submittal.
    b. Distribution:
        1) Two Copies furnished Owner.
        2) One copy furnished Project Director.
        3) One copy retained in Engineer's file.
        4) Remaining copies returned to Contractor appropriately annotated.
2. Approved as Noted:

a. Contractor may incorporate product(s) or implement Work covered by submittal, in accordance with Engineer's notations.
b. Distribution:
1) Two copies furnished Owner.
2) One copy furnished Project Director.
3) One copy retained in Engineer's file.
4) Remaining copies returned to Contractor appropriately annotated.

3. Partial Approval, Resubmit as Noted:
a. Make corrections or obtain missing portions, and resubmit.
b. Except for portions indicated, Contractor may begin to incorporate product(s) or implement Work covered by submittal, in accordance with Engineer's notations.
c. Distribution:
1) Two copies furnished Owner.
2) One copy furnished Project Director.
3) One copy retained in Engineer's file.
4) Remaining copies returned to Contractor appropriately annotated.

4. Revise and Resubmit:
a. Contractor may not incorporate product(s) or implement Work covered by submittal.
b. Distribution:
1) One copy furnished Project Director.
2) One copy retained in Engineer's file.
3) Remaining copies returned to Contractor appropriately annotated.

1.04 INFORMATIONAL SUBMITTALS

A. General:

1. Copies: Submit three copies, unless otherwise indicated in individual Specification section.
2. Refer to individual Specification sections for specific submittal requirements.
3. Project Director will review each submittal. If submittal meets conditions of the Contract, Project Director will forward copies to appropriate parties. If Project Director determines submittal does not meet conditions of the Contract and is therefore considered unacceptable, Project Director will retain one copy and return remaining copies with review comments to Contractor, and require that submittal be corrected and resubmitted.

B. Application for Payment: In accordance with Section 01290, Payment Procedures.

C. Certificates:
1. General:
a. Provide notarized statement that includes signature of entity responsible for preparing certification.
b. Signed by officer or other individual authorized to sign documents on behalf of that entity.

2. Welding: In accordance with individual Specification sections.
3. Installer: Prepare written statements on manufacturer's letterhead certifying that installer complies with requirements as specified in individual Specification sections.
4. Material Test: Prepared by qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements.
5. Certificates of Successful Testing or Inspection: Submit when testing or inspection is required by Laws and Regulations or governing agency or specified in individual Specification sections.
6. Manufacturer's Certificate of Compliance: In accordance with Section 01460, Manufacturers' Field Services.
7. Manufacturer's Certificate of Proper Installation: In accordance with Section 01460, Manufacturers' Field Services.

D. Construction Photographs: In accordance with Section 01310, Project Coordination, and as may otherwise be required in ContractDocuments.

E. Contract Closeout Submittals: In accordance with Section 01770, Closeout Procedures.

F. Contractor-Design Data:
1. Written and graphic information.
2. List of assumptions.
3. List of performance and design criteria.
4. Summary of loads or load diagram, if applicable.
5. Calculations.
6. List of applicable codes and regulations.
7. Name and version of software.
8. Information requested in individual Specification section.

G. Manufacturer's Instructions: Written or published information that documents manufacturer's recommendations, guidelines, and procedures in accordance with individual Specification sections.

H. Operation and Maintenance Data: As required in Section 01782, Operation and Maintenance Data.

I. Schedules:

1. Schedule of Submittals: Prepare separately or in combination with Progress Schedule as specified in Section 01320, Construction Progress Documentation.
   a. Show for each, at a minimum, the following:
      1) Specification section number.
      2) Identification by numbering and tracking system as specified under Paragraph Transmittal ofSubmittal.
      3) Estimated date of submission to Engineer, including reviewing and processing time.
   b. On a monthly basis, submit updated schedule to Engineer if changes have occurred or resubmittals are required.

2. Schedule of Values: In accordance with Section 01290, Payment Procedures.
3. Schedule of Estimated Progress Payments: In accordance with Section 01290, Payment Procedures.
4. Progress Schedules: In accordance with Section 01320, Construction Progress Documentation.

J. Special Guarantee: Supplier's written guarantee as required in individual Specification sections.

K. Statement of Qualification: Evidence of qualification, certification, or registration as required in Contract Documents to verify qualifications of professional land surveyor, engineer, materials testing laboratory, specialty Subcontractor, trade, Specialist, consultant, installer, and other professionals. Submittals Required by Laws, Regulations, and Governing Agencies:

1. Submit promptly notifications, reports, certifications, payrolls, and otherwise as may be required, directly to the applicable federal, state, or local governing agency or their representative.

2. Transmit to Engineer for Owner's records one copy of correspondence and transmittals (to include enclosures and attachments) between Contractor and governing agency.

L. Test and Inspection Reports:

1. General: Shall contain signature of person responsible for test or report.
2. Factory:
    a. Identification of product and Specification section, type of inspection or test with referenced standard or code.
    b. Date of test, Project title and number, and name and signature of authorized person.
    c. Test results.
    d. If test or inspection deems material or equipment not in compliance with Contract Documents, identify corrective action necessary to bring into compliance.
    e. Provide interpretation of test results, when requested by Engineer.
    f. Other items as identified in individual Specification sections.
3. Field: As a minimum, include the following:
    a. Project title and number.
    b. Date and time.
    c. Record of temperature and weather conditions.
    d. Identification of product and Specification section.
    e. Type and location of test, Sample, or inspection, including referenced standard or code.
    f. Date issued, testing laboratory name, address, and telephone number, and name and signature of laboratory inspector.
    g. If test or inspection deems material or equipment not in compliance with Contract Documents, identify corrective action necessary to

bring into compliance.

h. Provide interpretation of test results, when requested by Engineer.

i. Other items as identified in individual Specification sections.

1.05 Training Data: In accordance with Section 01460, Manufacturers' Field Services.

1.06 SUPPLEMENTS

A. The supplement listed below, following "End of Section," is part of this Specification.

1. Forms: Transmittal of Contractor's Submittal.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01400 - CONTRACTOR QUALITY CONTROL

PART 1 GENERAL

1.01 REFERENCES

A. The following is a list of standards which may be referenced in this Section:

1. ASTM International (ASTM):
   a. D3740, Evaluation of Agencies Engaged in the Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction.
   b. E329, Use in the Evaluation of Testing and Inspection Agencies as Used in Construction.

1.02 DEFINITIONS

A. Contractor Quality Control (CQC): The means by which Contractor ensures that the construction, to include that performed by subcontractors and suppliers, complies with the requirements of the Contract.

1.03 SUBMITTALS

A. Informational Submittals:

1. CQC Plan: Submit, not later than 30 days after receipt of Notice to Proceed.
2. CQC Report: Submit, weekly, an original and one copy in report form.

1.04 OWNER'S QUALITY ASSURANCE

A. All Work is subject to Owner's quality assurance inspection and testing at all locations and at all reasonable times before acceptance to ensure strict compliance with the terms of the Contract Documents.

B. Owner's quality assurance inspections and tests are for the sole benefit of Owner and do not:

1. Relieve Contractor of responsibility for providing adequate quality control measures;
2. Relieve Contractor of responsibility for damage to or loss of the material before acceptance;
3. Constitute or imply acceptance; or
4. Affect the continuing rights of Owner after acceptance of the completed Work.

C. The presence or absence of a quality assurance inspector does not relieve Contractor from any Contract requirement.

D. Promptly furnish all facilities, labor, and material reasonably needed for performing such safe and convenient inspections and tests as may be required by the Project Director.

E. Owner may charge Contractor for any additional cost of inspection or test when Work is not ready at the time specified by Contractor for inspection or test, or when prior rejection makes re-inspection or retest necessary. Quality assurance inspections and tests will be performed in a manner that will not unnecessarily delay the Work.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 GENERAL

A. Maintain an adequate inspection system and perform such inspections as will ensure that the Work conforms to the Contract Documents.

B. Maintain complete inspection records and make them available at all times to Owner and Engineer.

C. The quality control system shall consist of plans, procedures, and organization necessary to produce an end product that complies with the Contract Documents. The system shall cover all construction and demolition operations, both onsite and offsite, including Work by subcontractors, fabricators, suppliers and purchasing agents, and shall be keyed to the proposed construction sequence.

3.02 COORDINATION MEETING

A. After the Preconstruction Conference, but before start of construction, and prior to acceptance of the CQC Plan, schedule a meeting with Owner to discuss the quality control system.

B. Develop a mutual understanding of the system details, including the forms for recording the CQC operations, control activities, testing, administration of the system for both onsite and offsite Work, and the interrelationship of Contractor's management and control with the Owner's Quality Assurance.

C. There may be occasions when subsequent conferences may be called by either party to reconfirm mutual understandings and/or address deficiencies in the CQC system or procedures that may require corrective action by Contractor.

3.03 QUALITY CONTROL ORGANIZATION

A. CQC System Manager:

1. Designate an individual within Contractor's organization who will be

responsible for overall management of CQC and have the authority to act in CQC matters for the Contractor.

2. CQC System Manager may perform other duties on the Project.
3. CQC System Manager shall be an experienced construction person, with a minimum of 3 years construction experience on similar type Work.
4. CQC System Manager shall report to the Contractor's project manager or someone higher in the organization. Project manager in this context shall mean the individual with responsibility for the overall quality and production management of the Project.
5. CQC System Manager shall be onsite during construction; periods of absence may not exceed 2 weeks at any one time.
6. Identify an alternate for CQC System Manager to serve with full authority during the System Manager's absence. The requirements for the alternate will be the same as for designated CQC System Manager.

B. CQC Staff:

1. Designate a CQC staff, available at the Site at all times during progress, with complete authority to take any action necessary to ensure compliance with the Contract. CQC staff members shall be subject to acceptance by Engineer.
2. CQC staff shall take direction from CQC System Manager in matters pertaining to QC.
3. CQC staff must be of sufficient size to ensure adequate QC coverage of Work phases, work shifts, and work crews involved in the construction. These personnel may perform other duties, but must be fully qualified by experience and technical training to perform their assigned QC responsibilities and must be allowed sufficient time to carry out these responsibilities.
4. The actual strength of the CQC staff may vary during any specific Work period to cover the needs of the Project. Add additional staff when necessary for a proper CQC organization.

C. Organizational Changes: Obtain Project Director's acceptance before replacing any member of the CQC staff. Requests for changes shall include name, qualifications, duties, and responsibilities of the proposed replacement.

3.04 CONTRACTOR QUALITY CONTROL PLAN

A. General:

1. Plan shall identify personnel, procedures, control, instructions, test, records, and forms to be used.
2. An interim plan for the first 30 days of operation will be considered.

3. Construction will be permitted to begin only after acceptance of the CQC Plan or acceptance of an interim plan applicable to the particular feature of Work to be started.
4. Work outside of the features of Work included in an accepted interim plan will not be permitted to begin until acceptance of a CQC Plan or another

interim plan containing the additional features of Work to be started.

B. Content:

1. Plan shall cover the intended CQC organization for the entire Contract and shall include the following, as a minimum:
   a. Organization: Description of the quality control organization, including a chart showing lines of authority.
   b. CQC Staff: The name, qualifications (in resume format), duties, responsibilities, and authorities of each person assigned a QC function.
   c. Letters of Authority: A copy of a letter to the CQC System Manager signed by an authorized official of the firm, describing the responsibilities and delegating sufficient authorities to adequately perform the functions of the CQC System Manager, including authority to stop Work which is not in compliance with the Contract. The CQC System Manager shall issue letters of direction to all other various quality control representatives outlining duties, authorities and responsibilities. Copies of these letters will also be furnished to Owner.
   d. Submittals: Procedures for scheduling, reviewing, certifying, and managing submittals, including those of subcontractors, offsite fabricators, suppliers and purchasing agents.
   e. Testing: Control, verification and acceptance testing procedures for each specific test to include the test name, frequency, specification paragraph containing the test requirements, the personnel and laboratory responsible for each type of test, and an estimate of the number of tests required.
   f. Procedures for tracking preparatory, initial, and follow-up control phases and control, verification, and acceptance tests, including documentation.
   g. Procedures for tracking deficiencies from identification through acceptable corrective action. These procedures will establish verification that identified deficiencies have been corrected.
   h. Reporting procedures, including proposed reporting formats; include a copy of the CQC report form.

C. Acceptance of Plans: Acceptance of the Contractor's basic and addendum CQC plans is required prior to the start of construction. Acceptance is conditional and will be predicated on satisfactory performance during the construction. Owner reserves the right to require Contractor to make changes in the CQC plan and operations including removal of personnel, as necessary, to obtain the quality specified.

D. Notification of Changes: After acceptance of the CQC plan, Contractor shall notify Engineer, in writing, a minimum of 7 calendar days prior to any proposed change. Proposed changes are subject to acceptance by Owner.

3.05 CONTRACTOR QUALITY CONTROL REPORT

A. As a minimum, prepare a CQC report for every 60 calendar days. Account for all days throughout the life of the Contract. Reports shall be signed and dated by CQC System Manager. Include copies of test reports and copies of reports prepared by QC staff.

B. Maintain current records of quality control operations, activities, and tests performed, including the Work of subcontractors and suppliers.

C. Records shall be on an acceptable form and shall be a complete description of inspections, the results of inspections, daily activities, tests, and other items, including but not limited to the following:

1. Contractor/subcontractor and their areas of responsibility.
2. Operating plant/equipment with hours worked, idle, or down for repair.
3. Work performed today, giving location, description, and by whom. When a network schedule is used, identify each phase of Work performed each day by activity number.
4. Test and/or control activities performed with results and references to specifications/plan requirements.
5. Material received with statement as to its acceptability and storage.
6. Identify submittals reviewed, with Contract reference, by whom, and action taken.
7. Offsite surveillance activities, including actions taken.
8. Job safety evaluations stating what was checked, results, and instructions or corrective actions.
9. List instructions given/received and conflicts in Drawings and/or Specifications.
10. Contractor's verification statement.
11. Indicate a description of trades working on the Project; the number of personnel working; weather conditions encountered; and any delays encountered.
12. These records shall cover both conforming and deficient features and shall include a statement that equipment and materials incorporated in file work and workmanship comply with the Contract.

3.06 SUBMITTAL QUALITY CONTROL

A. Submittals shall be as specified in Section 01330, Submittal Procedures. The CQC organization shall be responsible for certifying that all submittals are in compliance with the Contract requirements. Owner will furnish copies of test report forms upon request by Contractor. Contractor may use other forms as approved.

3.07 TESTING QUALITY CONTROL

A. Testing Procedure:

1. Perform tests specified or required to verify that control measures are adequate to provide a product which conforms to Contract requirements. Procure services of a licensed testing laboratory. Perform the following

activities and record the following data:

a. Verify testing procedures comply with contract requirements.
b. Verify facilities and testing equipment are available and comply with testing standards.
c. Check test instrument calibration data against certified standards.
d. Verify recording forms and test identification control number system, including all of the test documentation requirements, have been prepared.
e. Documentation:
    1) Record results of all tests taken, both passing and failing, on the CQC report for the date taken.
    2) Include specification paragraph reference, location where tests were taken, and the sequential control number identifying the test.
    3) Actual test reports may be submitted later, if approved by Engineer, with a reference to the test number and date taken.
    4) Provide directly to Engineer an information copy of tests performed by an offsite or commercial test facility. Test results shall be signed by an engineer registered in the state where the tests are performed.
    5) Failure to submit timely test reports, as stated, may result in nonpayment for related Work performed and disapproval of the test facility for this Contract.

B. Testing Laboratories: Laboratory facilities, including personnel and equipment, utilized for testing soils, concrete, asphalt and steel shall meet criteria detailed in ASTM D3740 and ASTM E329, and be accredited by the American Association of Laboratory Accreditation (AALA), National Institute of Standards and Technology (NIST), National Voluntary Laboratory Accreditation Program (NVLAP), the American Association of State Highway and Transportation Officials (AASHTO), or other approved national accreditation authority. Personnel performing concrete testing shall be certified by the American Concrete Institute (ACI).

3.08 COMPLETION INSPECTION

A. CQC System Manager shall conduct an inspection of the Work at the completion of all Work or any milestone established by a completion time stated in the Contract.

B. Punchlist:

1. CQC System Manager shall develop a punchlist of items which do not conform to the Contract requirements.
2. Include punchlist in the CQC report, indicating the estimated date by which the deficiencies will be corrected.
3. CQC System Manager or staff shall make a second inspection to ascertain that all deficiencies have been corrected and so notify the

Owner.

4. These inspections and any deficiency corrections required will be accomplished within the time stated for completion of the entire Work or any particular increment thereof if the Project is divided into increments by separate completion dates.

END OF SECTION

SECTION 01421 - ABBREVIATIONS AND ACRONYMS

PART 1 GENERAL

1.01 REFERENCE TO STANDARDS AND SPECIFICATIONS OF TECHNICAL SOCIETIES

A. Reference to standards and specifications of technical societies and reporting and resolving discrepancies associated therewith shall be as required herein and in the individual Specification sections. Any reference to a particular standard shall be taken to mean the most recently published revision unless otherwise specified in the Contract Documents.

B. Work specified by reference to published standard or specification of government agency, technical association, trade association, professional society or institute, testing agency, or other organization shall meet requirements or surpass minimum standards of quality for materials and workmanship established by designated standard or specification.

C. Where so specified, products or workmanship shall also meet or exceed additional prescriptive or performance requirements included within Contract Documents to establish a higher or more stringent standard of quality than required by referenced standard.

D. Where two or more standards are specified to establish quality, product and workmanship shall meet or exceed requirements of most stringent.

E. Where both a standard and a brand name are specified for a product in Contract Documents, proprietary product named shall meet or exceed requirements of specified reference standard.

F. Copies of standards and specifications of technical societies:

1. Copies of applicable referenced standards have not been bound in these Contract Documents.
2. Where copies of standards are needed by Contractor, obtain a copy or copies directly from publication source and maintain in an orderly manner at the Site as Work Site records, available to Contractor's personnel, Subcontractors, Owner, Project Director, and Engineer.

1.02 ABBREVIATIONS

A. Abbreviations for trade organizations and government agencies: Following is a list of construction industry organizations and government agencies to which references may be made in the Contract Documents, with abbreviations used.

1. AA Aluminum Association
2. AABC Associated Air Balance Council
3. AAMA American Architectural Manufacturers Association
4. AASHTO American Association of State Highway and Transportation Officials

5.	ABMA	American Bearing Manufacturers' Association
6.	ACI	American Concrete Institute
7.	AEIC	Association of Edison Illuminating Companies
8.	AGA	American Gas Association
9.	AGMA	American Gear Manufacturers' Association
10.	AI	Asphalt Institute
11.	AISC	American Institute of Steel Construction
12.	AISI	American Iron and Steel Institute
13.	AITC	American Institute of Timber Construction
14.	ALS	American Lumber Standards
15.	AMCA	Air Movement and Control Association
16.	ANSI	American National Standards Institute
17.	APA	APA – The Engineered Wood Association
18.	API	American Petroleum Institute
19.	APWA	American Public Works Association
20.	ARI	Air-Conditioning and Refrigeration Institute
21.	ASA	Acoustical Society of America
22.	ASAE	American Society of Agricultural Engineers
23.	ASCE	American Society of Civil Engineers
24.	ASHRAE	American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.
25.	ASME	American Society of Mechanical Engineers
26.	ASNT	American Society for Nondestructive Testing
27.	ASSE	American Society of Sanitary Engineering
28.	ASTM	ASTM International
29.	AWI	Architectural Woodwork Institute
30.	AWPA	American Wood Preservers' Association
31.	AWPI	American Wood Preservers' Institute
32.	AWS	American Welding Society
33.	AWWA	American Water Works Association
34.	BHMA	Builders Hardware Manufacturers' Association
35.	CBM	Certified Ballast Manufacturer
36.	CDA	Copper Development Association
37.	CGA	Compressed Gas Association
38.	CISPI	Cast Iron Soil Pipe Institute
39.	CMAA	Crane Manufacturers' Association of America
40.	CRSI	Concrete Reinforcing Steel Institute
41.	CS	Commercial Standard
42.	CSA	Canadian Standards Association
43.	CSI	Construction Specifications Institute
44.	DIN	Deutsches Institut für Normung e.V.
45.	DIPRA	Ductile Iron Pipe Research Association
46.	EIA	Electronic Industries Alliance

47.	EJCDC	Engineers Joint Contract Documents Committee
48.	ETL	Electrical Test Laboratories
49.	FAA	Federal Aviation Administration
50.	FCC	Federal Communications Commission
51.	FDA	Food and Drug Administration
52.	FEMA	Federal Emergency Management Agency
53.	FIPS	Federal Information Processing Standards
54.	FM	Factory Mutual
55.	Fed. Spec.	Federal Specifications (FAA Specifications)
56.	FS	Federal Specifications and Standards (Technical Specifications)
57.	GA	Gypsum Association
58.	GANA	Glass Association of North America
59.	HI	Hydraulic Institute
60.	HMI	Hoist Manufacturers' Institute
61.	IBC	International Building Code
62.	ICBO	International Conference of Building Officials
63.	ICC	International Code Council
64.	ICEA	Insulated Cable Engineers' Association
65.	IFC	International Fire Code
66.	IEEE	Institute of Electrical and Electronics Engineers, Inc.
67.	IESNA	Illuminating Engineering Society of North America
68.	IFI	Industrial Fasteners Institute
69.	IGMA	Insulating Glass Manufacturer's Alliance
70.	IMC	International Mechanical Code
71.	INDA	Association of the Nonwoven Fabrics Industry
72.	IPC	International Plumbing Code
73.	ISA	Instrumentation, Systems, and Automation Society
74.	ISO	International Organization for Standardization
75.	ITL	Independent Testing Laboratory
76.	JIC	Joint Industry Conferences of Hydraulic Manufacturers
77.	MIA	Marble Institute of America
78.	MIL	Military Specifications
79.	MMA	Monorail Manufacturers' Association
80.	NAAMM	National Association of Architectural Metal Manufacturers
81.	NACE	NACE International
82.	NBGQA	National Building Granite Quarries Association
83.	NEBB	National Environmental Balancing Bureau
84.	NEC	National Electrical Code
85.	NECA	National Electrical Contractor's Association
86.	NEMA	National Electrical Manufacturers' Association
87.	NESC	National Electrical Safety Code
88.	NETA	InterNational Electrical Testing Association
89.	NFPA	National Fire Protection Association

90.	NHLA	National Hardwood Lumber Association
91.	NICET	National Institute for Certification in Engineering Technologies
92.	NIST	National Institute of Standards and Technology
93.	NRCA	National Roofing Contractors Association
94.	NRTL	Nationally Recognized Testing Laboratories
95.	NSF	NSF International
96.	NSPE	National Society of Professional Engineers
97.	NTMA	National Terrazzo and Mosaic Association
98.	NWWDA	National Wood Window and Door Association
99.	OSHA	Occupational Safety and Health Act (both Federal and State)
100.	PCI	Precast/Prestressed Concrete Institute
101.	PEI	Porcelain Enamel Institute
102.	PPI	Plastic Pipe Institute
103.	PS	Product Standards Section-U.S. Department of Commerce
104.	RMA	Rubber Manufacturers' Association
105.	RUS	Rural Utilities Service
106.	SAE	Society of Automotive Engineers
107.	SDI	Steel Deck Institute
108.	SDI	Steel Door Institute
109.	SJI	Steel Joist Institute
110.	SMACNA	Sheet Metal and Air Conditioning Contractors National Association
111.	SPI	Society of the Plastics Industry
112.	SSPC	The Society for Protective Coatings
113.	SWI	Steel Window Institute
114.	TEMA	Tubular Exchanger Manufacturers' Association
115.	TCA	Tile Council of North America
116.	TIA	Telecommunications Industry Association
117.	UBC	Uniform Building Code
118.	UFC	Uniform Fire Code
119.	UL	Underwriters Laboratories Inc.
120.	UMC	Uniform Mechanical Code
121.	USBR	U.S. Bureau of Reclamation
122.	WCLIB	West Coast Lumber Inspection Bureau
123.	WIC	Wood Institute of California
124.	WWPA	Western Wood Products Association

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01500 - TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.01 REFERENCES

A. The following is a list of standards which may be referenced in this section:

1. American Association of Nurserymen (AAN): American Standards for Nursery Stock.
2. Federal Emergency Management Agency (FEMA).
3. National Fire Prevention Association (NFPA): 241, Standard for Safeguarding Construction, Alteration, and Demolition Operations.
4. Telecommunications Industry Association (TIA); Electronic Industries Alliance (EIA): 568B, Commercial Building Telecommunications Cabling Standard.
5. U.S. Department of Agriculture (USDA): Urban Hydrology for Small Watersheds.
6. U.S. Weather Bureau: Rainfall-Frequency Atlas of the U.S. for Durations from 30 Minutes to 24 Hours and Return Periods from 1 to 100 Years.

1.02 SUBMITTALS

A. Informational Submittals:

1. Copies of permits and approvals for construction as required by Laws and Regulations and governing agencies.
2. Temporary Construction Submittals:
   a. Traffic and Pedestrian Control and Routing Plans: As specified herein, and proposed revisions thereto.
3. Temporary Control Submittals: Plan for disposal of waste materials and intended haul routes.

1.03 MOBILIZATION

A. Mobilization shall normally include, but not be limited to, these principal items:

1. Obtaining required permits.
2. Where required, installing temporary construction power, wiring, and lighting facilities.
3. Providing onsite sanitary facilities and potable water facilities as specified and as required by Laws and Regulations, and governing agencies.
4. Posting OSHA required notices and establishing safety programs and procedures.
5. Having Contractor's superintendent at Site full time.

B. No area is available on Owner's property for Contractor's temporary facilities. Provide lands and access to lands for temporary facilities for use by Contractor for

duration of the Project.

1.04 PROTECTION OF WORK AND PROPERTY

A. Comply with Owner's safety rules while on Owner's property.

B. Keep Owner informed of serious onsite accidents and related claims.

C. Use of Explosives: No blasting or use of explosives will be allowed onsite.

1.05 VEHICULAR TRAFFIC

A. Traffic Control Plan: Contractor shall develop a traffic control plan for wastewater lift station sites that are located adjacent to private and public roads. Adhere to traffic control plan that has been reviewed and accepted by Project Director. Change to this plan shall be made only by written approval of appropriate public authority. Secure approvals for necessary changes so as not to delay progress of the Work.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 TEMPORARY UTILITIES

A. Power:

1. Electric power will be available at or near Sites as shown. Determine type and amount available and make arrangements for obtaining temporary electric power service, metering equipment, and pay all costs for electric power used during contract period, except for portions of the Work designated in writing by Engineer as substantially complete.
2. Cost of electric power will be borne by Contractor.

B. Lighting: Provide temporary lighting to meet applicable safety requirements to allow erection, application, or installation of materials and equipment, and observation or inspection of the Work.

C. Heating, Cooling, and Ventilating:

1. Provide as required to maintain adequate environmental conditions to facilitate progress of the Work, to meet specified minimum conditions for installation of materials, and to protect materials, equipment, and finishes from damage due to temperature or humidity.
2. Provide adequate forced air ventilation of enclosed areas to cure installed materials, to dispense humidity, and to prevent hazardous accumulations of dust, fumes, vapors, or gases.
3. Pay all costs of installation, maintenance, operation, removal, and fuel consumed.
4. Provide portable unit heaters, complete with controls, oil- or gas-fired, and

suitably vented to outside as required for protection of health and property.

5. If permanent natural gas piping is used for temporary heating units, do not modify or reroute gas piping without approval of utility company. Provide separate gas metering as required by utility.

D. Water:

1. Water will be available at each Site. The Owner will not charge the Contractor for the water.
2. Hydrant Water:
   a. May be available from nearby hydrants. Secure written permission for connection and use from water department and meet requirements for use. Notify fire department before obtaining water from fire hydrants.
   b. Use only special hydrant-operating wrenches to open hydrants. Make certain hydrant valve is open full, since cracking valve causes damage to hydrant. Repair damaged hydrants and notify appropriate agency as quickly as possible. Hydrants shall be completely accessible to fire department at all times.
   c. Include costs to connect and transport water to construction areas in Contract Price.
3. Provide temporary facilities and piping required to bring water to point of use and remove when no longer needed. Contractor must obtain metering device from Owner (no charge).

E. Sanitary and Personnel Facilities: Provide and maintain facilities for Contractor's employees, Subcontractors, and all other onsite employers' employees. Service, clean, and maintain facilities and enclosures.

F. Telephone Service: Contractor: Contractor shall provide own phone service at lift station sites. Onsite telephone service is not available

G. Fire Protection: Furnish and maintain on Site adequate firefighting equipment capable of extinguishing incipient fires. Comply with applicable parts of NFPA 241.

3.02 PROTECTION OF WORK AND PROPERTY

A. General:

1. Perform Work within right-of-way and easements in a systematic manner that minimizes inconvenience to property owners and the public.
2. No residence or business shall be cut off from vehicular traffic for a period exceeding 4 hours, unless special arrangements have been made.
3. Maintain in continuous service all existing oil and gas pipelines, underground power, telephone or communication cable, water mains, irrigation lines, sewers, poles and overhead power, and all other utilities encountered along line of the Work, unless other arrangements satisfactory to owners of said utilities have been made.
4. Where completion of the Work requires temporary or permanent removal

or relocation of existing utility, coordinate all activities with owner of said utility and perform all work to their satisfaction.

5. Protect, shore, brace, support, and maintain underground pipes, conduits, drains, and other underground utility construction uncovered or otherwise affected by construction operations.
6. Keep fire hydrants and water control valves free from obstruction and available for use at all times.
7. In areas where Contractor's operations are adjacent to or near a utility, such as gas, telephone, television, electric power, water, sewer, or irrigation system, and such operations may cause damage or inconvenience, suspend operations until arrangements necessary for protection have been made by Contractor.
8. Notify property owners and utility offices that may be affected by construction operation at least 2 days in advance: Before exposing a utility, obtain utility owner's permission. Should service of utility be interrupted due to Contractor's operation, notify proper authority immediately. Cooperate with said authority in restoring service as promptly as possible and bear costs incurred.
9. Do not impair operation of existing sewer system. Prevent construction material, pavement, concrete, earth, volatile and corrosive wastes, and other debris from entering sewers, pump stations, or other sewer structures.
10. Maintain original Site drainage wherever possible.

B. Site Security: The site is located in unsecured areas. Provide and maintain additional temporary security fences as necessary to protect the Work and Contractor-furnished products not yet installed.

C. Barricades and Lights:

1. Provide as necessary to prevent unauthorized entry to construction areas and affected roads, streets, and alleyways, inside and outside of fenced area, and as required to ensure public safety and the safety of Contractor's employees, other employer's employees, and others who may be affected by the Work.
2. Provide to protect existing facilities and adjacent properties from potential damage.
3. Locate to enable access by facility operators and property owners.
4. Protect streets, roads, highways, and other public thoroughfares that are closed to traffic by effective barricades with acceptable warning signs.
5. Locate barricades at the nearest intersecting public thoroughfare on each side of the blocked section.
6. Illuminate barricades and obstructions with warning lights from sunset to sunrise.

D. Signs and Equipment:

1. Conform to requirements of manual published by the Florida Department of Transportation.
2. Provide at obstructions, such as material piles and equipment. Use to alert general public of construction hazards, which would include surface irregularities, unramped walkways, grade changes, and trenches or excavations in roadways and in other

public access areas.

E. Trees and Plantings:

1. Protect from damage and preserve trees, shrubs, and other plants outside limits of the Work and within limits of the Work, which are designated on the Drawings to remain undisturbed.
   a. Where practical, tunnel beneath trees when on or near line of trench.
   b. Employ hand excavation as necessary to prevent tree injury.
   c. Do not stockpile materials or permit traffic within drip lines of trees.
   d. Provide and maintain temporary barricades around trees.
   e. Water vegetation as necessary to maintain health.
   f. Cover temporarily exposed roots with wet burlap, and keep burlap moist until soil is replaced around roots.
   g. No trees, except those specifically shown on Drawings to be removed, shall be removed without written approval of Engineer.
   h. Dispose of removed trees in a legal manner off the Site.
2. Balling and burlapping of trees indicated for replacement shall conform to recommended specifications set forth in the American Standards for Nursery Stock, published by American Association of Nurserymen. All balls shall be firm and intact and made-balls will not be accepted. Handle ball and burlap trees by ball and not by top.
3. In event of damage to bark, trunks, limbs, or roots of plants that are not designated for removal, treat damage by corrective pruning, bark tracing, application of a heavy coating of tree paint, and other accepted horticultural and tree surgery practices.
4. Replace each plant that dies as a result of construction activities.

F. Existing Structures:

1. Where Contractor contemplates removal of small structures such as mailboxes, signposts, and culverts that interfere with Contractor's operations, obtain approval of property owner and Project Director.
2. Move mailboxes to temporary locations accessible to postal service.
3. Replace items removed in their original location and a condition equal to or better than original.

G. Finished Construction: Protect finished floors and concrete floors exposed as well as those covered with composition tile or other applied surfacing.

H. Waterways:

1. Keep ditches, culverts, and natural drainages continuously free of construction materials and debris.
2. Dewatering: Construct, maintain, and operate cofferdams, channels, flume drains, sumps, pumps, or other temporary diversion and protection works. Furnish materials required, install, maintain, and operate necessary pumping and other equipment for the environmentally safe removal and disposal of

water from the various parts of the Work. Maintain foundations and parts of the Work free from water.

I. Archaeological Finds:

1. If prehistoric artifacts such as pottery or ceramics, stone tools or metal implements, or any other physical remains that could be associated with Native American cultures, or early colonial or American settlement are encountered at any time within the project site area, the Contractor shall cease all activities involving subsurface disturbance in the immediate vicinity of such discoveries.
2. The Contractor shall immediately contact the Project Director concerning the discovery. The Project Director, in concert with the Owner, will contact the Florida Department of State, Division of Historical Resources, Compliance and Review at (850) 245-6333 or (800) 847-7278, as well as the appropriate funding agency office.
3. The Contractor's project activities shall not resume until directed to do so by the Project Director.
4. In the event that unmarked human remains are encountered during the permitted activities, Contractor shall immediately stop work and notify proper authorities in accordance with Section 872.05, *Florida Statute.*

3.03 TEMPORARY CONTROLS

A. Air Pollution Control:

1. Minimize air pollution from construction operations.
2. Burning of waste materials, rubbish, or other debris will not be permitted on or adjacent to Site.
3. Conduct operations of dumping rock and of carrying rock away in trucks to cause a minimum of dust. Give unpaved streets, roads, detours, or haul roads used in construction area a dust-preventive treatment or periodically water to prevent dust. Strictly adhere to applicable environmental regulations for dust prevention.
4. Provide and maintain temporary dust-tight partitions, bulkheads, or other protective devices during construction to permit normal operation of existing facilities. Construct partitions of plywood, insulating board, plastic sheets, or similar material. Construct partitions in such a manner that dust and dirt from demolition and cutting will not enter other parts of existing building or facilities. Remove temporary partitions as soon as need no longer exists.

B. Noise Control: Provide acoustical barriers so noise emanating from tools or equipment will not exceed legal noise levels.

C. Water Pollution Control:

1. Divert sanitary sewage and nonstorm waste flow interfering with construction and requiring diversion to sanitary sewers. Do not cause or permit action to occur which would cause an overflow to existing waterway.
2. Prior to commencing excavation and construction, obtain Project Director's

agreement with detailed plans showing procedures intended to handle and dispose of sewage, groundwater, and stormwater flow, including dewatering pump discharges.

3. Comply with procedures outlined in U.S. Environmental Protection Agency manuals entitled, "Guidelines for Erosion and Sedimentation Control Planning" and "Implementation, Processes, Procedures, and Methods to Control Pollution Resulting from All Construction Activity," and "Erosion and Sediment Control-Surface Mining in Eastern United States."
4. Do not dispose of volatile wastes such as mineral spirits, oil, chemicals, or paint thinner in storm or sanitary drains. Disposal of wastes into streams or waterways is prohibited. Provide acceptable containers for collection and disposal of waste materials, debris, and rubbish.

D. Erosion, Sediment, and Flood Control: Provide, maintain, and operate temporary facilities to control erosion and sediment releases, and to protect the Work and existing facilities from flooding during construction period.

3.04 ACCESS ROADS AND DETOURS

A. The construction site is accessible from local/State road network.

B. Coordinate with Project Director detours and other operations affecting traffic and access. Provide at least 72 hours' notice to Project Director of operations that will alter access to the Site.

3.05 PARKING AREAS

A. Control vehicular parking to preclude interference with public traffic or parking, access by emergency vehicles, Owner's operations, or construction operations.

3.06 VEHICULAR TRAFFIC

A. Comply with Laws and Regulations regarding closing or restricting use of public streets or highways. No public or private road shall be closed, except by written permission of proper authority. Assure the least possible obstruction to traffic and normal commercial pursuits.

B. Conduct the Work to interfere as little as possible with public travel, whether vehicular or pedestrian.

C. Whenever it is necessary to cross, close, or obstruct roads, driveways, and walks, whether public or private, provide and maintain suitable and safe bridges, detours, or other temporary expedients for accommodation of public and private travel.

D. In making street crossings, do not block more than one-half the street at a time. Whenever possible, widen shoulder on opposite side to facilitate traffic flow. Provide temporary surfacing on shoulders as necessary.

E. Maintain top of backfilled trenches before they are paved, to allow normal

vehicular traffic to pass over. Provide temporary access driveways where required. Cleanup operations shall follow immediately behind backfilling.

F. When flaggers and guards are required by regulation or when deemed necessary for safety, furnish them with approved orange wearing apparel and other regulation traffic control devices.

G. Notify fire department and police department before closing street or portion thereof. Notify said departments when streets are again passable for emergency vehicles. Do not block off emergency vehicle access to consecutive arterial crossings or dead-end streets, in excess of 300 linear feet, without written permission from fire department. Conduct operations with the least interference to fire equipment access, and at no time prevent such access. Furnish Contractor's night emergency telephone numbers to police department.

3.07 CLEANING DURING CONSTRUCTION

A. In accordance with Contract Conditions, as may be specified in other Specification sections, and as required herein.

B. Wet down exterior surfaces prior to sweeping to prevent blowing of dust and debris. At least weekly, sweep all floors (basins, tunnels, platforms, walkways, roof surfaces), and pick up all debris and dispose.

C. Provide approved containers for collection and disposal of waste materials, debris, and rubbish. At least at weekly intervals, dispose of such waste materials, debris, and rubbish offsite.

D. At least weekly, brush sweep entry drive, roadways, and all other streets and walkways affected by the Work and where adjacent to the Work.

END OF SECTION

SECTION 01575 - TEMPORARY EROSION AND SEDIMENT CONTROL

PART 1 GENERAL

1.01 WORK OF THIS SECTION

A. This section covers work necessary for stabilization of soil to prevent erosion during and after construction and land disturbing activities. The work shall include the furnishing of all labor, materials, tools, and equipment to perform the work and services necessary as herein specified and as indicated on the Drawings. This shall include installation, maintenance, and final removal of all temporary soil erosion and sediment control measures.

B. The minimum areas requiring soil erosion and sediment control measures are indicated on the Drawings. The right is reserved to modify the use, location, and quantities of soil erosion and sediment control measures based on activities of the Contractor and as the Project Director considers to be to the best interest of the Owner.

C. See additional information noted on the Drawings.

1.02 GENERAL

A. All activities shall conform to the Standard Erosion Control Specification: Florida Department of Transportation Design Standard, latest version; FDEP construction permit; and the Drawings. In the event of a conflict, the more stringent requirement shall apply.

B. Soil erosion stabilization and sedimentation control consist of the following elements:

1. Maintenance of existing permanent or temporary storm drainage piping and channel systems, as necessary.
2. Construction of new permanent and temporary storm drainage piping and channel systems, as necessary.
3. Construction of temporary erosion control facilities such as silt fences, check dams, etc.
4. Topsoil and Seeding:
    a. Placement and maintenance of Temporary Seeding on all areas disturbed by construction.
    b. Placement of permanent topsoil, fertilizer, and seed, etc., in all areas not occupied by structures or pavement, unless shown otherwise.
5. Soil Stabilization Seeding: Placement of fertilizer and seed, etc., in areas as specified hereinafter.

C. The Contractor shall be responsible for phasing Work in areas allocated for his exclusive use during this Project, including any proposed stockpile areas, to restrict sediment transport. This will include installation of any temporary erosion control devices, ditches, or other facilities.

D. Permanent stockpiling of material is not permitted. Sediment transport and erosion from working stockpiles shall be controlled and restricted from moving beyond the immediate stockpile area by construction of temporary toe-of-slope ditches and accompanying silt fences, as necessary. The Contractor shall keep these temporary facilities in operational condition by regular cleaning, regrading, and maintenance. Stockpiles remaining in place longer than 14 calendar days shall be removed from the construction site.

E. The Contractor shall maintain all elements of the Soil Erosion Stabilization and Sedimentation Control systems and facilities to be constructed during this Project for the duration of his activities on this Project. Formal inspections made jointly by the Contractor and the Project Director shall be conducted every 2 weeks to evaluate the Contractor's conformance to the requirements of both these Specifications and St. John's County Regulations.

F. All silt traps shall be cleaned of collected sediment after every storm or as determined from the biweekly inspections. Cleaning shall be done in a manner that will not direct the sediment into the storm drain piping system. Removed sediment shall be taken to an area selected by the Project Director where it can be cleaned of sticks and debris, then allowed to dry. Final sediment and debris disposal shall be offsite.

G. Replacement or repair of failed or overloaded silt fences, check dams, or other temporary erosion control devices shall be accomplished by the Contractor within 2 days after receiving written notice from the Project Director.

H. Unpaved earth drainage ditches shall be regraded as needed to maintain original grade and remove sediment buildup. If a ditch becomes difficult to maintain, the Contractor shall cooperate with the Project Director and install additional erosion control devices such as check dams, temporary paving, or silt fences as directed by the Project Director.

I. If the Contractor has not complied with any of the above maintenance efforts to the satisfaction of the Project Director within 2 working days after receiving written notification from the Project Director, the Owner shall have the prerogative of engaging others to perform any needed maintenance or cleanup, including removal of accumulated sediment at constructed erosion control facilities, and deduct from the Contractor's monthly partial payment the costs for such efforts plus a $500 administration fee.

1.03 SUBMITTALS

A. Submittals shall be made in accordance with Section Submittals in Division 1, General Requirements.

B. In addition, the Contractor shall provide the following specific information:

1. Certificates of inspection of seed by state or federal authorities and copies of delivery invoices or other proof of quantities offertilizer.
2. Manufacturer's certificate of compliance attesting that the geotextile

meets the requirements of these Specifications.

PART 2 PRODUCTS

2.01 PERMANENT SEED

A. Bahia grass seed with a minimum pure seed content of 95 percent with a minimum germination of 85 percent.

2.02 SOIL STABILIZATION AND TEMPORARY SEED

A. October15 through February 28: Annual type ryegrass seed with a minimum pure seed content of 95 percent with a germination of 90 percent. March 1 through October 14: Millet with a minimum pure seed content of 95 percent with a germination of 90 percent.

2.03 FERTILIZER

A. Fertilizer shall be commercial, chemical type, uniform in composition, free-flowing, conforming to state and federal laws, and suitable for application with equipment designed for that purpose.

B. Fertilizer shall have a minimum percentage of plant food by weight for the following: Permanent fertilizer mix shall be 10 percent nitrogen, 10 percent phosphoric acid, and 10 percent potash.

2.04 STRAW MULCH

A. Threshed straw of oats, wheat, barley, or rye, free from seed of noxious weeds, or clean salt hay.

PART 3 EXECUTION

3.01 GENERAL

A. The Contractor shall install erosion and sediment control measures and maintain in accordance with the Drawings. The sequence of construction shown on the Drawings is made a part of these Contract Documents.

B. The Contractor shall provide and maintain Temporary Seeding at all times.

3.02 SEEDING

A. General:

1. The Contractor shall give at least 3 days notice to the Project Director prior to seeding to allow the Owner to inspect the prepared areas. The Contractor shall rework any areas not approved for seeding to the Owner's satisfaction.
2. The Contractor shall keep the Project Director advised of schedule of operations.

3. Seed shall be clean, delivered in original unopened packages and bearing an analysis of the contents, guaranteed 95 percent pure with minimum germination rate of 85 percent.

B. Schedules:

1. Seeding shall be performed in accordance with the following schedule:
   a. Summer Seeding: Between March 15 and June 15, or September 1 to November 15.
   b. Winter Seeding: All other times of year, except when weather conditions prohibit further construction operations as determined by the Project Director.

C. Soil Stabilization and Temporary Seeding:

1. Soil stabilization seeding shall consist of the application of the following materials in quantities as further described herein for disturbed areas left inactive for more than 14 days.
   a. Lime.
   b. Fertilizer.
   c. Seed.
   d. Mulch.
   e. Maintenance.
2. Hydroseeding will be permitted as an alternative method of applying seed and associated soil conditioning agents described above. Should the Contractor elect to apply soil stabilization seeding by hydroseeding methods, he shall submit his operational plan and methods to the Engineer.
3. Temporary Seeding is to be placed and maintained over all disturbed areas prior to Permanent Seeding. Maintain Temporary Seeding until such time as areas are approved for Permanent Seeding. As a minimum, maintenance shall include the following:
   a. Fix-up and reseeding of bare areas or redisturbed areas.
   b. Mowing for stands of grass or weeds exceeding 6 inches in height.

D. Topsoil and Permanent Seeding:

1. Topsoil and Permanent Seeding shall consist of the application of the following materials in quantities as further described herein:
   a. 4-inch depth of topsoil.
   b. Lime.
   c. Fertilizer.
   d. Permanent seed mix.
   e. Mulch.
2. Topsoil is to be placed over all disturbed areas that are not surfaced with concrete, asphalt, or pavers.
3. Preparation:
   a. After rough grading is completed and reviewed by the Project Director, Contractor shall spread topsoil as hereinbefore specified over all areas to receive Permanent Seeding to a minimum compacted depth of 6

inches with surface elevations as shown. Loosen the finished surface to a depth of 2 inches and leave in smooth condition, free from depressions or humps, ready for seeding.

b. Finish Grading:
   1) Contractor shall rake the topsoiled area to a uniform grade, so that all areas drain as indicated on the grading plan.
   2) Contractor shall remove all trash and stones exceeding 1 inch in diameter from area to a depth of 2 inches.

4. Permanent Seed:
   a. After soil has been scarified, apply seed and other products at the rate and proportion specified below:
      1) Seed Mix: 150 pounds per acre.
      2) 10-10-10 Fertilizer: 1,000 pounds per acre.
      3) Lime: 3 tons per acre.
      4) Water: As necessary.
5. Maintenance:
   a. Maintenance Period: Contractor shall begin maintenance immediately after each portion of permanent grass is planted and continue for 8 weeks after all planting is completed.
   b. Maintenance Operations: Contractor shall water to keep surface soil moist. Repair washed out areas by filling with topsoil, liming, fertilizing, and seeding. Replace mulch on banks when washed or blown away. Mow to 2 inches after grass reaches 3 inches in height, and mow frequently enough to keep grass from exceeding 3-1/2 inches. Weed by local spot application of selective herbicide only after first planting season when grass is established.
6. Guarantee:
   a. If, at the end of the 8-week maintenance period, a satisfactory stand of grass has not been produced, the Contractor shall renovate and reseed the grass or unsatisfactory portions thereof immediately, or, if after October 15 during the next planting season. If a satisfactory stand of grass develops by July 1 of the following year, it will be accepted. If it is not accepted, a complete replanting will be required during the planting season meeting all of the requirements specified under paragraph Permanent Seed.
   b. A satisfactory stand is defined as grass or section of grass that has a substantial establishment of new grass, strongly rooted, and uniformly green in appearance from a distance of 50 feet. No noticeable thin or bare areas as determined by the Project Director.

END OF SECTION

SECTION 01600 - COMMON PRODUCT REQUIREMENTS

PART 1 GENERAL

1.01 DEFINITIONS

A. Products:

1. New items for incorporation in the Work, whether purchased by Contractor or Owner for the Project, or taken from previously purchased stock, and may also include existing materials or components required for reuse.
2. Includes the terms material, equipment, machinery, components, subsystem, system, hardware, software, and terms of similar intent and is not intended to change meaning of such other terms used in Contract Documents, as those terms are self-explanatory and have well recognized meanings in construction industry.
3. Items identified by manufacturer's product name, including make or model designation, indicated in manufacturer's published product literature, that is current as of the date of the Contract Documents.

1.02 PREPARATION FOR SHIPMENT

A. When practical, factory-assemble products. Mark or tag separate parts and assemblies to facilitate field assembly. Cover machined and unpainted parts that may be damaged by the elements with strippable protective coating.

B. Package products to facilitate handling and protect from damage during shipping, handling, and storage. Mark or tag 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. Include complete packing list and bill-of-materials with each shipment.

C. Extra Materials, Special Tools, Test Equipment, and Expendables:

1. Furnish as required by individual Specifications.
2. Schedule:
   a. Ensure that shipment and delivery occur concurrent with shipment of associated equipment.
   b. Transfer to Owner shall occur immediately subsequent to Contractor's acceptance of equipment from Supplier.
3. Packaging and Shipment:
   a. Package and ship extra materials and special tools to avoid damage during long term storage in original cartons insofar as possible, or in appropriately sized, hinged-cover, wood, plastic, or metal box.
   b. Prominently displayed on each package, the following:
      1) Manufacturer's part nomenclature and number, consistent with Operation and Maintenance Manual identification system.
      2) Applicable equipment description.

3) Quantity of parts in package.
4) Equipment manufacturer.

4. Deliver materials to designated work sites.
5. Project Director upon arrival for transfer of materials.
6. Replace extra materials and special tools found to be damaged or otherwise inoperable at time of transfer to Owner.

D. Factory Test Results: Reviewed and accepted by Project Director before product shipment as required in individual Specification sections.

1.03 DELIVERY AND INSPECTION

A. Deliver products in accordance with accepted current Progress Schedule and coordinate to avoid conflict with the Work and conditions at Site. Deliver anchor bolts and templates sufficiently early to permit setting prior to placement of structural concrete.

B. Deliver products in undamaged condition, in manufacturer's original container or packaging, with identifying labels intact and legible. Include on label, date of manufacture and shelf life, where applicable.

C. Unload products in accordance with manufacturer's instructions for unloading or as specified. Record receipt of products at Site. Promptly inspect for completeness and evidence of damage during shipment.

D. Remove damaged products from Site and expedite delivery of identical new undamaged products, and remedy incomplete or lost products to provide that specified, so as not to delay progress of the Work.

1.04 HANDLING, STORAGE, AND PROTECTION

A. Handle and store products in accordance with manufacturer's written instructions and in a manner to prevent damage. Store in approved storage yards or sheds provided in accordance with Section 01500, Temporary Facilities and Controls. Provide manufacturer's recommended maintenance during storage, installation, and until products are accepted for use by Owner.

B. Manufacturer's instructions for material requiring special handling, storage, or protection shall be provided prior to delivery of material.

C. Arrange storage in a manner to provide easy access for inspection. Make periodic inspections of stored products to assure that products are maintained under specified conditions, and free from damage or deterioration. Keep running account of products in storage to facilitate inspection and to estimate progress payments for products delivered, but not installed in the Work.

D. Store electrical, instrumentation, and control products, and equipment with bearings in weather-tight structures maintained above 60 degrees F. Protect electrical, instrumentation, and control products, and insulate against moisture,

water, and dust damage. Connect and operate continuouslyspace heaters furnished in electrical equipment.

E. Store fabricated products above-ground on blocking or skids, and prevent soiling or staining. Store loose granular materials in well-drained area on solid surface to prevent mixing with foreign matter. Cover products that are subject to deterioration with impervious sheet coverings; provide adequate ventilation to avoid condensation.

F. Store finished products that are ready for installation in dry and well-ventilated areas. Do not subject to extreme changes in temperature or humidity.

G. After installation, provide coverings to protect products from damage due to traffic and construction operations. Remove coverings when no longer needed.

H. Hazardous Materials: Prevent contamination of personnel, storage area, and Site. Meet requirements of product specification, codes, and manufacturer's instructions.

PART 2 PRODUCTS

2.01 GENERAL

A. Provide manufacturer's standard materials suitable for service conditions, unless otherwise specified in the individual Specifications.

B. Where product specifications include a named manufacturer, with or without model number, and also include performance requirements, named manufacturer's products must meet the performance specifications.

C. Like items of products furnished and installed in the Work shall be end products of one manufacturer and of the same series or family of models to achieve standardization for appearance, operation and maintenance, spare parts and replacement, manufacturer's services, and implement same or similar process instrumentation and control functions in same or similar manner.

D. Do not use materials and equipment removed from existing premises, except as specifically permitted by Contract Documents.

E. Provide interchangeable components of the same manufacturer, for similar components, unless otherwise specified.

F. Equipment, Components, Systems, and Subsystems: Design and manufacture with due regard for health and safety of operation, maintenance, and accessibility, durability of parts, and shall comply with applicable OSHA, state, and local health and safety regulations.

G. Regulatory Requirement: Coating materials shall meet federal, state, and local requirements limiting the emission of volatile organic compounds and for worker

exposure.

H. Authority Having Jurisdiction (AHJ):
   1. Materials and equipment manufactured within the scope of standards published by Underwriters Laboratories, Inc. shall conform to those standards and shall have an applied UL listing mark.

I. Equipment Finish:

   1. Provide manufacturer's standard finish and color, except where specific color is indicated.
   2. If manufacturer has no standard color, provide equipment with gray finish as approved by Owner.

J. Special Tools and Accessories: Furnish to Owner, upon acceptance of equipment, all accessories required to place each item of equipment in full operation. These accessory items include, but are not limited to, adequate oil and grease (as required for first lubrication of equipment after field testing), light bulbs, fuses, hydrant wrenches, valve keys, handwheels, chain operators, special tools, and other spare parts as required for maintenance.

2.02 FABRICATION AND MANUFACTURE

A. General:

   1. Manufacture parts to U.S.A. standard sizes and gauges.
   2. Two or more items of the same type shall be identical, by the same manufacturer, and interchangeable.
   3. Design structural members for anticipated shock and vibratory loads.
   4. Use 1/4-inch minimum thickness for steel that will be submerged, wholly or partially, during normal operation.
   5. Modify standard products as necessary to meet performance Specifications.

2.03 SOURCE QUALITY CONTROL

A. Where Specifications call for factory testing to be witnessed by Engineer, notify Engineer not less than 14 days prior to scheduled test date, unless otherwise specified.

B. Factory Tests: Perform in accordance with accepted test procedures and document successful completion.

PART 3 EXECUTION

3.01 INSPECTION

A. Inspect materials and equipment for signs of pitting, rust decay, or other deleterious effects of storage. Do not install material or equipment showing such effects.

Remove damaged material or equipment from the Site and expedite delivery of identical new material or equipment. Delays to the Work resulting from material or equipment damage that necessitates procurement of new products will be considered delays within Contractor's control.

3.02 INSTALLATION

A. Repaint painted surfaces that are damaged prior to equipment acceptance.

B. Do not cut or notch any structural member or building surface without specific approval of Engineer.

C. Handle, install, connect, clean, condition, and adjust products in accordance with manufacturer's instructions, and as may be specified. Retain a copy of manufacturers' instruction at Site, available for review at all times.

D. For material and equipment specifically indicated or specified to be reused in the Work:

1. Use special care in removal, handling, storage, and reinstallation to assure proper function in the completed Work.
2. Arrange for transportation, storage, and handling of products that require offsite storage, restoration, or renovation. Include costs for such Work in the Contract Price.

3.03 ADJUSTMENT AND CLEANING

A. Perform required adjustments, tests, operation checks, and other startup activities.

END OF SECTION

SECTION 01770 - CLOSEOUT PROCEDURES

PART 1 GENERAL

1.01 SUBMITTALS

A. Informational Submittals:

1. Submit prior to application for final payment.
   a. Record Documents: As required in the Standard Agreement and specified in Section 01380, As-Built Submittal Requirements.
   b. Special bonds, Special Guarantees, and Service Agreements.
   c. Request for Final Inspection.
   d. Consent of Surety to Final Payment: As required in Paragraph 5.6 of the Standard Agreement.
   e. Releases or Waivers of Liens and Claims: As required in Paragraph 5.6 of the Standard Agreement.
   f. Releases from Agreements.
   g. Final Application for Payment: Submit in accordance with procedures and requirements stated Paragraph 5.6 of the Standard Agreement and in Section 01290, Payment Procedures.
   h. Extra Materials: As required by individual Specification sections.

1.02 RECORD DOCUMENTS

A. Quality Assurance:

1. Furnish qualified and experienced person, whose duty and responsibility shall be to maintain record documents.
2. Accuracy of Records:
   a. Coordinate changes within record documents, making legible and accurate entries on each sheet of Drawings and other documents where such entry is required to show change.
   b. Purpose of Project record documents is to document factual information regarding aspects of the Work, both concealed and visible, to enable future modification of the Work to proceed without lengthy and expensive Site measurement, investigation, and examination.
3. Make entries within 24 hours after receipt of information that a change in the Work has occurred.
4. Prior to submitting each request for progress payment, request Project Director's review and approval of current status of record documents. Failure to properly maintain, update, and submit record documents may result in a deferral by Project Director to recommend whole or any part of Contractor's Application for Payment, either partial or final.

1.03 RELEASES FROM AGREEMENTS

A. Furnish Owner written releases from property owners or public agencies where side agreements or special easements have been made, or where Contractor's

operations have not been kept within the Owner's construction right-of-way.

B. In the event Contractor is unable to secure written releases:

1. Inform Owner of the reasons.
2. Owner or its representatives will examine the Site, and Owner will direct Contractor to complete the Work that may be necessary to satisfy terms of the side agreement or special easement.
3. Should Contractor refuse to perform this Work, Owner reserves right to have it done by separate contract and deduct cost of same from Contract Price, or require Contractor to furnish a satisfactory bond in a sum to cover legal Claims for damages.
4. When Owner is satisfied that the Work has been completed in agreement with Contract Documents and terms of side agreement or special easement, right is reserved to waive requirement for written release if: (i) Contractor's failure to obtain such statement is due to grantor's refusal to sign, and this refusal is not based upon any legitimate Claims that Contractor has failed to fulfill terms of side agreement or special easement, or (ii) Contractor is unable to contact or has had undue hardship in contacting grantor.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 MAINTENANCE OF RECORD DOCUMENTS

A. General:

1. Promptly following commencement of Contract Times, secure from Engineer at no cost to Contractor, three complete sets of Contract Documents. Drawings will be full size.
2. Label or stamp each record document with title, "RECORD DOCUMENTS," in neat large printed letters.
3. Record information concurrently with construction progress and within 24 hours after receipt of information that change has occurred. Do not cover or conceal Work until required information is recorded.

B. Preservation:

1. Maintain documents in a clean, dry, legible condition and in good order. Do not use record documents for construction purposes.
2. Make documents and Samples available at all times for observation by Engineer.

C. Making Entries on Drawings:

1. Using an erasable colored pencil (not ink or indelible pencil), clearly describe change by graphic line and note as required.
   a. Color Coding:
      1) Green when showing information deleted from Drawings.

2) Red when showing information added to Drawings.
3) Blue and circled in blue to show notes.

2. Date entries.
3. Call attention to entry by "cloud" drawn around area or areas affected.
4. Legibly mark to record actual changes made during construction, including, but not limited to:
   a. Depths of various elements of foundation in relation to finished first floor data if not shown or where depth differs from that shown.
   b. Horizontal and vertical locations of existing and new Underground Facilities and appurtenances, and other underground structures, equipment, or Work. Reference to at least two measurements to permanent surface improvements.
   c. Location of internal utilities and appurtenances concealed in the construction referenced to visible and accessible features of the structure.
   d. Locate existing facilities, piping, equipment, and items critical to the interface between existing physical conditions or construction and new construction.
   e. Changes made by Addenda and Field Orders, Work Change Directive, Change Order, and Engineer's written interpretation and clarification using consistent symbols for each and showing appropriate document tracking number.
5. Dimensions on Schematic Layouts: Show on record drawings, by dimension, the centerline of each run of items such as are described in previous subparagraph above.
   a. Clearly identify the item by accurate note such as "cast iron drain," "galv. water," and the like.
   b. Show, by symbol or note, vertical location of item ("under slab," "in ceiling plenum," "exposed," and the like).
   c. Make identification so descriptive that it may be related reliably to Specifications.

3.02 FINAL CLEANING

A. At completion of the Work or of a part thereof and immediately prior to Contractor's request for certificate of Substantial Completion; or if no certificate is issued, immediately prior to Contractor's notice of completion, clean entire Site or parts thereof, as applicable.

1. Leave the Work and adjacent areas affected in a cleaned condition satisfactory to Owner.
2. Remove grease, dirt, dust, paint or plaster splatter, stains, labels, fingerprints, and other foreign materials from exposed surfaces.
3. Repair, patch, and touch up marred surfaces to specified finish and match adjacent surfaces.
4. Broom clean exterior paved driveways and parking areas.
5. Hose clean sidewalks, loading areas, and others contiguous with principal structures.
6. Rake clean all other surfaces.

7. Leave water courses, gutters, and ditches open and clean.

B. Use only cleaning materials recommended by manufacturer of surfaces to be cleaned.

END OF SECTION

SECTION 02050 - DEMOLITION

PART 1 GENERAL

1.01 REFERENCES

A. The following is a list of standards which may be referenced in this Section:

1. American National Standards Institute (ANSI): A10.6, Safety Requirements for Demolition Operations.
2. Occupational Safety and Health Administration (OSHA), U.S. Code of Federal Regulations (CFR) Title 29 Part 1926—Occupational Safety and Health Regulations for Construction.
3. Environmental Protection Agency (EPA), U.S. Code of Federal Regulations (CFR), Title 40:
   a. Part 61—National Emission Standards for Hazardous Air Pollutants.
   b. Part 82—Protection of Stratospheric Ozone.
   c. Part 273—Standards for Universal Waste Management.

1.02 DEFINITIONS

A. ACM: Asbestos-containing material.

B. Demolition: Dismantling, razing, destroying, or wrecking of any fixed building or structure or any part thereof.

C. Modify: Provide all necessary material and labor to modify an existing item to the condition indicated or specified.

D. Relocate: Remove, protect, clean and reinstall equipment, including electrical, instrumentation, and all ancillary components required to make the equipment fully functional, to the new location identified on the Drawings.

E. Renovation: Altering a facility or one or more facility components in any way.

F. Salvage/Salvageable: Remove and deliver, to the specified location(s), the equipment, building materials, or other items so identified to be saved from destruction, damage, or waste; such property to remain that of Owner. Unless otherwise specified, title to items identified for demolition shall revert to Contractor.

1.03 SUBMITTALS

A. Informational Submittals:

1. Submit proposed Demolition/Renovation Plan, in accordance with requirements specified herein, for approval before such Work is started.
2. Submit copies of any notifications, authorizations and permits required to

perform the Work.

1.04 REGULATORY AND SAFETY REQUIREMENTS

A. When applicable, demolition Work shall be accomplished in strict accordance with 29 CFR 1926-Subpart T.

B. Comply with federal, state, and local hauling and disposal regulations. In addition to the requirements of the General Conditions, Contractor's safety requirements shall conform to ANSI A10.6.

C. Furnish timely notification of this demolition/renovation project to applicable federal, state, regional, and local authorities in accordance with 40 CFR 61-Subpart M.

1.05 DEMOLITION/RENOVATION PLAN

A. Demolition/Renovation Plan shall provide for safe conduct of the Work and shall include:

1. Detailed description of methods and equipment to be used for each operation;
2. The Contractor's planned sequence of operations, including coordination with other work in progress;
3. Procedures for removal and disposition of materials specified to be salvaged.
4. Disconnection schedule of utility services.

B. Contractor shall perform initial inspection and inspection throughout the performance of Work of the existing facilities to ensure their suitability to perform as a safe working environment. If inspection reveals a safety hazard to workers, Contractor shall notify Owner immediately of safety hazard condition.

1.06 SEQUENCING AND SCHEDULING

A. The Work of this Specification shall not commence until Contractor's Demolition/Renovation Plan has been approved by Engineer.

B. Include the Work of this Specification in the progress schedule, as specified in Section 01320, Construction Progress Documentation.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 EXISTING FACILITIES TO BE DEMOLISHED OR RENOVATED

A. Structures: Existing above-grade structures indicated shall be removed to 2 feet below grade, unless otherwise noted.

B. Utilities and Related Equipment:

1. Notify Owner or appropriate utilities to turn off affected services at least 48 hours before starting demolition or renovation activities.
2. Remove existing utilities as indicated and terminate in a manner conforming to the nationally recognized code covering the specific utility and approved by Engineer.
3. When utility lines are encountered that are not indicated on the Drawings, notify Owner prior to further work in that area.
4. Plug sewer lines with concrete to a minimum plug length of 2 feet to prevent groundwater infiltration.

C. Paving and Slabs:

1. Sawcut and remove concrete and asphaltic concrete paving and slabs as indicated on Contract Drawings.
2. Provide neat sawcuts at limits of pavement removal as indicated.

D. Concrete: Where new concrete adjoins existing, the new Work shall abut or tie into the existing construction as indicated on Contract Drawings.

E. Patching:

1. Where removals leave holes and damaged surfaces exposed in the finished Work, patch and repair to match adjacent finished surfaces as to texture and finish.
2. Where new Work is to be applied to existing surfaces, perform removals and patching in a manner to produce surfaces suitable for receiving new Work.
3. Patching shall be as specified and indicated, and shall include:
   a. Fill holes and depressions caused by previous physical damage or left as a result of removals in existing concrete walls with an approved patching material, applied in accordance with the manufacturer's printed instructions.

F. Electrical:

1. Cut off concealed or embedded conduit, boxes, or other materials a minimum of 3/4 inch below final finished surface.
2. When removing designated equipment, conduit and wiring may require rework to maintain service to other equipment.
3. Rework existing circuits, or provide temporary circuits as necessary during renovation to maintain service to existing lighting and equipment not scheduled to be renovated. Existing equipment and circuiting shown are based upon limited field surveys. Verify existing conditions, make all necessary adjustments, and record the Work on the Record Drawings. This shall include, but is not limited to, swapping and other adjustments to branch circuits and relocation of branch circuit breakers within panelboards as required to accomplish the finished work.

4. Reuse of existing luminaires, devices, conduits, boxes, or equipment will be permitted only where specifically indicated.
5. Raceways and cabling not scheduled for reuse.
6. Inaccessibly Concealed: Cut off and abandon in place.

3.02 PROTECTION

A. Dust and Debris Control:

1. Prevent the spread of dust debris and avoid the creation of a nuisance hazard in the work area. Do not use water if it results in hazardous or objectionable conditions such as, but not limited to, ice, flooding, or pollution.
2. Sweep pavements as often as necessary to control the spread of debris that may result in foreign object damage potential to vehiculartraffic.

B. Traffic Control Signs: Where pedestrian and driver safety are endangered in the area of removal Work, use traffic barricades with flashing lights.

C. Existing Work:

1. Survey the site and examine the Drawings and Specifications to determine the extent of the Work before beginning any demolition or renovation, and submit D/R Plan per 1.03, Submittals.
2. Take necessary precautions to avoid damage to existing items scheduled to remain in place, to be reused, or to remain the property of Owner; any Contractor-damaged items shall be repaired or replaced as directed by Engineer.
3. Ensure that structural elements are not overloaded as a result of or during performance of the Work. Responsibility for additional structural elements or increasing the strength of existing structural elements as may be required as a result of any Work performed under this Contract shall be that of the Contractor. Repairs, reinforcement, or structural replacement must have Engineer approval.
4. Do not overload pavements to remain.

D. Trees: Protect trees within the Site that might be damaged during demolition and are indicated to be left in place, by a 6-foot-high fence. The fence shall be securely erected a minimum of 5 feet from the trunk of individual trees or follow the outer perimeter of branches or clumps of trees. Any tree designated to remain that is damaged during the Work shall be replaced in kind, as approved by the Engineer.

E. Facilities:

1. Protect electrical and mechanical services and utilities. Where removal of existing utilities and pavement is specified or indicated, provide approved barricades, temporary covering of exposed areas, and temporary services or connections for electrical and mechanical utilities.
2. Protect all facility elements not scheduled for demolition.
3. Provide interior shoring, bracing, or support to prevent movement,

settlement, or collapse of structure or element to be demolished and adjacent facilities.

F. Protection of Personnel:

1. During demolition, continuously evaluate the condition of the structure being demolished and take immediate action to protect all personnel working in and around the demolition site.
2. Provide temporary barricades and other forms of protection to protect Owner's personnel and the general public from injury due to demolition Work.
3. Provide protective measures as required to provide free and safe passage of Owner's personnel and the general public to occupied portions of the structure.

3.03 BURNING

A. The use of burning at the Site for the disposal of refuse and debris will not be permitted.

3.04 RELOCATIONS

A. Perform the removal and reinstallation of relocated items as indicated with workmen skilled in the trades involved. Clean all items to be relocated prior to reinstallation, to the satisfaction of Engineer. Repair items to be relocated which are damaged or replace damaged items with new undamaged items as approved by Engineer.

3.05 BACKFILL

A. Do not use demolition debris as backfill material.

B. Fill excavations and other hazardous openings to existing ground level or foundation level of new construction in accordance with typical backfill methods.

3.06 TITLE TO MATERIALS

A. All salvaged equipment and materials so designated, will remain the property of Owner.

B. With the exception of the following listed salvaged equipment and materials, all items designated to be removed shall become the property of Contractor:

C. Title to equipment and materials resulting from demolition renovation is vested in the Contractor upon approval by Engineer of Contractor's Demolition/Renovation Plan, and the resulting authorization by Engineer to begin demolition renovation.

3.07 DISPOSITION OF MATERIAL

A. Do not remove equipment and materials without approval of Contractor's Demolition/Renovation Plan by Project Director.

B. Salvage equipment and material to the maximum extent possible.

C. Remove materials and equipment that are indicated to be removed by Contractor and deliver to a storage site as directed by Owner.

D. Remove salvaged items in a manner to prevent damage, and pack or crate to protect the items from damage while in storage or during shipment. Properly identify containers as to contents.

E. Repair or replace, at the discretion of Owner, items damaged during removal or storage.

F. Owner will not be responsible for the condition or loss of, or damage to, property scheduled to become Contractor's property after Owner's authorization to begin demolition and/or renovation.

3.08 REUSE OF MATERIALS AND EQUIPMENT

A. Remove and store materials and equipment listed in Article Title To Materials to be reused or relocated to prevent damage, and reinstall as the Work progresses.

B. Properly store and maintain equipment and materials in same condition as when removed.

C. Store equipment and material designated to be reused in a location designated by Owner.

D. Equipment and material designated to be reused shall be cleaned, serviced and checked for proper operability before being put back into service.

E. Engineer will determine condition of equipment and materials prior to removal.

3.09 SPECIALIZED SALVAGE

A. Historical Items: Remove in a manner to prevent damage and shall be delivered to Owner.

3.10 UNSALVAGEABLE MATERIAL

A. Concrete, masonry, and other noncombustible material, except concrete permitted to remain in place, shall be disposed of by Contractor.

B. Combustible material shall be disposed of by Contractor.

3.11 CLEANUP

A. Debris and rubbish shall be removed and transported in a manner that prevents spillage on streets or adjacent areas. Local regulations regarding hauling and disposal shall apply.

END OF SECTION

SECTION 02100 SITE - PREPARATION

PART 1 GENERAL

1.01 SCOPE OF WORK

A. The CONTRACTOR shall furnish all labor, materials and equipment required and perform all site preparation, complete as specified herein. The CONTRACTOR shall clear and grub the area within the limits of construction as shown on the Drawings and approved by the ENGINEER and OWNER prior to the beginning of any work. All site work shall conform to applicable SJCUD standards.

B. The CONTRACTOR shall obtain all permits required for site preparation work prior to proceeding with the work, including clearing and tree removal.

1.02 RELATED WORK

A. Earthwork is included in Section 02200.

B. Erosion and Sedimentation Control in Section 02270.

C. Seeding is included in Section 02910.

1.03 SUBMITTALS

A. Submit, in accordance with Section 01330, copies of all permits required prior to clearing, grubbing, and stripping work.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 CLEARING

A. The surface of the ground, for the area to be cleared and grubbed shall be completely cleared of all timber, trees, stumps, brush, shrubs, roots, grass, weeds, rubbish and any other objectionable material resting on or protruding through the surface of the ground. Clearing operations shall be conducted so as to prevent damage to existing structures and utilities and to structures and utilities under construction, and also to provide for the safety of employees and others.

B. Preserve and protect trees on site. No trees will be removed under this contract.

3.02 GRUBBING

A. Grub and remove all stumps, roots in excess of 1-1/2-in in diameter, matted roots, brush, timber, logs, concrete rubble and other debris encountered to a depth of 24- inches below original grade or 24-inches beneath the bottom of foundations, whichever is deeper.

B. Refill all grubbing holes and depressions excavated below the original ground surface with suitable materials and compact to a density conforming to the surrounding ground

surface in accordance with Section 02200.

3.03 STRIPPING

A. Strip topsoil from all areas to be occupied by buildings, structures, and roadways and all areas to be excavated or filled. Remove all unsuitable material identified in the Geotechnical Report.

B. Topsoil shall be free from brush, trash, large stones and other extraneous material. Avoid mixing topsoil with subsoil.

C. Stockpile and protect topsoil until it is used in landscaping, loaming and seeding operations. Dispose of surplus topsoil after all work is completed.

3.04 DISPOSAL

A. Dispose of material and debris from site preparation operations by hauling such materials and debris to an approved offsite disposal area at the expense of the CONTRACTOR. No rubbish or debris of any kind shall be buried on the site.

3.05 PROTECTION AND CONTROL

A. Trees and other vegetation outside the limits of construction or as directed by the ENGINEER shall be protected from damage by all construction operations by erecting suitable barriers, guards and enclosures, or by other approved means.

B. Maintain protection until all work in the vicinity of the work being protected has been completed.

C. Do not operate heavy equipment or stockpile materials within the branch spread of existing trees.

D. Immediately repair any damage to existing tree crowns, trunks, or root systems. Roots exposed and/or damaged during the work shall immediately be cut off cleanly inside the exposed or damaged area. Treat cut surfaces with an acceptable tree wound paint and topsoil spread over the exposed root area.

E. Restrict construction activities to those areas within the limits of construction designated on the Drawings, within public rights-of-way, and within easements provided by the OWNER. Adjacent properties and improvements thereon, public or private, which become damaged by construction operations, shall be promptly restored to their original condition, to the full satisfaction of the property owner.

F. CONTRACTOR shall control dust resulting from clearing and grubbing operations to prevent nuisance to adjacent property owners and the general public.

END OF SECTION

SECTION 02140 - DEWATERING AND DRAINAGE

PART 1 GENERAL

1.01 SCOPE OF WORK

A. The CONTRACTOR shall design, furnish, install, operate, monitor, maintain and remove a temporary dewatering system as required to lower and control water levels at least 2-feet below subgrades of excavations and to permit construction to proceed in-the-dry.

B. The CONTRACTOR shall furnish, maintain and remove temporary surface water control measures adequate to drain and remove surface water entering excavations.

C. The CONTRACTOR shall retain the services of a professional engineer registered in the State of Florida to prepare dewatering and drainage system designs and submittals described herein.

D. Work shall include the design, equipment, materials, installation, protection, and monitoring of geotechnical instrumentation required to monitor the performance of the dewatering and drainage system as required herein.

E. The CONTRACTOR shall collect and properly dispose of all discharge water from the dewatering and drainage systems in accordance with all Federal, State and local agency requirements.

F. The CONTRACTOR shall obtain and pay for all permits required for temporary dewatering and drainage systems. Original permits shall be prominently displayed on the site prior to constructing dewatering and drainage systems.

G. The CONTRACTOR shall repair damage caused by dewatering and drainage system operations.

H. The CONTRACTOR shall perform all work in accordance with current applicable regulations and codes of all Federal, State and local agencies.

1.02 RELATED WORK

A. Site preparation is included in Section 02100.

B. Excavation and Earthwork are included in Section 02200.

C. Trenching, Backfilling and Compaction is included in and Section 02221.

D. Granular Materials in included in Section 02230.

E. Erosion and sedimentation control are included in Section 02270.

F. Seeding is included in Section 02910.

1.03 SUBMITTALS

A. The CONTRACTOR shall submit, in accordance with Section 01330, detailed plans of the proposed dewatering methods. Dewatering and drainage system designs shall be prepared by a professional Engineer licensed in the State of Florida and retained by the CONTRACTOR.

B. The plan shall include a description of the proposed dewatering system and include the proposed installation methods to be used for dewatering and drainage system elements and for observation wells. The plan shall include equipment, drilling methods, hole sizes, filter sand placement techniques, sealing materials, development techniques, the number and location of dewatering points and observations wells, etc. Include the dewatering system design calculations in the plan.

C. Submittal will be for information only. The CONTRACTOR shall remain responsible for adequacy and safety of construction means, methods and techniques.

D. The CONTRACTOR shall coordinate dewatering and drainage submittals with the excavation and support of excavation submittals. The submittal shall show the areas and depths of excavation to be dewatered. Sheet piles may be used for the advantage for reducing groundwater flow into the excavation if they can be embedded in confining or semi-confining layer(s). The plan shall also include detailed plans for settlement monitoring of existing structures within 150 feet of dewatering activities before and during construction, and provisions to address settlement of existing structures, should it occur, resulting from dewatering activities.

E. The CONTRACTOR shall not proceed with any excavation or dewatering activities until the dewatering submittals have been provided to the Engineer and permits have been obtained.

1.04 DESIGN AND PERFORMANCE RESPONSIBILITY

A. The CONTRACTOR is responsible for the proper design and implementation of methods for controlling surface water and groundwater.

B. The primary purpose of the groundwater control system is to preserve the natural undisturbed condition of the subgrade soils in the areas of the proposed excavations. Prior to excavation, the CONTRACTOR shall lower the groundwater to at least 2-ft below the lowest excavation subgrade elevation. Additional groundwater lowering may be necessary beyond the 2-ft requirement, depending on construction methods and equipment used and the prevailing groundwater and soil conditions. The CONTRACTOR is responsible for lowering the groundwater as necessary to complete construction in accordance with the plans and specifications at no additional cost to the OWNER.

C. The CONTRACTOR shall be responsible for damage to properties, buildings or structures, sewers and other utility installations, pavements and work that may result from dewatering of surface water control operations.

D. Design review and field monitoring activities by the OWNER or of the ENGINEER shall

not relieve the CONTRACTOR of his/her responsibilities for the work.

1.05 DEFINITIONS

A. Where the phrase "in-the-dry" is used in this Section, it shall be defined as an excavation subgrade where the groundwater level has been lowered to at least 2- ft below the lowest level of the excavation, is stable with no ponded water, mud, or muck, is able to support construction equipment without rutting or disturbance and is suitable for the placement and compaction of fill material, pipe or concrete foundations.

PART 2 PRODUCTS

2.01 MATERIALS

A. Pipe for observation wells, if required, shall consist of minimum 2-in I.D., Schedule 40 PVC pipe and machine slotted PVC wellpoints, maximum slot size 0.0.010-in.

B. The CONTRACTOR shall provide piping, pumping equipment and all other materials required to provide control of surface water and groundwater in excavation, and equipment provided shall be suitable for the intended purpose.

C. The CONTRACTOR shall maintain at all sites standby pumping systems and a source of standby power.

PART 3 EXECUTION

3.01 GENERAL

A. The CONTRACTOR shall control surface water and groundwater such that excavation to final grade is made in-the-dry, the bearing soils are maintained undisturbed and softening and/or instability or disturbance due to the presence or seepage of water does not occur. All construction and backfilling shall proceed in-the-dry and flotation of completed portions of work shall be prohibited.

B. Methods of groundwater control may include but not be limited to perimeter trenches and sump pumping, perimeter groundwater cutoff, well points, ejectors, deep wells, and combinations thereof.

C. All work included in this Section shall be done in a manner which will protect adjacent structures and utilities and shall not cause loss of ground or disturbance to the pipe bearing soils or to soils which support overlying or adjacent structures.

D. Provide protection against flotation for all work.

E. The impact of anticipated subsurface soil/water conditions shall be considered when selecting methods of excavation and temporary dewatering and drainage systems. Where groundwater levels are above the proposed bottoms of excavations, a pumped dewatering system is expected for pre-drainage of the soils prior to excavation to final grade and for maintenance of the lowered groundwater level until construction has been completed to such an extent that the foundation, structure, pipe, conduit, or fill will not

be floated or otherwise damaged. Type of dewatering system, spacing of dewatering units and other details of the work are expected to vary with soil/water conditions at a particular location.

F. Discharge water shall be clear, with no visible soil particles. Discharge from dewatering shall be disposed of in such a manner that it will not interfere with the normal drainage of the area in which the work is being performed, create a public nuisance, or form ponding. The operations shall not cause injury to any portion of work completed, or in progress, or to the surface of streets, or to private property. The dewatering operation shall comply with the requirements of appropriate regulatory agencies. Additionally, where private property is involved, advance permission shall be obtained by the CONTRACTOR.

3.02 SURFACE WATER CONTROL

A. The CONTRACTOR shall construct water control measures, including dikes, ditches, sumps and other methods to prevent, as necessary, flow of surface water into excavations and to allow construction to proceed without being delayed.

3.03 EXCAVATION DEWATERING

A. At all times during construction, the CONTRACTOR shall furnish and maintain proper equipment and facilities to remove promptly and dispose of properly all water entering excavations. Excavations shall be maintained in-the-dry, so as to obtain a satisfactory undisturbed subgrade foundation condition until the fill, structure or pipes to be built thereon have been completed to such extent that they will not be floated or otherwise damaged by allowing water levels to return to natural elevations.

B. Pipe and masonry shall not be laid in water or submerged within 24 hours after being placed. Water shall not flow over new masonry within 4 days after placement.

C. In no event shall water rise to cause unbalanced pressure on structures until the concrete or mortar has set at least 24 hours. Prevent flotation of the pipe by promptly placing backfill.

D. Dewatering shall at all times be conducted in such a manner as to preserve the natural undisturbed capacity of the subgrade soils at proposed bottom of excavation. If the subgrade of the trench bottom or excavation becomes disturbed due to inadequate drainage, The CONTRACTOR shall excavate below normal grade as directed by the OWNER's representative and refill with screened gravel at the CONTRACTOR's expense.

E. It is expected that the initial dewatering plan may have to be modified to suit the variable soil/water conditions to be encountered during construction. The CONTRACTOR shall dewater and excavate, at all times, in a manner which does not cause loss of ground or disturbance to the pipe bearing soil or soil which supports overlying or adjacent structures.

F. If the method of dewatering does not properly dewater the trench as specified, the CONTRACTOR shall install groundwater observation wells as directed by the state

certified Geotechnical Engineer and shall not place any pipe or structure until the readings obtained from the observation wells indicate that the groundwater has been lowered a minimum of 6-in below the bottom of the final excavation within the trench limits.

G. Dewatering units used in the work shall be surrounded by suitable filter sand and no fines shall be removed by pumping. Pumping from the dewatering system shall be continuous until pipe or structure is adequately backfilled. Stand-by pumps shall be provided.

H. Water entering the excavation from precipitation or surface runoff shall be collected in shallow ditches around the perimeter of the excavation, drained to sump and pumped from the excavation to maintain a bottom free from standing water.

I. Drainage shall be disposed of in an approved area and shall be coordinated with the OWNER. All water discharged from temporary dewatering and drainage systems shall be disposed in accordance with the sedimentation and erosion control plans as specified in Section 02270.

3.04 REMOVAL OF SYSTEMS

A. At the completion of the excavation and backfilling work, and when approved by the OWNER's representative, all pipe, deep wells, well points, pumps, generators, observation wells, other equipment and accessories used for the groundwater and surface water control systems shall be removed from the site. All materials and equipment shall become the property of the CONTRACTOR. All areas disturbed by the installation and removal of groundwater control systems and observation wells shall be restored to their original condition.

B. The CONTRACTOR shall leave in place any casings for deep wells, well points or observation wells located within the plan limits of structures or pipelines or within the zone below 1H:1V planes extending downward and out from the edges of foundation elements or from the downward vertical footprint of the pipe, or where removal would otherwise result in ground movements causing adverse settlement to adjacent ground surface, utilities or existing structures.

C. Where casings are pulled, holes shall be filled with sand. Where left in place, casings should be filled with cement grout and cut off a minimum of 3-ft below finished ground level or 1-ft below foundation level so as not to interfere with finished structures or pipelines.

D. When directed by the ENGINEER, or OWNER, observation wells should be left in place for continued monitoring. When so directed, cut casings flush with final ground level and provide protective lockable boxes with locking devices. The protective boxes shall be suitable for the traffic and for any other conditions to which the observation wells will be exposed.

END OF SECTION

SECTION 02200 - EARTHWORK

PART 1 GENERAL

1.01 STATUTORY REQUIREMENTS

A. All excavation, trenching, sheeting, bracing, etc. shall comply with the requirements of OSHA excavation safety standards (29 CFR Part 1926.650 Subpart P) and State of Florida and local requirements. Where conflict between OSHA, State and local regulations exists, the most stringent requirement shall apply.

1.02 SCOPE OF WORK

A. The CONTRACTOR shall furnish all labor, materials, equipment and incidentals required and perform all excavation, backfill, fill and grading required to complete the work as shown on the Drawings and as specified herein.

B. If required, the CONTRACTOR shall provide the services of licensed professional engineer registered in the State of Florida to prepare temporary excavation support system, and dewatering system designs and submittals.

C. The CONTRACTOR shall furnish and install temporary excavation support systems, if required, including sheeting, shoring and bracing, to insure the safety of personnel and protect adjacent structures, piping, etc. in accordance with Federal, State, and local laws, regulations and requirements. Temporary excavation support systems shall be in accordance with all applicable SJCUD standards and these Specifications. In all instances, the more restrictive requirements shall be followed.

D. The CONTRACTOR shall furnish and install temporary dewatering and surface water control systems and operate to dewater and maintain excavations in a dry condition. The CONTRACTOR shall control drainage into excavations and remove seepage water and rainwater. Dewatering and surface water control shall be in accordance with Section 02140.

E. The CONTRACTOR shall examine the site and review the available geotechnical report prior to submitting his proposal, taking into consideration all conditions that may affect his work. The OWNER and ENGINEER do not assume responsibility for variations of subsurface conditions at locations other than places shown and at the time the investigations were made.

F. No extra work shall be initiated without notification to the ENGINEER and OWNER in writing and the written approval of the OWNER in response.

G. Protection of existing structure and utilities shall be the responsibility of the CONTRACTOR.

1.03 RELATED WORK

A. Site Preparation is included in Section 02100.

B. Dewatering and Drainage is included in Section 02140.

C. Trenching, Backfilling and Compaction is included in Section 02221.

1.04 SUBMITTALS

A. Excavation support system designs shall be prepared by a licensed professional engineer, registered in the State of Florida.

B. The CONTRACTOR shall submit, an Excavation Work Plan that includes the proposed methods of construction, including, earthwork operations, excavation limits, slopes, ramp access, fill material moisture conditioning and handing, compaction equipment, and material sources for the various portions of the work.

C. The CONTRACTOR shall coordinate this submittal with the requirements of dewatering and support of excavation submittals.

1.05 REFERENCES

A. American Society for Testing and Materials (ASTM)
1. ASTM C 33 – Specification for Concrete Aggregates.
2. ASTM D 1557 – Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/cu ft (2,700kN-m/cu m)).
3. ASTM D 2487 – Standard Classification of Soils for Engineering Purposes (Unified Soil Classification System).
4. ASTM D 4751 – Standard Test Method for Determining the Apparent Opening Size of a Geotextile.
5. ASTM D 5034 – Standard Test Methods for Breaking Strength and Elongation of Textile Fabrics.

B. Where reference is made to one of the above standards, the revision in effect at the time of bid opening shall apply.

1.06 PROTECTION

A. Sheeting and Bracing (if necessary)

1. The CONTRACTOR shall furnish, put in place and maintain such sheeting and bracing as may be required by Federal, State and local safety requirements; to support the sides of excavations; to prevent any movement which could in any way diminish the width of the excavation below that necessary for proper construction; and to protect adjacent structures from undermining or other damage. If the ENGINEER is of the opinion that at any points sufficient or proper supports have not been provided, he/she may order additional supports put in, and compliance with such order shall not relieve or release the CONTRACTOR from his/her responsibility for the sufficiency of such supports. Care shall be taken to prevent voids outside of the sheeting. If voids are formed, they shall be immediately filled and rammed. Where soil cannot be properly compacted to fill a void, lean concrete shall be used as backfill.
2. The CONTRACTOR shall construct the sheeting outside the neat lines of the

foundation, unless indicated otherwise, to the extent deemed desirable for the method of operation. Sheeting shall be plumb and securely braced and tied in position. Sheeting and bracing shall be adequate to withstand all pressures to which the structure or trench will be subjected. Any movement or bulging which may occur shall be corrected to provide the necessary clearances and dimensions.

3. Where sheeting and bracing is required to support the sides of excavations for structures, engage a professional engineer, licensed by the State of Florida to design the sheeting and bracing. The CONTRACTOR shall provide detailed submittals of the sheeting and bracing design for review and comments. The sheeting and bracing installed shall be in conformity with the design and certification provided by the professional engineer.
4. The CONTRACTOR shall leave in place to be embedded in the backfill all sheeting and bracing not shown on the Drawings but which the ENGINEER may direct in writing to leave in place at any time during the progress of the work for the purpose of preventing injury to structures, utilities, or property, whether public or private. The ENGINEER may direct that timber used for sheeting and bracing be cut off at any specified elevation. All timber sheeting to be left in place within the limits of the structure shall be treated.
5. All sheeting and bracing not left in place shall be carefully removed in such a manner as not to endanger the construction or other structures, utilities, or property. All voids left or caused by withdrawal of sheeting shall be immediately refilled with sand by ramming with tools especially adapted to that purpose, or otherwise as may be directed by the ENGINEER.
6. The right of the ENGINEER to order sheeting and bracing left in place shall not be construed as creating any obligation on his/her part to issue such orders and his/her failure to exercise his/her right to do so shall not relieve the CONTRACTOR from liability for damages to persons or property occurring from or upon the work occasioned by negligence or otherwise, growing out of a failure on the part of the CONTRACTOR to leave in place sufficient sheeting and bracing to prevent any caving or moving of the ground.
7. No sheeting is to be withdrawn if driven below mid-diameter of any pipe and under no circumstances shall any sheeting be cut off at a level lower than 1 foot above the top of any pipe.

B. Pumping and Drainage

1. The CONTRACTOR shall at all times during construction provide and maintain proper equipment and facilities to remove all water entering excavations and keep such excavation dry so as to obtain a satisfactory undisturbed subgrade foundation condition until the fills, structures or pipes to be built thereon have been completed to such extent that they will not be floated or otherwise damaged by allowing water levels to return to natural levels. The CONTRACTOR shall submit to the ENGINEER for review the design of the dewatering system prior to commencing work.
2. The CONTRACTOR shall take all precautions to prevent uplift of any structure during construction.
3. Flotation shall be prevented by maintaining a positive and continuous operation of the dewatering system. The CONTRACTOR shall be fully responsible and liable for all damages which may result from failure of this system.

4. The dewatering system shall be designed by a professional engineer registered in the State of Florida employed by the CONTRACTOR. The CONTRACTOR shall provide detailed submittals of the dewatering design for review and comments.
5. Dewatering and drainage systems shall be in accordance with Section 02140.

1.07 COMPACTION REQUIREMENTS

A. Beneath foundations and slabs on grade (except sidewalks): Compact the top 24- in of existing subgrade (and each layer of fill as applicable) to a density of at least 95 percent modified Proctor maximum dry density (ASTM D1557) at or near optimum moisture content (minus 2 to plus 3 percent).

B. Ten feet around structures: Compact the top 24-in of existing subgrade and each layer of fill or backfill to at least 95 percent modified Proctor maximum dry density (ASTM D1557) at or near optimum moisture content (minus 2 to plus 3 percent).

C. Sidewalks: Compact the top 6-in of existing subgrade (and each 12-in layer of fill if applicable) to at least 95 percent modified Proctor maximum dry density (ASTM D1557) at or near optimum moisture content (minus 2 to plus 3 percent).

D. Roads, paved areas and roadway embankments: Compact the top 12-in of existing subgrade and each layer of fill or backfill to at least 95 percent modified Proctor maximum dry density (ASTM D1557) at or near optimum moisture content (minus 2 to plus 3 percent).

1.08 COMPACTION TESTING

A. Prior to the general placement of the fill and during placement and compaction operations, the ENGINEER may select areas within the limits of the fill for testing the degree of compaction. CONTRACTOR shall cooperate fully in obtaining the information desired.

B. Payment for testing will be made by the CONTRACTOR and reimbursed by the OWNER for the passed tests. A testing allowance has been provided in the bid form. If test results are unsatisfactory, all costs involved in the testing and correcting deficiencies in compacted materials shall be borne by the CONTRACTOR. All deficiencies shall be corrected to the satisfaction of the ENGINEER.

C. For structures, density testing shall be performed at a frequency of at least one test for every 2,500 square feet per 12 inch lift or a minimum of one test per lift per structure and at a frequency of at least one test per lift for every 50 linear feet of continuous wall footing. For circular structures, the Contractor shall provide a grid pattern for approval showing proposed test locations every 2,500 sf with maximum spacing between test location not to exceed 50 linear feet.

D. For paved parking/drive areas, density tests shall be performed at a frequency of at least one test for every 5,000 square feet per 12 inch lift or a minimum of one test per lift.

E. For pipelines, density testing shall be performed as specified in Section 02221, Part 3.11.

F. At the request of the ENGINEER, additional testing shall be performed. CONTRACTOR shall cooperate fully with the ENGINEER's request for additional testing.

PART 2 PRODUCTS

2.01 MATERIALS

A. Fill materials are specified under Section 02230.

PART 3 EXECUTION

3.01 EXCAVATION BELOW GRADE

A. If the bottom of any excavation is excavated below the limits shown on the Drawings, specified, or directed by the ENGINEER, it shall be refilled at the CONTRACTOR's expense with compacted layers of Structural Fill, or other material satisfactory to the ENGINEER.

B. If, in the opinion of the ENGINEER, the material in its undisturbed natural condition, at or below the normal grade of the excavation as indicated on the Drawings, is unsuitable for foundations, it shall be removed to such depth and width as approved by the ENGINEER and be replaced with suitable compacted material as directed by the ENGINEER for which compensation will be made in accordance with the Contract.

C. The excavation shall be backfilled in a controlled manner with Structural Fill. Excavated material that meets the requirements of Structural Fill may be reused to backfill the excavation.

3.02 STRUCTURE EXCAVATION

A. Excavation shall be made to the grades shown on the Drawings and to such widths as will give suitable room for construction of the structures, for bracing and supporting, pumping and draining. The bottom of the excavations shall be rendered firm and dry and in all respects acceptable to the ENGINEER.

B. Excavation and dewatering shall be accomplished by methods which preserve the undisturbed state of subgrade soils. Two feet of soil underneath all footings, slabs, mats, and tank foundations plus a margin of 2 feet shall be either compacted to 95 percent of the soil's maximum dry density as determined by ASTM D 1557 (modified Proctor) test or removed and replaced with compacted Structural Fill. Density tests shall be conducted to verify that proper compaction has been achieved beneath each structure.

C. Dewatering to target levels shall be performed prior to performing excavation work. Dewatering shall be such as to prevent a quick condition, pumping, boiling or detrimental under seepage at the base of the excavation as specified herein.

D. Excavation equipment shall be satisfactory for carrying out the work in accordance with the requirements specified. In no case shall the earth be ploughed, scraped, or dug with

machinery so near to the finished subgrade as to result in excavation of, or disturbance of material below grade, the last of the excavated material being removed with pick and shovel just before placing of concrete or working mat thereon.

E. Soils to a depth of 6 inches below the bottom of the proposed Generator and Fuel Tank foundation, driveways, miscellaneous slabs and the footer for the electrical building, plus a minimum horizontal margin equivalent to the depth of excavation, shall be over excavated and replaced with compacted Structural Fill. The exposed subgrade shall be compacted to a density of at least 95 percent modified Proctor (ASTM D 1557) to a depth of 12 inches. Soils used as backfill shall meet the requirements of Structural Fill presented in Section 02230.

F. When excavation for foundations has reached prescribed depths, the ENGINEER shall be notified and will inspect conditions. If materials and conditions are not satisfactory to the ENGINEER, the ENGINEER will issue instructions as to the procedures and if additional costs are involved, adjustments of the ContractPrice will be made on the basis of unit prices agreed upon by the ENGINEER and the CONTRACTOR in accordance with the provisions of the Contract Documents.

G. During final excavation to subgrade level, the CONTRACTOR shall take whatever precautions are required to prevent disturbance and remolding. Exposed subgrade soils which has become softened and mixed with water shall be removed. Hand excavation of the final 3 to 6 inches will be required as necessary to obtain a satisfactory undisturbed bottom. The ENGINEER will be the sole judge as to whether the work has been accomplished satisfactorily.

H. Subgrade soils for all structures (unless otherwise shown on the Drawings or otherwise specified herein) shall be compacted to a density of at least 95 percent modified Proctor maximum dry density (ASTM D 1557) to a depth of 24inches.

I. When excavations have reached the required subgrade, including any allowances for working mats or base materials, prior to the placement of working mats or base materials, coordinate with the soils testing laboratory to verify the suitability of existing subgrade soils and to perform in-place soil density tests as required to verify that the subgrade soils have been compacted to achieve the specified degree of compaction. If the existing subgrade soils are determined to be unsuitable, direction will be provided by the Engineer regarding removal and replacement with suitable materials. If CONTRACTOR believes that such direction would increase CONTRACTOR's cost and would thereby entitle CONTRACTOR to a change in Contract cost, CONTRACTOR shall notify the Engineer in accordance with the applicable article(s) in the General Conditions pertaining to changes in the work.

J. Over-excavation beyond the limits and depths required by the Contract Documents shall be replaced with structural fill or other approved material subject to the prior approval of the ENGINEER at no additional cost to the ENGINEER.

3.03 MISCELLANEOUS EXCAVATION

A. Perform all miscellaneous excavation. Make all excavations necessary to permit the placing of loam and plants, for constructing roadways and any other miscellaneous

earth excavation required under this Contract.

3.04 BACKFILLING - COMMON FILL

A. Common fill may be used in below roadways, parking lots, landscape areas and areas beyond those designated for select fill unless shown or specified otherwise. Common Fill may be used as trench backfill; fill against exterior walls of structures (except water and retention structures) as indicated on the Drawings; as embankment fill; or in other areas as designated by the ENGINEER. Material conforming to the requirements of Common Fill shall be placed in layers having a maximum thickness of 8 inches measured before compaction.

B. Common Fill shall be compacted to at least 98 percent of the soil's maximum dry density beneath roadways and at least 95 percent of the soil's maximum dry density in all other areas. Maximum dry density shall be as determined by ASTM D 1557, Method D.

C. Materials placed in fill areas shall be deposited to the lines and grades shown on the Drawings making due allowance for settlement of the material and for the placing of loam thereon.

D. The surfaces of filled areas shall be graded to smooth true lines, strictly conforming to grades indicated on the grading plan and no soft spots or un-compacted areas will be allowed in the work.

E. No compacting shall be done when the material is too wet either from rain or from excess application of water. At such times, work shall be suspended until the previously placed and new materials have dried sufficiently to permit proper compaction.

3.05 BACKFILLING - STRUCTURAL FILL

A. Fill required beneath foundations or slabs on grade (except sidewalks) shall be structural fill. Structural Fill shall be placed in layers having a maximum thickness of 8 inches in open areas and 4 to 6 inches in confined areas including points where conduit and piping join structures, measured before compaction. Each layer of fill shall be compacted to at least 95 percent of the soil's maximum dry density determined by the ASTM D 1557, Method D by methods approved by the ENGINEER. The limits of Structural Fill adjacent to structures shall extend as shown on the Drawings.

B. Compaction of Structural Fill in open areas shall consist of fully loaded ten-wheel trucks, a front-end loader with a full bucket, a heavy vibratory roller, or any method approved by the ENGINEER. Compaction of Structural Fill in confined areas shall be accomplished by hand-operated vibratory equipment or mechanical tampers approved by the ENGINEER. As a minimum, compaction of Structural Fill shall consist of four passes of approved equipment.

C. Compacted soil is required below all structures, as indicated on the Drawings. It shall consist of material meeting the requirements of Structural Fill compacted to a depth as shown on the Drawings or as specified by the ENGINEER. Refer to Paragraph 3.02, B for degree of compaction and limit of excavation.

3.06 DISPOSAL OF UNSUITABLE, WASTE AND/OR SURPLUS MATERIAL

A. Unsuitable, waste and surplus excavated material shall be removed and disposed of off-site. Materials may be temporarily stockpiled in an area within the limits of construction that does not disrupt construction activities, create any nuisances or safety hazards, or otherwise restrict access to the work site.

B. Suitable excavated material shall be used for fill or backfill on the different parts of the work as required.

C. Surplus fill shall become the property of the CONTRACTOR and shall be removed and disposed off site.

3.07 GRADING

A. Grading in preparation for placing of fill shall be performed at all places that are indicated on the Drawings, to the lines, grades and elevations shown and otherwise as directed by the ENGINEER and shall be performed in such a manner that the requirements for formation of embankments can be followed. All material encountered, of whatever nature, within the limits indicated, shall be removed and disposed of as directed. During the process of grading, the subgrade shall be maintained in such condition that it will be well drained at all times. When directed, temporary drains and drainage ditches shall be installed to intercept or divert surface water which may affect the prosecution or condition of the work.

B. If at the time of grading it is not possible to place any material in its final location, it shall be stockpiled in approved areas for later use. No extra payment will be made for the stockpiling or double handling of excavated material.

C. The ENGINEER reserves the right to make minor adjustments or revisions to the lines or grades if found necessary as the work progresses, in order to obtain satisfactory construction.

D. Stones or rock fragments larger than 2 inches in their greatest dimensions will not be permitted in the top 12 inches of the finished subgrade of all fills or embankments.

E. In cuts, all loose or protruding rocks on the back slopes shall be barred loose or otherwise removed to line or finished grade of slope. All cut and fill slopes shall be uniformly dressed to the slope, cross-section and alignment shown on the Drawings or as directed by the ENGINEER.

END OF SECTION

SECTION 02221 - TRENCHING, BACKFILLING AND COMPACTION

PART 1 GENERAL

1.01 SCOPE OF WORK

A. Furnish all labor, materials, equipment and incidentals required and perform all trenching for pipelines and appurtenances, including drainage, filling, backfilling, disposal of surplus material and restoration of trench surfaces and easements.

B. Excavation shall extend to the width and depth shown on the Drawings or as specified herein and shall provide suitable room for installing pipe, structures and appurtenances.

C. Furnish and place all sheeting, bracing and supports and shall remove from the excavation all materials which the ENGINEER may deem unsuitable for backfilling. The bottom of the excavation shall be firm, dry and in all respects, acceptable. If conditions warrant, deposit gravel for pipe bedding, or gravel refill for excavation below grade, directly on the bottom of the trench immediately after excavation has reached the proper depth and before the bottom of the trench has become softened or disturbed by any cause whatever. The length of open trench shall be related closely to the rate of pipe laying. All excavation shall be made in open trenches.

D. All excavation, trenching and related sheeting, bracing, etc., shall comply with the requirements of OSHA excavation safety standards (29 CFR Part 1926.650 Subpart P) and to the Florida Department of Labor and Industries, Division of Industrial Safety "Rules and Regulations for the Prevention of Accidents in Construction Operations" (Chapter 454 CMR 10.00 et. seq.) and State requirements. Where conflict between OSHA and State regulations exists, the more stringent requirements shall apply.

E. Wherever the requirement for 95 percent compaction is referred to herein it shall mean "at least 95 percent of maximum dry density as determined by ASTM D1557, Method D".

F. Prior to the start of work submit the proposed method of backfilling and compaction to the ENGINEER for review.

1.02 RELATED WORK

A. Site Preparation is included in Section 02100.

B. Dewatering and Drainage is included in Section 02140.

C. Earthwork is included in Section 02200.

1.03 REFERENCES

A. American Society for Testing and Materials (ASTM)

1. ASTM D1557 – Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/cu ft (2,700 KN-m/cu m)).

B. Geotechnical Exploration Report prepared by Universal Engineering Inc, entitled "Report of A Geotechnical Exploration, Fruit Cove Wastewater Treatment" Project No. 0990.1900138.0000 Report No. 1695242, July 29,2019

C. St. Johns County Utility Department Manual of Water, Wastewater, and Reuse Design Standards & Specifications.

1.04 MATERIALS

A. Materials for use as structural fill, common fill, select common fill and gravel shall conform to Section 02230.

PART 2 EXECUTION

2.01 GENERAL

A. Work shall be in accordance with the St Johns County Utility Department standards.

B. All excavation, backfill and grading necessary to complete the work shall be made by the CONTRACTOR and the cost thereof shall be included in the contract price.

C. Material shall be furnished as required from offsite sources and hauled to the site.

D. The CONTRACTOR shall take all the necessary precautions to maintain the work area in a safe and workable condition.

E. The CONTRACTOR shall protect his work at all times by flagging, marking, lighting and barricading. It shall also be the CONTRACTOR's responsibility to preserve and protect all above and underground structures, pipelines, conduits, cables, drains or utilities which are existing at the time he encounters them. Failure of the Drawings to show the existence of these obstructions shall not relieve the CONTRACTOR from this responsibility. The cost of repair of any damage which occurs to these obstructions during or as a result of construction shall be borne by the CONTRACTOR without additional cost to the OWNER.

2.02 TRENCH PROTECTION

A. All excavation, trenching, and related sheeting, bracing, etc., shall conform to the requirements of the Florida Trench Safety Act (Part IV, Chapter 553 of the Florida Statutes) which incorporates by reference, the Occupational Safety and Health Administration's (OSHA) excavation safety standards, (29 CFR 1926.650 Subpart P).

B. Construct and maintain sheeting and bracing as required to support the sides of excavations, to prevent any movement which could in any way diminish the width of the excavation below that necessary for proper construction, and to protect adjacent structures, existing piping and/or foundation material from disturbance, undermining, or other damage. Care shall be taken to prevent voids outside of the sheeting, but if voids are formed they shall be immediately filled and rammed.

C. For pipe trench sheeting, no sheeting is to be withdrawn if driven below mid- diameter of any pipe, and no wood sheeting shall be cut off at a level lower than 1 foot above the top of any pipe unless otherwise directed by the ENGINEER. If during the progress of the work the ENGINEER decides that additional wood sheeting should be left in place, he may direct the CONTRACTOR in writing. If steel sheeting is used for trench sheeting, removal shall be as specified above, unless written approval is given by the ENGINEER for an alternate method of removal. Sheeting left in place shall be shown on the CONTRACTOR's record drawings.

D. All sheeting and bracing not left in place shall be carefully removed in such a manner as not to endanger the construction or other structures, utilities, existing piping, or property. All voids left or caused by withdrawal of sheeting shall be immediately refilled with sand by ramming with tools especially adapted to that purpose, by watering or otherwise as may be directed.

E. The right of the ENGINEER to order sheeting and bracing left in place shall not be construed as creating any obligation on his part to issue such orders, and his failure to exercise his right to do so shall not relieve the CONTRACTOR from liability for damages to persons or property occurring from or upon the work occasioned by negligence or otherwise, growing out of a failure on the part of the CONTRACTOR to leave in place sufficient sheeting and bracing to prevent any caving or moving of the ground.

2.03 JOB CONDITIONS

A. The CONTRACTOR shall examine the site and review the available test borings and exploration report or undertake his own soil borings prior to submitting his bid, taking into consideration all conditions that may affect his work. The OWNER and ENGINEER will not assume responsibility for variations of sub-soil quality or conditions at locations other than places shown and at the time the investigation was made. Boring log data and soil samples are available for examination after signing a release at the office of the ENGINEER.

B. Existing Utilities: Locate existing underground utilities in the areas of work. If utilities are to remain in place, provide adequate means of protection during earthwork operations.

1. Should undocumented, or incorrectly documented, piping or other utilities be encountered during excavation, consult the ENGINEER and the OWNER of such piping or utility immediately for directions. Repair damaged utilities to satisfaction of utility OWNER.
2. Demolish and completely remove from site existing underground utilities indicated on the Drawings to be removed.

C. Protection of Persons and Property: Barricade open excavations occurring as part of this work and post with warning lights. Operate warning lights as recommended by authorities having jurisdiction.

1. Protect structures, utilities, sidewalks, pavements, and other facilities from

damage caused by settlement, lateral movement, undermining, washout and other hazards created by earthwork operations.

2.04 TRENCH EXCAVATION

A. Trench excavation shall include material of every description and of whatever substance encountered, except rock and boulders. Pavement shall be cut with a saw, wheel or pneumatic chisel along straight lines before excavating.

B. Strip and stockpile topsoil from grassed areas crossed by trenches. At the CONTRACTOR's option, topsoil may be otherwise disposed of and replaced, when required, with approved topsoil of equal quality.

C. While excavating and backfilling is in progress, traffic shall be maintained, and all utilities and other property protected as required by SJCUD.

D. Trenches shall be excavated to the depth indicated on the Drawings and in widths sufficient for laying the pipe, bracing and for pumping and drainage facilities. The bottom of the excavations shall be firm and dry and in all respects acceptable to the ENGINEER. Trench width shall be practical minimum.

E. Excavation and dewatering shall be accomplished by methods which preserve the undisturbed state of subgrade soils. The trench may be excavated by machinery to, or just below the designated subgrade, provided that material remaining in the bottom of the trench is no more than slightly disturbed. Subgrade soils which become soft, loose, "quick", or otherwise unsatisfactory as a result of inadequate excavation, dewatering or other construction methods shall be removed and replaced with compacted Structural Fill as required by the ENGINEER at the CONTRACTOR's expense.

F. Where pipe is to be laid directly on the trench bottom, final excavation at the bottom of the trench shall be performed manually, providing a flat-bottom true to grade upon undisturbed material. Bell holes shall be made as required. Blocking shall not be used to raise pipes to grade.

G. Where pipe is to be laid on crushed stone bedding, the trench may be excavated by machinery to the normal depth of the pipe provided that the material remaining in the bottom of the trench is no more than slightly disturbed.

2.05 DISPOSAL OF MATERIALS

A. Excavated material shall be stacked without excessive surcharge on the trench bank or obstructing free access to hydrants and gate valves. Inconvenience to traffic and abutters shall be avoided as much as possible. Excavated material shall be segregated for use in backfilling as specified below.

B. It is expressly understood that no excavated material shall be removed from the site of the work or disposed of, except as directed by the ENGINEER. When removal of surplus materials has been approved by the ENGINEER, dispose of such surplus material in approved designated areas.

C. Should conditions make it impracticable or unsafe to stack material adjacent to the trench, the material shall be hauled and stored at a location provided. When required, it shall be re-handled and used in backfilling the trench.

D. All surplus and/or unsuitable excavated material shall be disposed of in the following manner:

1. Transport from OWNER's property and legally dispose of. Any permit required for the hauling and disposing of this material beyond OWNER's property shall be obtained by the contractor prior to commencing hauling operations.

E. Suitable excavated material may be used for fill if it meets the specifications for structural fill, select common fill, or common fill and is approved by the ENGINEER. Excavated material so approved may be neatly stockpiled at the site where designated by the ENGINEER provided there is an area available where it will not interfere with the operation of the facility nor inconvenience traffic or adjoining property owners.

2.06 SHEETING AND BRACING

A. The CONTRACTOR shall furnish, install and maintain sheeting and bracing required by Federal, State or local safety requirements to support the sides of the excavation and prevent loss of ground which could endanger personnel, damage or delay the work or endanger adjacent structures. If the ENGINEER is of the opinion that at any point sufficient or proper supports have not been provided, he/she may order additional supports placed at the expense of the CONTRACTOR. Compliance with such order shall not relieve the CONTRACTOR from his/her responsibility for the sufficiency of such supports.

B. Care shall be taken to prevent voids outside of the sheeting, but if voids are formed, they shall be immediately filled and rammed.

C. Where sheeting and bracing is required to support the sides of trenches, the CONTRACTOR shall engage a professional engineer, registered in the State of Florida, to design the sheeting and bracing. The sheeting and bracing installed shall be in conformity with the design and certification of this shall be provided by the professional engineer.

D. When moveable trench bracing such as trench boxes, moveable sheeting, shoring or plates are used to support the sides of the trench, care shall be taken in placing and moving the boxes or supporting bracing to prevent movement of the pipe, or disturbance of the pipe bedding and the screened gravel backfill.

1. When installing rigid pipe (R.C., V.C., A.C., etc), any portion of the box extending below mid diameter shall be raised above this point prior to moving the box ahead to install the next pipe. This is to prevent the separation of installed pipe joints due to movement of the box.
2. When installing flexible pipe (PVC, etc), trench boxes, moveable sheeting, shoring or plates shall not be allowed to extend below mid-diameter of the pipe. As trench boxes, moveable sheeting, shoring or plates are moved, screened gravel shall be placed to fill any voids created and the screened gravel and backfill shall be re-compacted to provide uniform side support for the pipe.

E. Permission will be given to use steel sheeting in lieu of wood sheeting for the entire job wherever the use of sheeting is necessary. The cost for use of sheeting will be included in the bid items for pipe and shall include full compensation for driving, bracing and later removal of sheeting.

F. All sheeting and bracing shall be carefully removed in such manner as not to endanger the construction of other structures, utilities, or property, whether public or private. All voids left after withdrawal of sheeting shall be immediately refilled with sand by ramming with tools especially adapted to that purpose, by watering or otherwise as directed.

G. No payment will be given for sheeting, bracing, etc, during the progress of the work. No payment will be given for sheeting which has actually been left in the trench for the convenience of the CONTRACTOR.

H. Sheeting driven below mid-diameter of any pipe shall remain in place from the driven elevation to at least 1-ft above the top of the pipe.

2.07 DEWATERING AND DRAINAGE

A. Dewatering and drainage shall be performed as specified in Section 02140.

2.08 TEST PITS

A. Excavation of test pits may be required for the purpose of exploring and locating buried debris, underground utilities or structures as an aid in establishing the precise location of new work.

B. Test pits shall be backfilled and compacted as soon as the desired information has been obtained. The backfilled surface shall be maintained in a satisfactory condition for travel until resurfaced as specified.

2.09 EXCAVATION BELOW GRADE AND REFILL

A. Whatever the nature of unstable material encountered or the groundwater conditions, trench drainage shall be complete and effective.

B. If the CONTRACTOR excavates below grade through error or for the CONTRACTOR's own convenience, or through failure to properly dewater the trench, or disturbs the subgrade before dewatering is sufficiently complete, he may be directed by the ENGINEER to excavate below grade as set forth in the following paragraph, in which case the work of excavating below grade and furnishing and placing the refill shall be performed at his own expense.

C. If the material at the level of trench bottom consists of fine sand, sand and silt or soft earth which may work into the crushed stone or screened gravel notwithstanding effective drainage, the subgrade material shall be removed to the extent directed and the excavation refilled with a 6-in layer of coarse sand, or a mixture graded from coarse sand to the fine gravel, as approved by the ENGINEER, to form a filter layer preserving the voids in the gravel bed of the pipe. The composition and gradation of gravel shall be

approved by the ENGINEER prior to placement. Screened gravel shall then be placed in 6-in layers thoroughly compacted up to the normal grade of the pipe.

D. Geotextile filter fabric may be substituted for filter layer if approved by the ENGINEER.

2.10 BACKFILLING

A. Backfilling for pipelines shall be performed in accordance with Sections 3.3 of SJCUD's Water and Sewer Standards.

2.11 COMPACTION

A. The CONTRACTOR shall control soil compaction during construction to provide the percentage of maximum density specified. The CONTRACTOR shall provide the ENGINEER copies of all soil testing reports, prepared by a professional Geotechnical Engineer licensed in the State of Florida, demonstrating compliance with these specifications.

B. When existing trench bottom has a density less than that specified, the CONTRACTOR shall moisture-condition to the optimum moisture content and recompact to the required depth and percentage of maximum density.

C. Percentage of Maximum Density Requirements

1. Structural fill or undisturbed soil from the bottom of the pipe trench to 1 foot above the pipe shall be compacted to achieve a minimum density of 95% of the maximum dry density as determined by ASTM D1557.
2. Common fill from 1 foot above the utility pipes to grade shall be densified to a minimum density of 95% of the maximum dry density as determined by ASTM D1557.
3. Structural fill under and around structures, and to the extent of excavation shall be densified to a minimum density of 95% of the maximum dry density as determined by ASTM D1557.
4. Structural fill or common fill under roads, paved surfaces and/or roadways embankments shall be densified to a minimum density of 98% of the maximum dry density as determined by ASTM D1557.

D. Compaction Tests

1. As a minimum, one compaction test location shall be required for each 300 linear feet of pipe and every 100 square feet of backfill around structures. The ENGINEER may determine that more compaction tests are required to certify the installation depending on field conditions. The locations of compaction tests within the trench shall be in conformance with the following schedule:
   a. One test on compacted subgrade soils.
   b. One test at the spring line of the pipe.
   c. At least one test for each 12-inch layer of backfill within the pipe bedding zone.
   d. One test at an elevation of one foot above the top of the pipe.

e. One test for each one foot of backfill placed from one foot above the top of the pipe to finished grade elevation.

2. If based on compaction testing reports and inspection, backfill, which has been placed, is below specified density, the CONTRACTOR shall, at his own expense, provide additional compaction and testing prior to commencing further construction.

2.12 GRADING

A. Grading shall be performed at such places as are indicated on the Drawings, to the lines, grades, and elevations shown or as approved by the ENGINEER and shall be made in such a manner that the requirements for formation of embankments can be followed. All unacceptable material encountered, of whatever nature within the limits indicated, shall be removed and disposed of as directed by the Engineer. During the process of excavation, the grade shall be maintained in such condition that it will be well drained at all times. When directed, temporary drains and drainage ditches shall be installed to intercept or divert surface water which may affect the prosecution or condition of the work.

B. If at the time of excavation it is not possible to place any material in its proper section of the permanent structure, it shall be stockpiled in approved areas for later use. No extras will be considered for the stockpiling or double handling of excavated material.

C. The right is reserved to make adjustments or revisions in lines or grades if found necessary as the work progresses, due to discrepancies on the Drawings or in order to obtain satisfactory construction.

D. Stones or rock fragments larger than 2 inches in their greatest dimensions will not be permitted in the top 12 inches of the final grade line.

E. All fill slopes shall be uniformly dressed to the slope, cross-section and alignment shown on the Drawings, or as approved by the ENGINEER.

F. In cuts, all loose or protruding rocks on the back slopes shall be barred loose or otherwise removed to line or finished grade of slope. All cut and fill slopes shall be uniformly dressed to the slope, cross-section and alignment shown on the Drawings or as approved by the ENGINEER.

G. No grading is to be done in areas where there are existing pipe lines that may be uncovered or damaged until such lines which must be maintained are relocated, or where lines are to be abandoned, all required valves are closed and drains plugged at manholes.

H. The CONTRACTOR shall replace all pavements cut or otherwise damaged during the progress of the work as specified elsewhere herein.

2.13 RESTORING TRENCH SURFACE

A. Where the trench occurs adjacent to paved streets, in shoulders, sidewalks, or in cross-country areas, thoroughly consolidate the backfill and shall maintain the surface as the

work progresses. If settlement takes place, immediately deposit additional fill to restore the level of the ground.

B. In and adjacent to streets, the 12-in layer of trench backfill below the specified initial pavement shall consist of compacted bank-run gravel. Should the CONTRACTOR wish to use material excavated from the trench as gravel subbase for pavement replacement, the CONTRACTOR, at his/her own expense, have samples of the material tested by an independent testing laboratory at intervals not to exceed 500-ft, in order to establish its compliance with the specifications. Only material which has been tested and approved by the ENGINEER shall be allowed to be incorporated into the work.

C. The surface of any driveway or any other area which is disturbed by the trench excavation and which is not a part of the paved road shall be restored to a condition at least equal to that existing before work began.

D. In sections where the pipeline passes through grassed areas, and at the CONTRACTOR's own expense, remove and replace the sod, or loam and seed the surface to the satisfaction of the ENGINEER.

END OF SECTION

SECTION 02230 - GRANULAR MATERIALS

PART 1 GENERAL

1.01 SCOPE OF WORK

A. The CONTRACTOR shall furnish all labor, materials, equipment and incidentals required and obtain materials for filling and backfilling, grading and miscellaneous site work, for the uses shown on the Drawings and as specified herein. Excess material removed during site grading may be used as fill if conformance with this specification is demonstrated.

1.02 RELATED WORK

A. Site Preparation is included in Section 02100.

B. Dewatering and Drainage is included in Section 02140.

C. Trenching, Backfilling and Compaction is included in Section 02221.

D. Sedimentation and Erosion Control is included in Section 02270.

1.03 SUBMITTALS

A. The CONTRACTOR shall submit, in accordance with Section 01330, complete product data for materials specified in this Section.

1.04 REFERENCE STANDARDS

A. American Society for Testing and Materials (ASTM)
   1. ASTM C33 - Standard Specification for Concrete Aggregates.
   2. ASTM D698 - Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft (600kN-m/m)).
   3. ASTM D 1557 – Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/cu ft (2,700kN-m/cu m)).
   4. ASTM D 422 – Standard Test Method for Particle-Size Analysis of Soils.
   5. ASTM D 2974 – Standard Test Method for Moisture, Ash and Organic Matter of Peat and Other Organic Soils (Test Method C).

B. Florida Department of Transportation (FDOT), Standard Specifications for Road and Bridge Construction (latest edition).

Where reference is made to one of the above standards, the revision in effect at the time of bid opening shall apply.

PART 2 PRODUCTS

2.01 MATERIALS

A. Backfill and Fill materials shall be suitable excavated materials, natural or processed mineral soils obtained from off-site sources, or graded crushed stone or gravel. Backfill and Fill materials shall be free of all organic material, trash, or other objectionable

materials which may be compressible or which cannot be properly compacted. Backfill and Fill materials shall be non-plastic (ASTM D 4318) and shall contain no more than 3 percent by weight of fibrous organic materials (as determined by ASTM D 2974 Method C).

B. Structural Fill shall be non-plastic, clean sand, free of organic material, loam, wood, trash, and other deleterious or objectionable materials which may be compressible or which cannot be properly moisture conditioned and compacted. Structural fill shall not contain stones larger than 2 inches in any dimension. Structural fill shall not have an organic content greater than 4 percent as determined by ASTM D2974 (Method C). Structural fill shall have a particle-size distribution, as determined by ASTM D422, within the following limits.

Sieve Size	Percent Finer By Weight 3-in
	100
No. 4	70 – 100
No. 40	5 – 100
No. 200	0 – 10

C. Common Fill shall consist of non-plastic, mineral soil substantially free from organic materials, loam, wood, trash and other objectionable materials which may be compressible or which cannot be properly compacted. Common fill shall not contain stones larger than 6 inches in largest diameter and shall have a maximum of 70 percent passing the No. 40 sieve and a maximum of 20 percent passing No. 200 sieve. Common fill shall not have an organic content exceeding 4 percent, as determined by ASTM D2974 (Method C). Common fill shall not contain granite blocks, broken concrete, masonry rubble or other similar materials. It shall have physical properties such that it can be readily spread, moisture conditioned, and compacted during filling. Soil excavated from the structure areas and which meets the above requirements may be used in embankments.

D. Select Common Fill shall be as specified above for Common Fill except that the material shall contain no stones larger than 2 inches in any dimension.

E. Crushed stone shall be sound, durable stone, angular in shape, and free of any foreign material, structural defects and chemical decay. The material shall conform to the physical and gradation requirements provided by the Florida Department of Transportation (FDOT) for No. 57 Stone. Filter fabric in accordance with FDOT Index 199 between the subgrade soils and the gravel/stone shall be required. Crushed stone shall be compacted by mechanical means and vibratory action during construction.

F. Sand:

1. Sand shall conform to ASTM C33 for fine aggregate.

G. Riprap shall be fragmented limestone, rubble, or other angular rock and shall conform to the requirements of Section 530 of the Florida Department of Transportation (FDOT) Standard Specifications for Road and Bridge Construction.

H. Filter fabric shall conform to the requirements of FDOT Index 199, Type D-3.

PART 3 EXECUTION

3.01 INSTALLATION

A. The CONTRACTOR shall refer to other parts of the Specifications and Drawings for where these materials should be used.

B. Sand shall be utilized and placed in areas as shown, as specified, and as may be directed by the ENGINEER.

C. Common fill and/or select common fill shall be used and placed in areas as shown, as specified, and as may be directed by the ENGINEER.

END OF SECTION

SECTION 02270 - EROSION AND SEDIMENTATION CONTROL

PART 1 GENERAL

1.01 SCOPE OF WORK

A. The CONTRACTOR shall furnish all labor, materials, equipment and incidentals required and perform all installation, maintenance, removal and area cleanup related to erosion and sedimentation control work as shown on the Drawings and as specified herein. The work shall include, but not necessarily be limited to; installation of temporary access ways and staging areas, silt fences, sediment removal and disposal, device maintenance, removal of temporary devices, temporary mulching and final cleanup.

B. All soil erosion and sediment control activities, provisions and measures shall comply with the "Manual for Erosion and Sediment Control in Florida", latest edition, and NPDES General Permit. CONTRACTOR shall be responsible for designing, providing and maintain effective erosion and sedimentation control during construction. The control must ensure erosion and sedimentation will either be eliminated or maintained within acceptable limits as established by the OWNER.

C. The effectiveness of sedimentation and erosion control depends on effective initial installation and continual modification and maintenance during the course of work. The CONTRACTOR shall make a continual reasonable effort to achieve the objective of providing positive sedimentation and erosion control over all disturbed areas of the work site at all times. Should the ENGINEER or the OWNER observe that areas are not continuously controlled, 10 percent of payments due for work in the areas not properly controlled shall be withheld until appropriate and complete sedimentation and erosion control actions are achieved.

1.02 RELATED WORK

A. Earthwork is included in Section02200.

1.03 SUBMITTALS

A. The CONTRACTOR shall submit, in accordance with General Conditions, within 10 days after award of Contract, technical product literature for all commercial products to be used for erosion and sedimentation control.

B. Approval does not relieve the CONTRACTOR of responsibility as to the effectiveness of the controls. The ENGINEER, or OWNER may require the CONTRACTOR to modify the control program to maintain its effectiveness at any time during the course of the work. The CONTRACTOR shall submit revised drawings as changes are made during the period the controls are in effect.

1.04 QUALITY ASSURANCE

A. The CONTRACTOR shall be responsible for the timely installation and maintenance of all sedimentation control devices necessary to prevent the movement of sediment from

the construction site to offsite areas or into the stream system via surface runoff or underground drainage systems. Measures in addition to those shown on the Drawings necessary to prevent the movement of sediment off site shall be installed, maintained, removed, and cleaned up at the expense of the CONTRACTOR. No additional charges to the OWNER will be considered.

B. Sedimentation and erosion control measures shall conform to the requirements of all permits and Regulatory Agencies, and to requirements outlined in the State of Florida Erosion and Sediment Control Designer and Reviewer Manual, latest edition, Florida Department of Transportation Design Standards, latest edition, and Stormwater Pollution Prevention Plan.

C. Sedimentation and erosion control measures shall conform to the details shown on the Drawings.

PART 2 PRODUCTS

2.01 MATERIALS

A. Crushed stone for sediment filtration devices, access ways and staging areas shall conform to Florida Department of Transportation Standard Specifications for Road and Bridge, latest edition.

B. Berm structural stone shall be rip-rap:

1. Rip-rap shall be sound, durable rock which is roughly rectangular shaped and of suitable quality to insure permanence in the condition in which it is to be used. Rounded stones, boulders, sandstone or similar soft stone will not be acceptable. Material shall be free from overburden, spoil, shale and organic material, meet the ENGINEER's approval and be well graded within the following limits:

Weight of Stone	Percent Finer by Weight
40 lb	100
12 lb	50
3 lb	0

C. Sediment Fence

1. Sediment fence shall be a prefabricated commercial product made of a woven, polypropylene, ultraviolet resistant material such as "Envirofence" by Mirafi Inc., Charlotte, NC or equal.

D. 1/4-in woven wire mesh for filter boxes shall be galvanized steel or hardware cloth.

E. Straw mulch shall be utilized on all newly graded areas to protect areas against washouts and erosion. Straw mulch shall be comprised of threshed straw of oats, wheat, barley, or rye that is free from noxious weeds, mold or other objectionable material. The straw mulch shall contain at least 50 percent by weight of material to be 10-in or longer. Straw shall be in an air-dry condition and suitable for placement with blower equipment.

F. Latex acrylic copolymer or organic tackifier shall be a commercial product specifically manufactured for use as straw mulch tackifier.

G. An asphalt tackifier shall only be used when temperatures are too low to allow the use of a latex acrylic copolymer and only with prior written approval from the OWNER.

H. Temporary seeding shall be with annual ryegrass. Permanent grass and sod shall be in accordance with Section 02910.

PART 3 EXECUTION

3.01 INSTALLATION

A. Sediment Fence Installation

1. Sediment fences shall be positioned around the perimeter of the work area and as necessary to prevent off site movement of sediment produced by construction activities as directed by the ENGINEER.
2. The CONTRACTOR shall dig a trench approximately 6-in wide and 6-in deep along proposed fence lines.
3. The CONTRACTOR shall drive stakes, 8-ft on center (maximum) at back edge of trenches. Stakes shall be driven 2-ft (minimum) into ground.
4. The CONTRACTOR shall hang filter fabric on posts carrying to bottom of trench with about 4-in of fabric laid across bottom of trench. Stretch fabric fairly taut along fence length and maintain secure both ways.
5. The CONTRACTOR shall backfill trench with suitable material as indicated in the geotechnical exploration report.
6. The CONTRACTOR shall install pre-fabricated silt fence according to manufacturer's instructions.

B. Filter boxes shall be constructed as detailed on the Drawings, from 1/4-in woven wire mesh or hardware cloth and wood. The CONTRACTOR shall fill with crushed stone and place over all drop inlets and manholes to storm drain system as each inlet is completed. This should be done prior to setting casting, if there is a delay between installation of inlet structures or drain manholes and setting of castings. An alternate method is to ring each inlet with a sediment fence.

C. Staging areas and access ways shall be surfaced with a minimum depth of 4-in of crushed stone.

3.02 MAINTENANCE AND INSPECTIONS

A. Inspections

1. The CONTRACTOR shall make a visual inspection of all erosion and sedimentation control devices once per week and promptly after every rainstorm. If such inspection reveals that additional measures are needed to prevent movement of sediment to offsite areas, the CONTRACTOR shall promptly install additional devices as needed. Sediment controls in need of

maintenance shall be repaired promptly.

B. Device Maintenance

1. Sediment Fences
   a. The CONTRACTOR shall remove accumulated sediment once it builds up to 1/2 of the height of the fabric.
   b. The CONTRACTOR shall replace damaged fabric, or patch with a 2-ft minimum overlap.
   c. The CONTRACTOR shall make other repairs as necessary to ensure that the fence is filtering all runoff directed to the fence.
2. Filter Boxes
   a. The CONTRACTOR shall replace crushed stone when it becomes saturated with silt.
3. The CONTRACTOR shall add crushed stone to access ways and staging area as necessary to maintain a firm surface free of ruts and mudholes.

3.03 TEMPORARY MULCHING

A. The CONTRACTOR shall apply temporary mulch to areas where rough grading has been completed but final grading is not anticipated to begin within 30 days of the completion of rough grading.

B. Straw mulch shall be applied at rate of 100 lbs/1000 sq ft and tackified with latex acrylic copolymer at a rate and diluted in a ratio per manufacturer's instructions.

3.04 PERFORMANCE

A. If temporary erosion and sedimentation control measures employed by the CONTRACTOR are insufficient or fail to be effective in opinion of the ENGINEER or the OWNER, or fail to produce results which comply with the requirements of SJCUD, the CONTRACTOR shall immediately take whatever steps are necessary to correct the deficiency at no additional cost to the OWNER.

3.05 REMOVAL AND FINAL CLEANUP

A. Once the site has been fully stabilized against erosion, the CONTRACTOR shall remove sediment control devices and all accumulated silt. The CONTRACTOR shall dispose of silt and waste materials in proper manner. The CONTRACTOR shall re-grade all areas disturbed during this process and stabilize against erosion with surfacing materials as indicated on the Drawings, and perform final topsoiling, preparation, and seeding per Section 441 of the SJCUD Water and Sewer Standards.

END OF SECTION

SECTION 02413 - HORIZONTAL DIRECTIONAL DRILLING

PART 1 – GENERAL

1.01 SUMMARY

A. The CONTRACTOR shall furnish all labor, equipment, and materials necessary to install pipelines by horizontal directional drilling (HDD) at the locations shown on the Contract Documents.

B. The Work of this section includes all labor, machinery, construction equipment and appliances required to perform in a good workmanlike manner all directional boring and reuse/force main installation as shown on the Contract Documents.

C. The directional boring scope shall include, but not be limited to, steerable directional boring equipment, operator control cabin, mud plant, entry and exit pits, pumps, hoses, and other equipment, sheeting, location signs as required, and miscellaneous appurtenances to complete the entire Work as shown on the Contract Drawings. Directional boring operations shall be performed within the right-of-way and/or easements shown on the Contract Drawings and/or the permissive use areas described in Specification Section 01014.

D. The ENGINEER has relied upon a geotechnical investigation report for general information purposes only and the report is not part of the Contract Documents. The CONTRACTOR shall examine the site and or undertake his own soil borings prior to submitting his bid, taking into consideration all conditions that may affect his work. The OWNER and ENGINEER will not assume responsibility for variations of subsurface conditions at locations other than places shown and at the time the investigation was made. The CONTRACTOR is cautioned of the potential for inadvertent returns, depending on the water table depth at the time of drilling and the potential for loss of circulation during drilling operations.

E. Refer to Specification Section 01014 for allowable CONTRACTOR work hours.

1.02 RELATED WORK

A. HDPE pipe and fittings are included in Section 02623.

B. Site Preparation in Section 02100.

1.03 Construction Constraints are included in Section 01014.

1.04 DEFINITIONS

A. Annular Space: The space between the excavated HDD final reamed bore diameter and the product pipe or cable.

B. Bent Sub: A section of drill pipe behind the cutting tools that is inclined at an angle at one to three degrees from the axis of the bore in the desired direction of steering. The bent sub allows steering while rotating the cutting tools.

C. Break-Away Connection: A connection to the product pipe that will fail at a pull force less

than the rated stresses that are acceptable for the product pipe.

D. Drilling Fluid/Mud: A mixture of water, bentonite, and/or polymers continuously pumped to the drilling tools to facilitate the removal of soil cuttings, and stabilization of the bore. These fluids also cool the cutting tools and lubricate the drill pipe and product pipe string.

E. Drill String: The total length of the drill pipe in the borehole.

F. Drilling Tool/Bit: Any tool or system of tools which excavates at the face of a bore.

G. Entry Pit: The location where the pilot bore initially penetrates the ground surface and where the HDD rig is positioned.

H. Exit pit: The location where the pilot bore exists the ground surface.

I. Horizontal Directional Drilling: A surface-launched, guided, steerable drilling system used for the trenchless installation of pipes, conduits, and cables. A pilot bore path is excavated in a shallow arc from a surface-launched drill rig. Excavation takes place with fluid assisted cutting from a drilling tool on the drill string. The pilot bore is directed by the positioning of a bent sub. Tracking of the drill string is achieved by using a downhole wireline survey tool which shall be augmented by using an energized wire grid at the surface. The bore is filled with drilling fluid/mud for stabilization, to cool the cutting tools, and to mix the cuttings into a slurry, which is circulated to the entry point where solids are removed before the drilling fluids are returned to the bore. The bore path is enlarged with subsequent reaming passes until the desired diameter is achieved. The product pipe, conduit, or cable is then pulled into the fluid-stabilized borehole.

J. HDD Work Plan: Written descriptions, together with sketches, profile drawings, schedules, and other documents defining CONTRACTOR's plans and procedures for horizontal directional drilling. This HDD Work Plan also includes a detailed inadvertent return and subsidence analysis and any changes proposed to the boring lengths, depths, entry/exit pit locations or angles.

K. Inadvertent Return – Uncontrolled flow of drilling fluid/mud to the surface at a location other than the entry or exit pit. In certain conditions, this may also be known as hydrofracture or frac- out.

L. Geotechnical Investigation (Data) Report: A report which provides the geotechnical boring locations and logs, geotechnical and environmental laboratory data results, and testing procedures. The report is provided for information purposes only and is not part of the Contract Documents.

M. Obstruction: Any hard object lying completely or partially within the design pathway of the bore and pipe that prevents further advancement of the drill pipe, pre-reamer, reamer, and/or pipe, after all reasonable CONTRACTOR attempts to advance past the object or re-drill around the object have failed.

N. Pilot Bore: The action of creating the first guided pass of the HDD process which is then reamed in one or more passes to the size required to allow pullback of the pipe.

O. Pullback: The part of a horizontal directional drilling process in which the drill pipe, swivel,

and product pipe or cable is pulled back through the bore to the entry.

P. Pullback Loads: The loads (forces) applied to a drill string and product pipe during the pullback process which also include tensile pullback loads, bending, buckling and combination loads.

Q. Reamer: A cutting tool pushed or pulled through the borehole in order to enlarge the pilot bore hole to a diameter sufficient for the installation of the product pipe.

R. Tracer Wire: Wire used to track the drill string, achieved by using a downhole wireline survey tool. An energized wire grid at the surface augments the tracer wire.

S. Settlement Point: A point with elevation and spatial location established by survey prior to construction. The point is re-surveyed periodically to monitor ground movements. The point may be a nail, pin, subsurface settlement rod, borehole extensometer, or other device that can be readily located and surveyed.

T. Work Plan: Written description, together with sketches, drawings, schedule and other documents defining Contractor's plans and procedures for HDD.

1.05 REFERENCE SPECIFICATIONS, CODES AND STANDARDS

A. API Bulletin 13D, 1985. Bulletin on the Rheology of Oil-Well Drilling Fluids, Second Edition, Dallas, Texas, American Petroleum Institute.

B. API Recommended Practice 13B-1, 1990. Standard Procedures for Field Testing Water-Based Drilling Fluids, First Edition, Dallas, Texas, American Petroleum Institute.

C. API Specifications 13A, 1993. Specification for Drilling Fluid Materials, Fifteenth Edition, Dallas, Texas. American Petroleum Institute.

D. ASTM F1962 – 11 or Latest Edition Use of Maxi-Horizontal Directional Drilling for Placement of Polyethylene Pipe or Conduit Under Obstacles, Including River Crossings.

E. Horizontal Directional Drilling Good Practices Guidelines, Latest Edition, HDD Industry Consortium, 300pp.

F. IADC Drilling Manual, 1992. Eleventh Edition, Houston, Texas, International Associated of Drilling Contractors.

G. Installation of Pipelines Beneath Levees Using Horizontal Directional Drilling, US Army Corps of Engineers, Waterways Experiment Station, Final Report, CPAR-GL-98-1, April 1998.

H. Installation of Pipelines by Horizontal Directional Drilling, Pipeline Research Committee, American Gas Association, PR-227-9424, April 1995.

I. Pipeline Design for Installation by Horizontal Directional Drilling, ASCE Manuals and reports on Engineering Practice No. 108, 2005.

J. Tables for Hydraulic Design of Pipes and Sewers, American Society for Civil Engineers, 5th ed., 1990.

1.06 SUBMITTALS

A. Following is the summary of information to be included in shop drawing submittals required for the HDD Work. Submittals as indicated in the following paragraphs shall be signed and sealed by a licensed Professional Engineer registered in the State of Florida. The CONTRACTOR may combine submittals at his discretion but at a minimum the following information shall be addressed and provided for review.

1. Schedule
2. Safety Plan
3. Methods, Equipment, and Materials Description Plan
4. Surveying Equipment and Procedures
5. Protection of Adjacent Structures and Facilities Plan
6. Contingency Plan for Remediation of Potential Problems
7. Disposal of Spoils and Drilling Fluids Plan
8. Equipment Layout Plan
9. Inadvertent Return and Surface Spill Contingency Plan
10. Horizontal Directional Drilling Work Plan
11. Soil Separation Plan
12. Maximum Allowable Drilling Fluid Pressure Calculations
13. Pipe Filling Methods and Testing
14. Pipe Stress Calculations
15. Pullback Calculations
16. Radius of Curvature Confirmation
17. Rig Capacity Plan
18. Contact Grouting Plan
19. Daily logs and records
20. As-built pilot bore profile
21. Risk Mitigation Meetings

B. In addition to other requirements indicated throughout this Specification, the following sections describe the above required submittals in more detail. Submittals shall be in accordance with the requirements of the Specifications, providing sufficient detail to allow the ENGINEER to judge whether or not the proposed equipment, materials, and procedures will meet the Contract requirements. The ENGINEER's review of submittal details and data will be based on considerations for the completed Work, utilities, and the possibility of necessary delays in the execution of the Work to be constructed under this Contract. Review and acceptance of the CONTRACTOR's submittals by the ENGINEER shall not be construed in any way as relieving the CONTRACTOR of his responsibilities under this Contract.

1. The CONTRACTOR shall submit all Shop Drawings to the ENGINEER. Unless otherwise noted, all Shop Drawings shall have been reviewed and accepted by the ENGINEER prior to CONTRACTOR's mobilization. All Drawings shall be legible with dimensions accurately shown and clearly marked in English.

C. Qualifications: The CONTRACTOR shall submit written documentation of HDD superintendent and key personnel experience in accordance with Paragraph 1.07A and 1.07B.

D. Schedule: At least fifteen (15) working days prior to mobilization for HDD operations, the CONTRACTOR shall submit a detailed schedule for the HDD installation showing all major construction activities and durations, with beginning and completion dates shown. The schedule shall be updated at least every week or more frequently, as directed by the ENGINEER, and shall include:

1. "One call" utility locate requests and visual confirmation of all crossing utilities and all parallel utilities within the vicinity of the bore centerline.
2. Risk Mitigation Meetings (see paragraph 1.05, W for additional requirements).
3. Rig mobilization and setup.
4. Pilot bore drilling.
5. Pre-reaming and reaming.
6. Layout and thermal butt-fusing of pipe.
7. Pressure testing of pipe prior to pullback.
8. Final reaming and pullback of pipe.
9. Pressure testing of pipe after installation.
10. Pig test.
11. Cleanup, surface restoration, and demobilization.

E. Safety Plan: The CONTRACTOR shall submit a Safety Plan, including the name of the CONTRACTOR's Site Safety Representative, emergency telephone numbers for medical facilities, and precautions for handling and disposal of any hazardous or flammable materials. The Safety Plan shall include a code of safe practices and an emergency plan in accordance with OSHA and Florida/OSHA requirements

F. Methods, Equipment, and Materials Description Plan: The CONTRACTOR shall submit detailed description of methods, equipment, and materials to be used for the pipeline installation. Descriptions of drilling fluid additives shall be accompanied by Materials Safety Data Sheets (MSDS) and Manufacturers' descriptions and warranties. Descriptions of equipment shall include Manufacturers' specifications, calibrations, appropriate drawing, photographs, and descriptions of any modifications since manufacture. This plan shall also include the CONTRACTORs means for complying with all local noise ordinances.

G. Surveying Equipment and Procedures: The CONTRACTOR shall submit records of equipment calibrations and certifications for all equipment used for downhole surveys and tracking of the drill head. Procedures for operating the downhole survey tools shall be described, including measures to verify the accuracy of the equipment readings. Procedures for layout of wire grid system shall be described and layout of the wire grid system shall be provided on a drawing or sketch and the layout shall be specific to this project and not a manufacturer's general schematic.

H. Protection of Adjacent Structures and Facilities Plan: The CONTRACTOR shall submit a plan that provides details on measures to be taken to monitor and protect adjacent utilities, structures, roadways and sidewalks, and provide details on monitoring equipment and provisions, including the layout of all settlement points and other monitoring points. Provide two (2) copies of pre- construction video, pre-construction survey of adjacent structures and

photographs with captions to document pre-construction conditions prior to beginning HDD construction.

I. Contingency Plan for Remediation of Potential Problems: The CONTRACTOR shall submit a Contingency Plan for Remediation of Potential Problems that may be encountered during the drilling operations. The contingency plans shall address the observations that would lead to the discovery of the problem and the methods that would be used to mitigate the problem. Potential problems that shall be addressed in this Plan include, but are not limited to, the following:

1. Loss of returns/loss of circulation of drilling fluids.
2. Inadvertent returns/hydrofracture or surface spills resulting in drilling fluids entering water or reaching the surface. Stand-by equipment shall be provided by the CONTRACTOR to recover fluids. Turbidity barriers or other appropriate methods of containing and clean-up shall be part of the stand-by equipment to minimize dispersion in the event that drilling fluids reach the surface.
3. Encountering obstruction during pilot bore or reaming/pullback. Drill pipe or product pipe cannot be advanced.
4. Deviations from design line and grade exceed allowable tolerances.
5. Drill pipe or product pipe broken off in borehole.
6. Product pipe collapse or excessive deformation.
7. Utility strike.
8. Deviation from planned bore path.
9. Hydrolock occurs or is suspected.
10. Excessive ground settlement or heave.

J. Disposal of Spoils and Drilling Fluids Plan: The CONTRACTOR shall submit Plans for disposal of waste materials resulting from the pipeline construction, including drilling fluids, cuttings, waste oil, fuel, discharge water, etc. The CONTRACTOR shall identify the disposal site and submit a letter indicating willingness and legal authority to accept the described and anticipated waste products.

K. Equipment Layout Plan: The CONTRACTOR shall submit a plan which provides sketches depicting the layout and locations of equipment within the rig side work area and pipe side work area, including any proposed drilling fluid containment and recirculation pits. The CONTRACTOR shall confirm that all operations shall be completely contained within the right- of-way, permanent and temporary construction easements shown on the Contract Documents.

L. Inadvertent Return and Surface Spill Contingency Plan: An Inadvertent Return and Surface Spill Contingency Plan shall be prepared for the installation of the pipeline using HDD and the CONTRACTOR shall be capable of implementing the plan immediately should an Inadvertent Return or Surface Spill occur during the HDD work. The CONTRACTOR shall submit letter signed by an authorized representative of CONTRACTOR confirming that the Plan will be followed. If required by permit conditions, CONTRACTOR shall revise the Plan as necessary to satisfy the associated regulatory agency.

M. Horizontal Directional Drilling Work Plan: The CONTRACTOR shall submit a HDD Work Plan complete with drawings and written description identifying details of the proposed

method of construction and the sequence of operations to be performed during construction including placement, entry and exit points.

1. The Plan shall include a detailed plan and profile of the bore, showing utilities and structures and plotted at a scale no smaller than one inch equals 40 feet horizontal and one inch equals four feet vertical. Any proposed deviations from the CONTRACT DOCUMENTS shall be shown.
2. The HDD Work Plan shall provide details of the planned bore path and the method for monitoring and controlling the speed, line, grade and rate of fluids delivery. It shall include the sequence, size, and description of each reamer and capabilities of each through anticipated geologic formation. The drill plan shall also include details on the swabbing of the borehole prior to pullback of the pipe.

N. Soil Separation Plan: The CONTRACTOR shall submit details on the pump and soil separation plant. Include dimensions, manufacturer's specifications, pump capacity, noise rating, and soundproofing details on the system.

1. Pump capacity shall be specified for water at sea level elevation, and adjusted for actual elevation and fluid viscosity.
2. Provide details on the generator, including dimensions, noise ratings at twenty-five (25) feet, and soundproofing. Confirm that the generator and other on-site equipment can be operated without exceeding the maximum allowable noise tolerances specified in the Contract Documents.

O. Maximum Allowable Drilling Fluid Pressure Calculations: The CONTRACTOR shall submit calculations identifying the critical downhole pressure that would cause hydrofracture or inadvertent return of drilling fluid. The calculations shall identify the critical points in the alignment and near the exit point where the soil cover above the bore is low. The calculations shall identify all parameters used and state all assumptions made in the calculations. The calculations shall be signed and sealed by a licensed Professional Engineer registered in the State of Florida.

P. Pipe Filling Methods and Testing: The CONTRACTOR shall submit methods and procedures for filling the pipe with water during pull back and testing, See the requirements in paragraph 3.05 I.

Q. Pipe Stress Calculations: The CONTRACTOR shall submit calculations for pipe stresses expected to result from the pullback, bending, buckling loads, earth loads, groundwater loads, and any other installation and service loads expected to be exerted on the pipe. The calculations shall identify all parameters and state all assumptions made in the calculations. All assumptions used in the calculations, including the radius of curvature, assumed drilling fluid weights, pipe assumed to be filled during pullback, and temperature shall be provided. These calculations shall be signed and sealed by a licensed Professional Engineer registered in the State ofFlorida.

R. Pullback Calculations: The CONTRACTOR shall submit calculations for pullback loads for the conditions and operating practices anticipated. In addition to the tensile pullback loads, bending, buckling and combination loads must be considered in design. The calculations shall identify all parameters and state all assumptions made in the calculations. These calculations shall be signed and sealed by a licensed Professional Engineer registered in the State of Florida.

S. Radius of Curvature Confirmation: The CONTRACTOR shall confirm that the bore can be completed using the radius of curvature and geometry shown on the Contract Drawings along with the calculations showing that installation stresses do not exceed allowable pipe stresses.

T. Rig Capacity Plan: The CONTRACTOR shall submit a plan which provides details on the capacity of the drill rig verifying that the pullback capacity is greater than the required pullback calculated and submitted by the CONTRACTOR under paragraph 1.05R.

U. Contact Grouting Plan: The CONTRACTOR shall submit descriptions of methods, equipment, and materials to be used for contact grouting any areas where over-excavation, aborted bores, voids, or cavities are created or encountered during construction.

V. The following shall be submitted as construction progresses and at the completion of construction.

1. Daily Logs and Records: The CONTRACTOR shall submit complete, legible, written daily logs and records as specified in Paragraph 1.07C and as directed by the ENGINEER, by noon of the following day to which the records correspond.
2. Drilling and Reaming Rates: The CONTRACTOR shall submit maximum drilling speeds and reaming rates for pilot bore and each reaming pass and confirm that the pump capacity is adequate for these anticipated drilling rates for the mud and/or drilling fluid weights and viscosities anticipated. These shall be submitted to the ENGINEER on a dailybasis.
3. Drilling Fluid Viscosity and Density (Mud Weight): The CONTRACTOR shall submit measured mud and/or drilling fluid weights used during pilot boring and reaming of the bore measured at a minimum of three times per shift or at least once per 200 feet of drilled or reamed length, whichever is more frequent, with at least two (2) hours between readings.
4. Drilling Fluid Pressure (Downhole Mud Pressure): The CONTRACTOR shall submit drilling fluid pressure, as recorded at the drill head, used during pilot boring and reaming of the bore measured at a minimum of three times per shift or at least once per 200 feet of drilled or reamed length, whichever is more frequent, with at least two (2) hours between readings.
5. Pilot Bore As-Built Profile: The CONTRACTOR shall submit the updated pilot bore profile as drilling is underway on a daily basis and an as-built profile of the pilot bore within 24 hours of completion of the pilot bore.
6. Pulling Force Records: The CONRACTOR shall submit the actual recorded pulling forces during pull back.
7. Pressure Test Records: The CONTRACTOR shall submit all pressure test records for both the pre-installation and post-installation tests. These shall be submitted within 24 hours of completion of such tests.
8. Variations in Plan and Profile: The CONTRACTOR shall document any variations between the actual Contract Drawings and profile of the bore path and the location shown on the Contract Drawings. The CONTRACTOR shall notify in writing and by telephone the ENGINEER immediately upon discovery of any deviations.
9. If a plan with details on how the CONTRACTOR plans to monitor and protect adjacent and/or overlying structures, buildings, roadways, sidewalks and utilities was required during the pre-construction survey phase. CONTRACTOR shall provide a

post- construction survey and video of the settlement points and monitoring locations as specified in in paragraph 3.05 M.

W. Risk Mitigation Meetings: At least fifteen (15) working days prior to each major operation milestone, the CONTRACTOR and HDD superintendent shall attend a risk mitigation meeting with representatives of the ENGINEER and OWNER for each HDD crossing to discuss major operations milestones.

1. Specific risk mitigation meetings shall be held and include a discussion of the following as a minimum:
   a. Prior to drilling of pilot-hole to discuss the following at a minimum
      1) Traffic Control
      2) Rig mobilization and setup
      3) Pilot bore drilling
   b. Prior to reaming to discuss the following at a minimum:
      1) Pre-reaming and reaming.
      2) Layout and welding of pipe
   c. Prior to pullback to discuss the following at a minimum:
      1) Pressure testing of pipe prior to pullback.
      2) Final reaming and pullback of pipe.
   d. Prior to testing to discuss the following at a minimum:
      1) Pressure testing of pipe after installation
      2) Pig test
      3) Protection and monitoring of adjacent and/or overlying structures, roadways, sidewalks and utilities.

1.07 PERFORMANCE REQUIREMENTS

A. The CONTRACTOR shall provide all equipment, materials, and personnel necessary for completing the installation as shown on the Contract Drawing and specified herein. The equipment and materials shall include but are not limited to:

1. Directional drilling rig with all ancillary equipment, including drill pipe, drilling fluid, cutting tools, reaming bits, swivels, expanders, motors, pumps, hoses, mixing equipment, drilling fluid processing equipment (cuttings separation equipment), downhole survey equipment, downhole pressure equipment, energized surface grid tracking system, fluid pressure and flow rate monitoring equipment, spare parts, pipe handling equipment (cranes, backhoes, rollers, side boom tractors) control equipment, and office equipment.
2. Drilling fluids, water, fuel, lubricant, polymers, or other additives.
3. Any other expendable or reusable materials, supplies, and equipment needed for the installation.

B. The drilling equipment shall be capable of advancing through the geologic conditions to be encountered at the site, as described by the geotechnical investigation reports and as anticipated by the CONTRACTOR.

C. The drilling fluid shall be designed for the geologic conditions to be encountered along the bore path, as described in the geotechnical investigation report and as anticipated by the CONTRACTOR.

D. The drilling system shall include a fluid pump and separation plant that can achieve the rates of drilling fluid pumping, spoil separation, and slurry cleaning required by the CONTRACTOR to achieve planned production rates for the soils described in the geotechnical investigation report, and as anticipated by the CONTRACTOR. Shaker screens and hydrocyclones may be required for efficient separation of spoils. The CONTRACTOR is advised that the separation plant must fit within the allowable Work areas shown on the Contract Drawings, or in areas obtained by the CONTRACTOR with written approval from the affected property owner.

E. All spoil and slurry must be contained in trucks, tanks, approved recirculation pits, or other containers at all times. Dumping of spoil or slurry on the ground, discharge into sewers, or discharge into the water bodies will not be permitted. All spoils will be transported and disposed of off-site at an approved disposal facility that meets all State of Florida and local requirements.

F. Perform all Work within Work areas shown on the Contract Drawings or in areas obtained by the CONTRACTOR with written approval from the affected property owner.

G. The pipeline shall be installed using the radii of curvatures and entry and exit angles as specified herein, unless shown otherwise on the Contract Drawings, unless deviations are approved in writing by the ENGINEER.

H. Vertical separation from existing utilities shall be a minimum of 18-inches unless otherwise noted. Refer to contract plans for horizontal separation requirements from existing utilities.

I. For sections of pipe that are fused/welded pipe rollers and lifters will be required to help the transition of the carrier pipe into the bore and to minimize the pull force. The number of pipe rollers and lifters shall be determined by the CONTRACTOR in accordance with the pipe supplier's recommendations. Location and spacing of the rollers and lifters will be done in accordance with the pipe manufacturer's recommendations based on bend radius and to protect pipe during pullback over hard or sharp surfaces. All pipe rollers and lifters will be in a condition so not to damage the pipe during construction activities.

J. It shall be the CONTRACTOR's sole responsibility that all Work is done in conformance with all applicable federal, state, and local safety requirements. Required safety equipment and procedures shall be employed by the CONTRACTOR at all times. All materials and methods of construction shall meet the applicable requirements of the State of Florida Administrative Code.

K. The pipe shall be certified by the CONTRACTOR as meeting all requirements of the Contract Documents. The fused/welded fabricated pipe will be pressure-tested by the CONTRACTOR prior to pullback using a low pressure air test of 3.5 to 5 pounds per square inch of pressure to check for potential leaks in accordance with the manufacturer's instructions. All installed in place carrier pipe will be hydrostatically pressure tested by the CONTRACTOR after installation is completed in accordance with Section 02623 as appropriate for the material installed.

L. The CONTRACTOR shall allow access to the OWNER and/or ENGINEER and shall furnish

necessary assistance and cooperation to aid the ENGINEER in observations and data and sample collection, including, but not limited to the following:

1. The OWNER and/or ENGINEER shall have full access to the operator control container prior to, during, and following all HDD operations. This shall include, but not be limited to, providing visual access to real-time operator control screens, gauges, andindicators.
2. The OWNER and/or ENGINEER shall have full access to the slurry separation plant prior to, during, and following all HDD operations. This shall include, but not be limited to, full access to shaker screens, hydrocyclones, conveyor belts, and slurry and spoil holding tanks. The ENGINEER shall be allowed to collect soil samples from the shaker screens and/or spoil holding tanks on the slurry separation plant a minimum of once per installed pipe section, and whenever changes in conditions are observed or suspected. If requested, the CONTRACTOR shall assist in the collection of these samples as directed by the ENGINEER.

M. CONTRACTOR shall comply with all local noise ordinances. Sound levels in excess of these values are sufficient cause to have the Work halted until equipment can be quieted to these levels. Work stoppage for excessive noise shall not relieve the CONTRACTOR of the portions of this Specification including, but not limited to completion of all Work within specified Contract Time and Contract Price. The CONTRACTOR shall submit a Plan prior to construction identifying all noise reduction/abatement procedures. The Plan will be reviewed by the ENGINEER prior to construction.

1. If mufflers cannot achieve the necessary noise reduction, noise abatement shall be accomplished by the CONTRACTOR's installation of baffles (or other acceptable means) positioned to break line-of-sight from the noise source to affected residences and/or commercial structures. Minimum noise abatement measures shall consist of equipping all engines with hospital grade mufflers or silencers.

1.08 QUALITY ASSURANCE

A. CONTRACTOR Qualifications and Experience: The CONTRACTOR shall meet the following minimum qualifications:

1. CONTRACTOR must be licensed in the State of Florida as an underground utility CONTRACTOR for a minimum of five (5) years.
2. The CONTRACTOR shall have at least five (5) years of demonstrated successful experience installing pipelines by the means of HDD.
3. The CONTRACTOR must have successfully completed three (3) water or sewer projects where the carrier pipe was installed with HDD techniques meeting the following criteria. Experience of employees on past projects where subcontractors were hired to perform the HDD cannot be used to meet CONTRACTOR requirements.
   a. The carrier pipe nominal diameter of at least 16-inches.
   b. Minimum length of 800 linear feet in a single pull through soil
   c. Contractor shall provide the following for each project:
      1) Project Description
      2) Pipe Size, Length, Material, DR
      3) Bore Length
      4) Soil Types

5) Owners' contact information
6) Engineers contact information
7) Change Orders
8) Scheduled Completion Date and Actual Completion Date

4. The CONTRACTOR shall have successfully completed one (1) water or sewer project where the carrier pipe was installed with HDD techniques, meeting the following criteria.
   a. The carrier pipe must be HDPE or PVC pipe.
   b. Minimum carrier pipe nominal diameter of at least 16-inches.
   c. The depth at deepest point of HDD shall be at least 20-feet
   d. Minimum length of 500 linear feet in a single pull through soil
   e. Contractor shall provide the following:
      1) Project Description
      2) Pipe Size, Length, Material, DR
      3) Bore Length
      4) Soil Types
      5) Owners' contact information
      6) Engineers contact information
      7) Change Orders
      8) Scheduled Completion Date and Actual Completion Date
5. The CONTRACTOR shall have successfully completed one (1) water or sewer project where two or more carrier pipes were installed in parallel with separate bore holes using HDD techniques, meeting the following criteria.
   a. The carrier pipe must be HDPE or PVC pipe.
   b. The carrier pipes nominal diameter of at least 12-inches.
   c. Minimum length of 500 linear feet in a single pull through soil
   d. Contractor shall provide the following:
      1) Project Description
      2) Pipe Size, Length, Material, DR
      3) Bore Length
      4) Soil Types
      5) Owners' contact information
      6) Engineers contact information
      7) Change Orders
      8) Scheduled Completion Date and Actual Completion Date
6. The CONTRACTOR will be required to employ skilled, experienced superintendent(s), equipment operator(s) and personnel throughout the project. The superintendent for this project shall have at least five (5) years of successful experience using the HDD process, with at least one (1) project meeting the criteria identified in Paragraph 1.07A.3.
7. The HDD equipment operator for this project shall have at least five (5) years of successful experience using the HDD process, with at least one (1) project meeting the criteria identified in Paragraph 1.07A.3.

B. The CONTRACTOR shall furnish resumes of the superintendent(s) and key personnel. Personnel experience records should include project names, locations, pullback lengths, ground conditions, pipe materials, project description, project OWNER, ENGINEER, and references with names, addresses, and telephone numbers. The superintendent listed in the submittal shall be on site during all construction related activities required for the HDD installation for this project. The CONTRACTOR shall not be allowed to alter their personnel

assigned to the project without prior written approval from the ENGINEER and OWNER.

C. Daily Logs and Records: Daily logs and records shall be maintained by the CONTRACTOR and shall include the following:

1. Drilling lengths.
2. Location of drill head.
3. Drilling fluid pressures measured at the pump and the downhole annular drilling fluid pressure at the drill head and drilling fluid flow rates measured at the pump.
4. Drilling fluid losses.
5. Inadvertent returns.
6. Drilling times required for each pipe joint.
7. Any instances of retraction and re-drilling of the pilot bore or segments thereof
8. Any other relevant observations, including any observed settlement, heave, frac-outs, or surface spills.
9. The downhole annular drilling fluid pressures shall be measured and recorded throughout the pilot hole drilling. These records shall be maintained and provided daily to the ENGINEER. The position of the drill head shall be continuously tracked and recorded. A plot of actual locations of the bore path shall be maintained and updated daily, or more frequently, as directed by the ENGINEER. Pason or approved equal system shall be used for on/off site monitoring. These records shall be maintained and provided daily to the ENGINEER.

D. Advance Notices and Inspections: The CONTRACTOR shall provide at least 72 hours advance written notice to the ENGINEER of the planned inspection of major drilling activities, including pilot bore launch, pre-reaming, reaming, and pipe pullback. The CONTRACTOR shall immediately notify the ENGINEER, in writing, when any significant problems are encountered or if ground conditions are considered by the CONTRACTOR to be materially and significantly different than those represented with the geotechnical investigation report. All Work by the CONTRACTORs shall be performed in the presence of the ENGINEER, unless ENGINEER grants prior written approval to perform such Work in ENGINEER's absence.

E. Surveying Equipment and Procedures: All surveying equipment used for downhole surveying and tracking of the bore path and drill head shall be inspected and calibrated by the equipment manufacturer prior to use. Proof of this inspection and calibration shall be provided to the ENGINEER prior to commencement of drilling operations as specified in Paragraph 1.05U.

PART 2 – PRODUCTS

2.01 DRILLING FLUIDS

A. The CONTRACTOR shall select drilling fluid mixture proportions to ensure continuous circulation, bore stability, reduce drag on the pipe, and completely fill the annular space between the bore and the pipe to control settlement. Management and disposal of drilling fluids shall be the CONTRACTOR's responsibility. Drilling fluids shall not be disposed of on-site or discharged to sanitary or storm sewers, or the waterways or adjacent wetlands.

2.02 DRILL PIPE

A. The CONTRACTOR shall provide high quality drill pipes that have been inspected and determined to be adequate for the project requirements. Bent, racked, or fatigued drill pipes shall not be used. Threads must be in good condition. The length of each drill pipe shall be measured and recorded.

2.03 PIPE

A. The CONTRACTOR shall provide carrier pipe in accordance with Section 02623.

B. The pipe thickness must conform to the most conservative design with respect to design calculations for the critical combination of internal and external pressure, pullback and bending. The carrier pipe shall not be greater than the dimension ratio (DR) specified in Section 02623.

2.04 WATER

A. Refer to Section 01500 for temporary water service for construction use. Hydrants shall only be operated under the supervision of the OWNER's personnel.

2.05 CEMENT GROUT

A. Cement grout shall consist of a mixture of 1 part cement to 6 parts sand. The amount of cement may be increased or decreased as necessary and as permitted by the ENGINEER to provide good flowing characteristics.

PART 3 – EXECUTION

3.01 GENERAL

A. The CONTRACTOR shall provide adequate control of surface water and drilling fluids drainage and runoff, and provide silt fences, hay bales, and wattles to prevent surface water or drilling fluids from being transported off-site.

B. The CONTRACTOR shall not initiate HDD until all submittals as specified in Paragraph 1.05 are received, reviewed, and approved by the ENGINEER.

C. The CONTRACTOR shall not initiate HDD until all required permits are obtained. Copies of all permits shall be provided to the ENGINEER prior to construction.

D. It is the CONTRACTOR's responsibility to provide barricades, fencing, or other safety measures to prevent public access into Work and staging areas.

3.02 PROTECTION OF UNDERGROUND UTILITIES

A. The Contract Drawings show existing buried utilities that are believed to be near the directional drill alignment. There is no guarantee that these utilities are located as shown or that other utilities are not present. It will be the CONTRACTOR's responsibility to field locate all nearby utilities or other potential subsurface obstructions that may interfere with

the Work.

B. The CONTRACTOR shall notify "One Call" system to request marking of utilities that subscribe to One Call, and shall individually notify all other known or suspected utilities to request marking of these utilities. The CONTRACTOR shall confirm that all requested locates are made prior to commencing drilling operations. CONTRACTOR shall make all diligent efforts to locate any unmarked or abandoned utilities using all available information, maps, and drawings. The CONTRACTOR shall visually confirm and stake all existing lines, cables, or other underground facilities including exposing all crossing utilities and utilities within twenty (20) feet laterally of the centerline of designed drilled path.

C. The CONTRACTOR shall control drilling practices to prevent damage to existing utilities and pavement.

D. The CONTRACTOR shall make diligent effort to locate surface evidence of any other potential subsurface obstructions, such as piers and piles.

E. The CONTRACTOR shall be responsible for all losses and repairs occasioned by damage to underground utilities, structures and pavement resulting from drilling operations.

3.03 WORK STAGING AREA

A. Barricades, Warning Signs, and Lights: The CONTRACTOR shall, in accordance with approved Traffic and Safety Plans, erect appropriate barriers, warning lights, and signs, painted with approved colors, warnings, and graphics to ensure adequate warnings to personnel and the public.

B. Combustible Materials: Combustible materials (fuel, oil, lubricants, etc.) shall be stored off-site or in a well-ventilated storage facility removed from the immediate vicinity of the drilling area by at least twenty (20) feet.

C. Construction Impacts: The CONTRACTOR shall maintain the Work area in a manner that shall minimize adverse impacts on other public use activities. The CONTRACTOR shall proceed with Work in a safe, orderly manner, while maintaining the Work site free of debris and unnecessary equipment and materials.

D. Control of Drilling Fluids: The CONTRACTOR shall follow all requirements of the Inadvertent Return and Surface Spill Contingency Plan as submitted and accepted and shall control operational pressures, drilling mud weights, drilling speeds, and any other operational factors required to avoid hydrofracture fluid losses to formations, and control drilling fluid spillage. This includes any spillages or returns at entry and exit locations or at any intermediate point. All inadvertent returns or spills shall be promptly contained and cleaned up by the CONTRACTOR. The CONTRACTOR shall maintain on-site mobile spoil removal equipment during all drilling, pre-reaming, reaming, and pullback operations and shall be capable of quickly removing spoils. The CONTRACTOR shall immediately notify ENGINEER of any inadvertent returns or spills and immediately contain and clean up the return or spill.

E. Removal of Temporary Facilities: At the completion of construction, the CONTRACTOR shall remove all temporary facilities installed by the CONTRACTOR. Unused soil,

aggregate, and other materials shall be removed and disposed of at approved sites in accordance with Federal, State, and Local regulations. Any damage to pavement, streets, lawns, common areas, and sidewalks shall be restored to original or better conditions at no additional cost to the OWNER. All grassed areas disturbed by construction shall be sodded.

F. Site Security: The CONTRACTOR shall install an enclosure fence around the Work area. The enclosure fence shall be adequate to prevent entry of unauthorized persons. The CONTRACTOR is completely responsible for their own site security throughout the entire duration of construction.

G. Temporary Lighting: The CONTRACTOR shall procure and maintain all temporary lighting needed for CONTRACTOR's operations, safety, testing, and inspection. Temporary lighting shall be removed immediately after completion of construction.

H. Work Staging: The CONTRACTOR shall be responsible for obtaining staging areas and all necessary approvals and permits for storage of equipment and materials, parking, drilling and other Work. See Section 01014 for additional requirements.

3.04 MOBILIZATION

A. The CONTRACTOR shall mobilize all equipment, materials, and personnel necessary to construct the carrier pipeline using the HDD process at the locations shown in the Contract Drawings.

1. Entry Area: The CONTRACTOR shall set up temporary workspace within the areas delineated on the Contract Drawings. Appropriate precautions and measures shall be employed by the CONTRACTOR to prevent erosion, surface drainage, and spillage of drilling fluids or other materials that could adversely impact the environmental quality of the site. The CONTRACTOR shall use appropriate precautions and measures to minimize erosion and contain any spillage or runoff. Shovels, brooms, buckets, and barrels shall be kept on-site to facilitate containment and cleanup. A vacuum truck or trailer unit will be on standby and capable of responding within one hour to any spill or inadvertent return incident.
2. Exit Area: The exit area shall have appropriate precautions and measures for containing drilling fluids and cuttings. The CONTRACTOR shall use appropriate methods to minimize erosion and runoff. Containment and cleanup equipment shall be available to contain and clean up any surface spills and inadvertent returns.
3 Pipe Layout Area: Layout area shall be free of stones, wood, debris, and obstructions. Pipe rollers shall be provided by the CONTRACTOR during the fusion process to facilitate pipe fusion and pullback. Pipe rollers an all pipe handling shall be non-abrasive and cushioned using special devices and methods to prevent damage as specified in Section 02623. Pipe rollers that are uncushioned, unsteady or in any way pose a possibility of damaging or scratching the pipe shall not be used. The pipe lay out area may not allow the entire length to be fused in a single length before start of pull-in. CONTRACTOR will plan work accordingly. The CONTRACTOR shall maintain access to all properties unless shown otherwise on the Drawings, specified herein, or written permission has been granted by the individual property owners.

3.05 HORIZONTAL DIRECTIONAL DRILLING

A. Drill Rig Capacity: The capacity of the directional drilling system used by the CONTRACTOR shall be adequate to install the specified pipeline.

B. Pump Capacity: The pumps used by the CONTRACTOR shall be adequate to supply the required flow rate and pressures at the anticipated drilling fluid viscosity at all times. Drilling speeds shall not exceed pump capacity. Drilling speeds shall be monitored continuously during HDD operations.

C. Bore Tracking and Monitoring: At all times during the pilot bore the CONTRACTOR shall provide and maintain a bore tracking system that is capable of accurately locating the position of the drill head in the x, y, and z axes. The CONTRACTOR shall record these data at least once per drill pipe length or every thirty (30) feet, whichever is less.

1. Tracking System: CONTRACTOR shall monitor and record x, y, and z coordinates relative to an established surface survey benchmark. A downhole wire line tracking locator system shall be installed and shall be supplemented by a "TruTracker" or equivalent tracking system installed between the entry point and the exit point. The coordinates of the surface wire grid system shall be surveyed and recorded. The grids shall be surveyed to establish horizontal and vertical position to 0.1 feet accuracy.
2. Deviations between the recorded and design bore path shall be calculated and reported on the daily log. If the deviations exceed tolerances specified, such occurrences shall be reported immediately to the ENGINEER. The CONTRACTOR shall undertake all necessary measures to correct deviations and return to design line and grade.
3. Drilling Fluid Pressures and Flow Rates: Drilling fluid pressures and flow rates shall be continuously monitored and recorded by the CONTRACTOR. The pressure shall be monitored at the drill head and at the pump and flowrates shall be measured at the pump. These measurements shall be made during pilot bore drilling, reaming, and pullback operations.
4. Drilling Speeds: Maximum allowable drilling speeds shall be calculated by the CONTRACTOR for pilot boring and each reaming pass and shall not be exceeded for pilot boring or reaming passes. Measurements shall be taken every twenty (20) feet or thirty
(30) minutes, whichever is more frequent.
5. Drilling Fluid Viscosity and Density (Mud Weight): The CONTRACTOR shall measure and record drilling fluid viscosity and density at least three (3) times per shift or at least once per 200 feet of drilled and reamed length, whichever is more frequent with at least two (2) hours between readings, using calibrated Marsh funnel and mud balance. These measurements shall be included in daily logs submitted to the ENGINEER. The CONTRACTOR shall document modifications to the drilling fluids, by noting the types and quantities of drilling fluid additives and the dates and times when introduced. The reason for the addition of drilling fluid additives or other modifications shall be documented and reported.

D. Location of Entry and Exit Points: Entry and exit points are shown on the Drawings. Where entry and exit points are shown, they shall be constructed in the location shown, unless otherwise approved in writing by the ENGINEER or as shown on the approved HDD Work Plan. The CONTRACTOR shall employ experienced licensed surveyors registered in the state of Florida to locate the entry and exit points, and to establish horizontal and vertical datum for

the bore and the pipe layout and assembly areas

E. Entry and Exit Angles: Drill entrance angles shall be as shown on the Contract Drawings or unless otherwise approved in writing by the ENGINEER.

F. Pilot Bore: The pilot bore shall follow the design path of the bore shown on the Contract Drawings. Contractor's attention is directed to the Survey Data Table on Sheet G-4 and survey shown on the Drawings indicating the vertical and/or horizontal location of buried utilities or structures.

1. Horizontal and Vertical Tolerances: Horizontal and vertical deviations shall be less than plus or minus one (1) foot from the design path centerline. The CONTRACTOR shall continuously monitor horizontal and vertical position and record the position at least once per drill pipe length, or at thirty (30) feet, whichever is less.
2. Radius of Curvature: The radius of curvature shall not be less than that shown on the Contract Drawings. The radius of curvature shall be calculated over the distance of three (3) drill pipe sections.
3. Entry and Exit Tolerances: The location of the entry and exit points shall be in accordance with the approved HDD Work Plan. The CONTRACTOR shall be solely responsible for all Work necessary to correct excessive deviations from line and grade, including redrilling, redesigning connections, and acquiring additional easement, at no additional cost to the OWNER and without schedule extension.

G. Pre-reaming and Reaming: The pilot bore shall be pre-reamed and reamed using equipment and methods submitted by the CONTRACTOR. The CONTRACTOR shall completely pre-ream the bore to the final diameter prior to pullback. Multiple reams may be required to achieve the desired borehole diameter.

H. Low Pressure Air Test: For welded/fused pipe, the CONTRACTOR shall perform a low pressure air test in accordance with paragraph 1.06 K prior to pipe pullback.

I. Pipe Pullback:

1. A final swabbing of the bore path prior to pullback of the carrier pipe is required. The pipe shall be installed by pulling it into the reamed bore path in a continuous operation, behind a final reaming tool selected by the CONTRACTOR.
2. The pipe shall be isolated from excessive torsional and axial stresses by a swivel device.
3. All measurements shall be made, recorded, and submitted on the daily logs during final reaming and pipe pullback.
4. Pulling Loads: The maximum pull (axial tension force) exerted on the carrier pipeline shall be measured continuously and limited to the maximum allowed by the pipe Manufacturer so that the pipe or joints are not overstressed. A factor of safety over the maximum allowable is not required. Contractor should anticipate that the pipe will be full of water as it is pulled.
5. Pipeline Support: The pipelines shall be adequately supported during installation so as to prevent overstressing or buckling. The CONTRACTOR shall provide adequate support/rollers along the stringing area to support the required length of the carrier pipe for each bore. Such support/rollers shall be spaced according to the pipe supplier, and the rollers be comprised of a non-abrasive cushioned material arranged in a manner to provide support to the bottom and bottom quarter points of the pipeline allowing for free

movement of the pipeline during pullback. The pipe layout area shall be cleared of all large stones, construction debris, or other foreign objects that could damage the piping duringpullback.

6. The leading end of the pipe shall be closed during the pullback operation, in accordance with the pipe supplier's recommendations. A pulling head shall be used that is rated at the allowable pull force capability of the pipe section being installed, in accordance with the pipe supplier's recommendations.
7. Each length of pipe shall be inspected and cleaned as necessary to be free of debris immediately before joining.
8. Tracer wire will be attached to the leading end of the pipe pulling head and shall extend the full length of the installed pipe.
9. The CONTRACTOR shall at all times handle the carrier pipe in a manner that does not overstress or otherwise damage the pipe. Vertical and horizontal curves shall be limited to manufacturer's recommended bend radius so that wall stresses do not exceed the allowable bending radius as recommended by the pipe supplier. If the pipe is buckled or otherwise damaged due to CONTRACTOR's acts or omissions, the damaged section shall be removed and replaced by the CONTRACTOR at his expense. The CONTRACTOR shall take appropriate steps during pullback to ensure that the carrier pipe and tracer wires will be installed without damage.
10. The carrier pipe shall be filled with water as it enters the bore.
11. The CONTRACTOR shall monitor and inspect pipe rollers and method for suspending pipe at entry during the pullback operation to avoid damage to the pipe.
12. The CONTRACTOR shall cease operations if the pipe is damaged and shall remove the pipe from the bore and repair the pipe using the Manufacturer's recommended procedure or replace the damaged pipe before resuming installation.
13. Damage to the pipe resulting from installation or contact grouting is the responsibility of the CONTRACTOR, including costs for replacement and labor and materials at no cost to the OWNER. Upon completion of pullback and grouting, the CONTRACTOR shall perform the following cleaning on the completed pipeline.
    a. CONTRACTOR shall thoroughly clean the pipeline by pigging to remove all dirt stones, pieces of wood, or other material which may have entered during the construction period in accordance with Section 02623. If after cleaning, any obstructions remain, they shall be removed at no additional cost to theOWNER.
14. After the carrier pipe is completely pulled through the bore, a sufficient period as recommended by the pipe Manufacturer shall be provided before the final pipe tie-in.
15. Final Hydrostatic Test: The CONTRACTOR shall conduct a final hydrostatic test of the installed pipeline. Final test shall be in accordance with Section 02623. The CONTRACTOR shall repair any defects discovered during the test, and repeat until the pipe passes the test.

J. Contact Grouting: The CONTRACTOR shall grout a portion of the annular space (i.e., the first 100 feet from entry point and the last 100 feet before exit point) between the bore and the outer diameter of the product pipe prior to pigging described in 3.05 I of this section. Grouting shall be completed within 48 hours of completion of the final hydrostatic test. Grouting procedures shall be in accordance with approved submittals. The grouting operations shall ensure that the annulus is filled with grout within the first 100 feet from entry point and the last 100 feet before exit point. Grouting may be accomplished using one or more of the methods described below, oran alternative submitted by the CONTRACTOR, subject to ENGINEER' acceptance. The CONTRACTOR shall ensure that the annulus does not provide

a preferential pathway for seepage regardless of the method(s) used and shall ensure that settlements shall not cause damage to existing utilities, roadways or structures.

1. Tremie pipe. Tremie pipes shall be inserted into the borehole, for at least 100 feet from both entry and exit ends after the pipe pullback is completed to grout the annular space between borehole and pipe, or any other voids created or encountered above the borehole. Tremie grout pipes shall be not less than 1-1/4 inch and not more than 2-inch diameter Schedule 40 PVC, and shall be inserted at the crown and at two locations 60 degrees from the crown. Grouting pressures shall be carefully controlled and monitored to avoid applying excessive pressure to the pipe and to avoid heave or hydrofracture. The pipes shall be filled with water during grouting to counterbalance grouting pressures and to avoid excessive heat of hydration as the grout sets that could damage the pipes.
2. Mix grout into drilling fluids and inject with drilling fluid as pipe is pulled back final 100 feet to grout annulus at entry side. Grout shall be mixed into drilling fluid recirculation/distribution system and shall be injected as drilling fluid as pipe is pulled back final 100 feet. The grout mixture shall satisfy performance requirements of drilling fluid before set and requirements of annulus grout after set. Retarding agents may be incorporated into grout mixture to allow sufficient time to complete pipe pullback before initial grout set. The exit side annulus shall be grouted by inserting a tremie pipe into the bore annulus for at least 100 feet from the exit end as described in 1. above. Grout/drilling fluid injection pressures shall be less than pressures that could result in collapse of the pipe or hydrofracture of the surrounding soil.

K. Obstructions: The CONTRACTOR shall notify the ENGINEER immediately in the event that an obstruction, such as a boulder or rock, is encountered that prevents further advancement of the drill pipe, or pullback of the pre-reamer, reamer, and/or pipe. The CONTRACTOR shall make all diligent and reasonable efforts to advance past the object by drilling slowly through the object, pulling back, and drilling along a new bore path that avoids the object, or excavating and exposing and removing the object, and all other reasonable attempts to continue the bore. The CONTRACTOR shall notify the ENGINEER or proposed measures to attempt to advance past the object, prior to initiating the attempt. If the CONTRACTOR attempts to pullback and re-drill, the CONTRACTOR shall adhere to line and grade tolerances established in this Specification section, unless the ENGINEER approves variance, in writing, prior to the CONTRACTOR's attempt to re-drill. The CONTRACTOR and ENGINEER shall investigate the cause and together determine an appropriate response. Appropriate response may include revisions to equipment or methods, retraction and re-drilling of a portion of the bore, or abandonment of the hole. If abandonment is deemed necessary, the CONTRACTOR shall recover, to the extent practicable, any drill pipe, product pipe, and tools in the bore, and properly abandon the bore by contact grouting unless otherwise directed in writing by the ENGINEER. If the bore is abandoned, the CONTRACTOR shall be allowed to begin a second attempt to install the pipeline at an alternate location subject to approval, in writing, by the ENGINEER. The CONTRACTOR shall take all reasonable actions to complete the installation with minimal delays. The extra costs and payments associated with encountering a confirmed obstruction shall be negotiated in accordance with General Conditions.

L. Site Restoration and Demobilization: The CONTRACTOR shall remove all equipment, materials, drilling fluids, muck, waste, and debris from the site and restore the site to its original condition upon completion of the installation. Restoration and demobilization shall be completed by the CONTRACTOR within seven (7) calendar days of the completion of the pipeline installation.

M. Settlement Monitoring: The CONTRACTOR shall visually monitor for settlement or heave before and during drilling and grouting operation at the locations shown on the plans and as determined during the pre-construction survey. The settlement monitoring locations shall be surveyed to the nearest 0.01 foot and recorded prior to drilling operations and each day drilling operations are ongoing. A final record of spot elevations shall be recorded two weeks after pipe installation is complete and presented with the record drawings. Areas found to have significantly settled or heaved will require restoration. The ENGINEER will determine what constitutes significant settlement or heave. The CONTRACTOR will restore these areas at no cost to the OWNER.

END OF SECTION

SECTION 02575 - PAVEMENT REPAIR AND RESTORATION

PART 1 - GENERAL

1.01 SCOPE OF WORK

A. The CONTRACTOR will furnish all labor, materials, equipment, and incidentals required to remove and replace pavement over trenches excavated for installation of pipelines as shown on the Drawings and/or specified herein.

B. This Section includes restoration of existing pavement damaged by the CONTRACTOR's operations.

1.02 GENERAL

A. 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 pipe lines, conduits, drains, catch basins, swales, ditches, signs, flagstones, or stabilized areas or driveways and including all obstructions not specifically named herein, will be repaired in a manner satisfactory to the ENGINEER. Bid prices will include the furnishing of all labor, materials, equipment, and incidentals necessary for the cutting, repair, and restoration of the damaged areas unless pay items for specific types of repair are included in the Bid Form.

B. The CONTRACTOR will keep the surface of the backfilled area of excavation in a safe condition and level with the remaining pavement until the pavement is restored in the manner specified herein. All surface irregularities that are dangerous or obstructive to traffic are to be removed. The repair will conform to Florida Department of Transportation and state requirements for pavement repair and as described herein.

C. All materials and workmanship will be first class and nothing herein will be construed as to relieve the CONTRACTOR from this responsibility. The OWNER reserves the right to require soil bearing or loading tests or materials tests, should the adequacy of the foundation or the quality of materials used be questionable. Costs of these tests will be borne by the OWNER, if found acceptable; the costs of all failed tests will be borne by theCONTRACTOR.

1.03 All street and road repair will be made to the satisfaction of the OWNER. The repaired areas will, at a minimum, be similar to the original pavement and meet the approval of affected county and state agencies.

1.04 QUALITY ASSURANCE

A. Applicable provisions of the Florida Department of Transportation "Standard Specifications for Road and Bridge Construction," latest edition, and Supplemental Specifications hereunder govern the work under this Section. The Florida Department of Transportation will hereafter be referred to as FDOT.

PART 2 - PRODUCTS

2.01 MATERIALS

A. All materials utilized in flexible base pavement and base course will be as specified in the Florida Department of Transportation "Standard Specifications for Road and Bridge Construction," latest edition and applicable provisions in Section 02221 of these specifications.

PART 3 – EXECUTION

3.01 CUTTING PAVEMENT

A. The CONTRACTOR will saw cut and remove pavement as necessary for installing the new pipelines and appurtenances and for making connections to existing pipelines.

B. Before removing pavement, the pavement will be marked for cuts nearly paralleling pipe lines and existing street lines. Asphalt pavement will be cut along the markings with a rotary saw.

C. No pavement will be machine pulled until completely broken and separated along the marked cuts.

D. The pavement adjacent to pipe line trenches will neither be disturbed nor damaged. If the adjacent pavement is disturbed or damaged, irrespective of cause, the CONTRACTOR will remove the damaged pavement and will replace it at his own expense.

3.02 GENERAL RESTORATION

A. The restoration of all existing street paving, driveways, bike paths, etc., will be restored by the CONTRACTOR and will be replaced or rebuilt using the same type of construction as was in the original. The CONTRACTOR will be responsible for restoring all such work, including subgrade and base courses where present. The CONTRACTOR will obtain and pay for at his own expense such local or other governmental permits as may be necessary for the opening of streets and will satisfy himself as to any requirements other than those herein set forth which may affect the type, quality and manner of carrying on the restoration of surfaces by reason of jurisdiction of such governmental bodies.

B. The CONTRACTOR will provide the permanent replacement over all residential streets, side streets and boulevards damaged during construction per applicable County or FDOT standards previous to the date of Completion of the Project, but completion will not occur until all permanent replacement of all pavement has been completed, tested and approved and satisfactory testing of the pipe line by the respective OWNER.

C. All permanent pavement replacement will be completed by the final completion date as specified in the Contract.

D. In all cases, the CONTRACTOR will be required to maintain, without additional compensation, all permanent replacement of street paving, done by him under this Contract until accepted by the OWNER, including the removal and replacement of such work wherever surface depressions or underlying cavities result from settlement of trench backfill.

E. The CONTRACTOR will do all the final resurfacing or repaving of streets or roads, over the

excavations that he has made and he will be responsible for relaying paving surfaces of roadbed that have failed or been damaged, at any time prior to acceptance by the OWNER on account of work done by him and he will resurface or repave over any tunnel jacking, or boring excavation that will settle or break the surface, to the satisfaction of the OWNER and at the CONTRACTOR's sole expense.

F. All repaving or resurfacing will be done in accordance with Florida Department of Transportation Specifications.

3.03 SUBGRADE COMPACTION

A. Subgrade compaction will be required for all roadways, parking areas and other areas to be paved as shown on the Drawings and as specified herein. Compaction will be in accordance with Section 160 of the FDOT Specifications. Minimum density of all compacted subgrade will be 95 percent of the modified proctor. The County or their designated representative will be responsible for testing the compacted sub-grade for compliance. No base course will be started until such time as approved subgrade test results have been completed and approved by OWNER/ENGINEER. The compacted subgrade will be shaped to conform with the finished lines, grades and cross sections indicated on the contract drawings.

3.04 STABILIZED BASE COURSE

A. A stabilized base course will be constructed on the compacted or stabilized sub-grade in conformity with the lines, grades and typical cross sections as shown on the Drawings and as specified in Section 02221.

3.05 PRIME AND TACK COATS

A. The work will consist of the application of bituminous prime and tack coats on the previously prepared base course in accordance with Section 300 of the FDOT Specifications.

3.06 WEARING COURSE

A. The work will consist of the construction of plant-mixed hot bituminous pavement to the thickness indicated in the Drawings conforming to Type SP12.5 and/or SP9.5 asphaltic concrete in accordance with the FDOT Specifications.

3.07 TESTING

A. All field testing will be performed by an independent laboratory employed by the CONTRACTOR. All materials will be tested and certified by the producer. Tests repeated because subgrade or base does not meet specified compaction will be at the CONTRACTOR's expense.

3.08 ADJUSTING EXISTING STRUCTURES

A. Existing manholes, inlets, valve boxes, etc., within the limits of the proposed work, which do not conform to the finished grade of the proposed pavement or the finished grade designated on the Drawings for such structure will be cut down or extended and made to conform to the new

grade. The materials and construction methods for this work will be approved by the ENGINEER.

3.09 MISCELLANEOUS RESTORATION

A. Concrete curb or curb gutter will be restored to the existing height and cross section in full sections or lengths between joints. Concrete will be as specified on the Drawings. Grassed shoulders will be restored to match the existing sections with grass seed or sod of a type matching the existing grass.

3.10 CLEANUP

A. After all repair and restoration or paving has been completed, all excess asphalt, dirt, and other debris will be removed from the roadways. All existing storm sewers and inlets will be checked and cleaned of any construction debris.

END OF SECTION

SECTION 02622 - POLYVINYL CHLORIDE (PVC) PIPE

PART 1- GENERAL

1.01 SCOPE OF WORK

A. Furnish all labor, materials, equipment and incidentals required to install and test polyvinyl chloride (PVC) pipe and fittings, complete as shown on the Drawings and as specified herein.

B. Pipe or piping refers to all pipe, fittings, material and appurtenances required to construct PVC pipe complete, in place.

1.02 RELATED WORK

A. Dewatering and drainage is included in section 02140.

B. Excavation, Bedding and Backfill for Pipe is included in Section 02221.

C. Seeding is included in Section 02910.

1.03 SUBMITTALS

A. Submit, in accordance with Division 1 Specifications the name of the pipe and fitting manufacturers and a list of materials to be furnished by each manufacturer. Also, include information on local representative for each manufacturer, if product is sold through a distributor.

B. Shop Drawings including piping layouts and schedules shall include dimensioning, fittings, types and locations of valves and appurtenances, joint details, methods and location of supports, anchorage, gasket material, grade of material and all other pertinent technical information for all items to be furnished.

C. Prior to each shipment of pipe, certified test reports that the pipe for this Contract was manufactured and tested in accordance with the ASTM and AWWA Standards specified herein shall be submitted.

1.04 REFERENCE STANDARDS

A. American Society for Testing and Materials (ASTM)

1. ASTM D1784 - Standard Specification for Rigid Poly (Vinyl Chloride) (PVC) Compounds and Chlorinated Poly (Vinyl Chloride) (CPVC) Compounds.
2. ASTM F477 - Standard Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe.
3. ASTM F1760 – Standard Specification for Co-extruded Poly (Vinyl Chloride) (PVC) Non- Pressure Plastic Pipe Having Reprocessed-Recycled Content.

B. American Water Works Association (AWWA)

1. AWWA C900 – Polyvinyl Chloride (PVC) Pressure Pipe and Fabricated Fittings.
2. AWWA C905 - Polyvinyl Chloride (PVC) Water Transmission Pipe, Nominal Diameters 14 In. through 48 In. (350 mm Through 1,200 mm) for Water Transmission and Distribution.

C. National Sanitation Foundation (NSF)

1. Standard No. 14 - Plastic Piping Components and Related Materials.

D. Where reference is made to one of the above standards, the revision in effect at the time of bid opening shall apply.

1.05 QUALITY ASSURANCE

A. All PVC pipe and fittings of a similar type (e.g. solid wall or profile wall) shall be from a single manufacturer. The supplier shall be responsible for the provisions of all test requirements specified in ASTM D3034 as applicable.

B. Inspections of the pipe may also be made by the Engineer or other representatives of the Owner after delivery. The pipe shall be subject to rejection at any time on account of failure to meet any of the requirements specified herein, even though sample pipes may have been accepted as satisfactory at the place of manufacture. Pipe rejected after delivery shall be marked for identification and shall be removed from the job at once.

1.06 SYSTEM DESCRIPTION

A. Contractor is responsible for compatibility between pipe materials, fittings and appurtenances.

1.07 DELIVERY, STORAGE AND HANDLING

A. All items shall be bundled or packaged in such a manner as to provide adequate protection of the ends during transportation to the site. Any pipe damaged in shipment shall be replaced as directed by the Engineer.

B. PVC items deteriorate in sunlight and are slightly brittle, especially at lower temperatures, so care shall be taken in loading, transporting and unloading items to prevent injury to the items. All items shall be examined before installation and no piece shall be installed which is found to be defective. Handling and installation of pipe and fittings shall be in accordance with the manufacturer's instructions, referenced standards and as specified herein.

C. Any pipe or fitting showing a crack or which has received a blow that may have caused an incident fracture, even though no such fracture can be seen, shall be marked as rejected and removed at once from the work.

D. While stored, pipe shall be adequately supported from below at not more than 3-ft intervals to prevent deformation. The pipe shall not be stored in stacks no higher than that given in the following table:

Pipe Diameter (inches)	Max. No. of Rows Stacked
8 or less	5
12 to 21	4
24 to 30	3
33 to 48	2
54 and larger	1

E. Pipe and fittings shall be stored in a manner which will keep them at ambient outdoor temperatures and out of the sunlight or delivered to the site so that no pipe is exposed to sunlight for more than 60 days. Temporary shading as required to meet this requirement shall be provided. Simple covering of the pipe and fittings which allows temperature buildup or direct or indirect sunlight will not be permitted.

F. If any defective item is discovered after it has been installed, it shall be removed and replaced with an exact replacement item in a satisfactory manner by the Contractor, at the Contractor's own expense. All pipe and fittings shall be thoroughly cleaned before installation and the interior shall be kept clean until testing.

G. In handling the items, use special devices and methods as required to achieve the results specified herein. No uncushioned devices shall be used in handling the item.

1.08 PROJECT/SITE REQUIREMENTS

A. PVC pipe shall be stored in the right of way as to not disturb the flow of traffic or to block driveway or sidewalk access.

PART 2 - PRODUCTS

2.01 POLYVINYL CHLORIDE (PVC) PIPE AND FITTINGS

A. Polyvinyl Chloride (PVC) Pipe:

1. PVC pressure pipe and accessories four to twelve inches (4"-12") in diameter, where shown on the Drawings or as specified, shall be DR18 "Polyvinyl Chloride (PVC) Pressure Pipe". PVC pressure pipe and accessories fourteen to thirty-six inches (14"-36") shall conform to the requirements of AWWA C905. Pipe shall be PC 165, meeting requirements of Dimension Ratio (DR) 25 and shall be designed with cast iron outside diameters and for a test pressure of 150 psi.
2. Each length of pipe shall be hydrotested to four (4) times its class pressure by the MANUFACTURER in accordance with AWWA C900. Pipe shall be listed by Underwriters Laboratories. Provisions shall be made for expansion and contraction at each joint with an elastomeric ring, and shall have an integral thickened bell as part of each joint. PVC Class pipe shall be installed in accordance with the Uni-Bell Plastic Pipe Association Guide Specification UNI-B-3-76, and as recommended by the MANUFACTURER.
3. Pipe shall be furnished in nominal lengths of approximately 20 feet, unless otherwise approved by the ENGINEER. Pipe and accessories shall bear the NSF mark indicating pipe size, MANUFACTURER's name, AWWA and/or ASTM Specification number, working pressure, and production code. Pipe shall be made from Class 12454-A or Class

12454-B virgin compound, as designed in ASTM D 1784.

4. PVC joints for pipe three inches (3") in diameter or less, shall be threaded or solvent welded joints where called for on the Drawings, unless otherwise approved by the ENGINEER. Teflon thread tape or liquid Teflon thread lubricant shall be used on all threaded joints to serve as both a sealer and lubricant. Threaded joints should be made hand tight (hard). When the joint is hand tight a strap wrench should be used to make up one to two (1-2) additional full turns past the hand tight point. Do not use pipe wrenches or pump pliers on plastic pipe or fittings.

B. Joints:

1. The PVC line joints for below ground piping three to twenty-four inches (4"-24") in diameter shall be of the push-on type approved by the ENGINEER so that the pipe and fittings may be connected on the job without the use of solvent cement or any special equipment. The push-on joint shall be a single rubber gasket joint designed to be assembled by the positioning of a continuous, molded rubber ring gasket in annular recess in the pipe and the forcing of the plain end of the entering pipe into the socket, thereby compressing the gasket radially to the pipe to form a positive seal. The gasket and annular recess shall be designed and shaped so that the gasket is locked in place against displacement as the joint is assembled. The rubber ring joint shall be designed for thermal expansion or contraction with a total temperature change of at least 75°F in each joint per length of pipe. The bell shall consist of an integral wall section with a solid cross section elastomeric ring which shall meet requirements of ASTM D 1869. The thickened bell section shall be designed to be at least as strong as the pipe wall. Lubricant furnished for lubricating joints shall be nontoxic, shall not support the growth of bacteria, shall have no deteriorating effects on the gasket or pipe material, and shall not impart color, taste, or odor to the water and shall be approved by the MANUFACTURER.

C. Fittings:

1. All fittings for pressure mains for below ground piping of four to twenty-four inches (4"-24") in diameter shall be ductile iron with mechanical joints and shall conform to AWWA/ANSI specifications C110/A21.10 for ductile iron fittings and Section 02616, unless otherwise shown on the drawings or approved by the ENGINEER. All adaptors, fittings and transition gaskets necessary to connect cast or ductile iron fittings to PVC shall be furnished.
2. Fittings for PVC pipe three inches (3") in diameter or less, shall be threaded or solvent weld and be PVC as shown on the Drawings, or as approved by the ENGINEER. Threaded PVC fittings shall conform to ASTM Specification D 2464.
3. The MANUFACTURER of the pipe shall supply all polyvinyl chloride accessories as well as any adaptors and/or specials required to perform the work as shown on the drawings and specified herein. Standard double bell couplings will not be accepted where the pipe will slip completely through the coupling.

D. Restrained Joints:

1. All pressure pipe shall be restrained. Restraint for PVC water mains shall be EBAA Iron, Inc., Megalug Retainer Glands, Series 1600 and 2000 PV (4-inch through 12-inch sizes) and Series 2800 and 2000 PV (14-inch through 24-inch sizes) or equal.

After installation, apply a heavy bitumastic coating to all bolts, nuts and accessories.

E. All buried ductile iron fittings and restrained joints shall have a polyethylene wrap with a minimum 8 mils thickness and shall conform to ASTM specifications D-1248. Wrap for reuse water main shall be purple and imprinted "REUSE WATER MAIN". Wrap for force main shall be green and imprinted "FORCE MAIN".

2.02 IDENTIFICATION

A. Each length of pipe and each fitting shall be marked with the name of the MANUFACTURER, size, and class. All gaskets shall be marked with the name of the MANUFACTURER, size, and proper insertion directions. A color sample of the PVC pipe and fittings shall be submitted to the ENGINEER for approval prior to fabrication of any pipe and accessories.

B. All buried PVC pipe shall be color-coded as follows:

1. Force Main - Green

C. Tracer wire shall be furnished and installed with all buried PVC piping.

. All pipes shall be laid with two (2) strands of 10 gauge A.W.G. with 30 mil. (minimum) insulation, solid strand copper wire taped to the top of each joint of pipe with about 18-inches between each piece of tape. It is to be installed at every valve box and at least every 475 linear feet through a 2-inch PVC pipe to 12-inches minimum above the top of the concrete slab. The 2-inch PVC pipe shall be the same length as the adjustable valve box, and the 2-inch PVC pipe shall be plugged with a 2-inch removable brass plug with recessed nut. This wire is to be continuous, with no underground splices permitted, and is to be secured to all valves, tees and elbows and taped to top center of pipe, with taping at spacing no greater than fifty (50) feet along the center of pipe. The locator wires shall be brought up into all valve boxes with enough slack provided to extend 10 to 12 inches out of each box See paragraph 3.06 for testing requirements.

1. Locate wire colors shall match the color of the service pipe (blue for water, green for sewer, purple for reuse).

D. Marking Tape shall be as specified and installed per Section 02221.

PART 3- EXECUTION

3.01 INSTALLING POLYVINYL CHLORIDE (PVC) PIPE AND FITTINGS

A. All reuse and force mains shall be installed in accordance with recommendations of the pipe MANUFACTURER and as specified herein.

B. Care shall be taken in the handling, storage, and installation of pipe and fittings to prevent injury to the pipe or coatings. All pipe and fittings shall be examined before installing, and no pipe shall be installed which is found to be defective. Pipe or fittings shall not be dropped. All damage to the pipe coatings shall be repaired according to the MANUFACTURER's recommendations.

C. All pipe and fittings shall be kept clean and shall be thoroughly cleaned before installation.

D. Pipe shall be laid to the lines and grades shown on the Drawings with bedding and backfill as shown on the Drawings and as specified in Section 02221. Blocking under the pipe will not be permitted.

E. All pipe and fittings shall be thoroughly cleaned before laying, shall be kept clean until they are used in the work, and when laid, shall conform to the lines and grades required. Polyvinyl chloride pipe and fittings shall be installed in accordance with requirements of AWWA Standard Specification C600. If any defective pipe is discovered after it has been laid, it shall be removed and replaced with a sound pipe in a satisfactory manner by CONTRACTOR, at his own expense.

F. When installation is not in progress, including lunchtime, or the potential exists for dirt of debris to enter the pipe, the open ends of the pipe shall be closed with watertight plugs or other approved means.

G. Under no circumstances shall the pipe or accessories be dropped into the trench.

H. All plugs, caps, bends and other locations where unbalanced forces exist shall be anchored by restrained joints.

I. In all cases where PVC pipe is installed, a detectable marking tape shall be located between 12 and 18 inches above the top of the pipe as specified in Section 02221.

J. When cutting pipe is required, the cutting shall be done by machine, leaving a smooth cut at right angles to the axis of the pipe. Cut ends of pipe to be jointed with a bell shall be beveled to conform to the manufactured spigot end.

K. Maintain a minimum finish grade cover of 36-inches, unless otherwise approved by the ENGINEER or shown on the Drawings.

L. All polyethylene encasement shall be installed per AWWA C105.

3.02 JOINTING PVC PIPE

A. Push on joints shall be made in strict accordance with the manufacturer's instructions. Pipe shall be laid with bell ends looking ahead. A rubber gasket shall be inserted in the groove of the bell end of the pipe and the joint surfaces cleaned and lubricated. The plain end of the pipe to be entered shall then be inserted in alignment with the bell of the pipe to which it is to be joined and pushed home with a come-along or by other means. Check that the reference mark on the spigot end is flush with the end of the bell.

B. Mechanical joints shall be made in accordance with Appendix A of ANSI/AWWA C111 and the MANUFACTURER's instructions. Thoroughly clean and lubricate the joint surfaces and rubber gasket with soapy water before assembly. Bolts shall be tightened to the specified torques using a calibrated torque wrench. Under no conditions shall extension wrenches or pipe over handle of ordinary ratchet wrench be used to secure greater leverage.

3.03 RESTRAINED JOINTS

A. Restrained joints shall be installed for all pressure pipelines. The joint assemblies shall be made

in accordance with the MANUFACTURER's recommendations. After installation, apply a heavy bitumastic coating to all bolts, nuts and accessories.

3.04 TESTING FOR PRESSURE MAINS

A. All pressure mains shall be field tested in accordance with SJCUD 2021 Utility Standards Manual, Section 1.4.2.5.

3.05 CLEANING

A. All pressure mains shall be flushed or pigged in accordance with SJCUD 2021 Utility Standards Manual, Section 1.4.2.4.

3.06 TESTING FOR TRACING WIRE

A. Testing technology shall include variable frequency controls, digital depth read-out, and tone continuity approved by SJCUD.

1. Testing shall be performed by a person or company that has been certified by the manufacturer of the approved testing equipment as proficient in the use of the equipment and has six months experience in the use of the equipment including documented proof of past performance.
2. Locate wiring shall be tested by the CONTRACTOR using a certified tester and approved testing equipment. The certified tester shall be pre-approved by SJCUD. The SJCUD field representative may elect to be present during the testing period. The CONTRACTOR shall provide the certified tester a copy of the project drawings. The certified technician shall trace the entire length of the installed wire and mark the location at 100-foot intervals along the route. The depth of pipe shall be tested at 200-foot intervals. The certified tester shall report where the pipe has less than the allowable minimum cover or more than the maximum allowable cover. All laterals shall be marked and recorded. A final Locate Wire Report shall be submitted to SJCUD for review and approval. The report shall include a signed statement from the certified tester which certifies that all installed wire was successfully sounded and traced with no open breaks. The report shall also include a copy of the project drawings which indicate all field notes, breaks found/repaired, depths, and other applicable field remarks by the certified tester. A certified copy of the report and marked-up drawings shall be furnished prior to final acceptance of the project.

END OF SECTION

SECTION 02623 - HIGH DENSITY POLYETHYLENE PIPE AND FITTINGS

PART 1 - GENERAL

1.01 SCOPE OF WORK

A. The CONTRACTOR shall furnish all labor, materials, equipment and incidentals required to install high density polyethylene (HDPE) pipe and adapters complete, tested, and ready for use, as shown on the Drawings and as specified herein.

1.02 RELATED REQUIREMENTS

A. Testing and cleaning of pipe are included in Section 02622 and as specified herein.

B. Dewatering and drainage are included in Section 02140.

C. Excavation, Bedding and Backfill for Pipe are included in 02221.

D. Valves and appurtenances are included in Section 15200.

E. Horizontal Directional Drilling is specified in Section 02413.

1.03 SUBMITTALS

A. Submit, in accordance with Section 01300, completely detailed working drawings and schedules of all high density polyethylene (HDPE) pipe and fittings required.

B. Submit the name and address of pipe manufacturer.

C. Submit complete description of method of pipe installation.

D. Submit description of the method of testing the pipe and fittings for each pipesize.

E. Submit the manufacturer's recommendations for handling, storing and installing the pipe and fittings.

F. Submit certification that the stress regression testing has been performed on the specific polyethylene resin being utilized in the manufacturing of the pipe for this contract in accordance with ASTM D2837.

G. Prior to each shipment, submit certified test reports that the pipe and fittings for this contract were manufactured and tested in accordance with the ASTM Standards specified herein. Submit the name and qualifications of the technicians proposed to perform the heat fusion of the pipe joints.

1.04 REFERENCE STANDARDS

A. American Society for Testing and Materials (ASTM)

1. ASTM A276 – Standard Specification for Stainless Steel Bars and Shapes.

2. ASTM A307 - Standard Specification for Carbon Steel Bolts and Studs, 60,000 psi Tensile strength.
3. ASTM D2321 - Standard Practice for Underground Installation of Thermoplastic Pipe for Sewer and Other Gravity-Flow Applications.
4. ASTM D2774 – Standard Practice for Underground Installation of Thermoplastic Pressure Piping.
5. ASTM D2657 - Standard Practice for Heat Fusion Joining of Polyolefin Pipe and Fittings.
6. ASTM D2837 - Standard Test Method for Obtaining Hydrostatic Design Basis for Thermoplastic Pipe Materials.
7. ASTM D3350 - Standard Specification for Polyethylene Plastics Pipe and Fittings Materials.
8. ASTM F714 - Standard Specification for Polyethylene (PE) Plastic Pipe (SDR-PR) Based on Outside Diameter.
9. ASTM F2164 – Standard Practice for Field Leak Testing of Polyethylene (PE) Pressure Piping Systems Using Hydrostatic Pressure

B. American Water Works Association (AWWA)

1. AWWA C600 - Installation of Ductile Iron Water Mains and Their Appurtenances.
2. AWWA C906 - Polyethylene (PE) Pressure Pipe and Fittings, 4-in Through 63-in, for Water Distribution and Transmission.

C. American National Standards Institute (ANSI)

1. ANSI B16.1 - Cast Iron Flanges and Flanged Fittings.
2. ANSI B16.21 - Nonmetallic Flat Gaskets for Pipe Flanges.
3. ANSI/NSF 61- Drinking Water System Components-Health Effects

D. Where reference is made to one of the above standards, the revision in effect at the time of bid opening shall apply.

1.05 DELIVERY, STORAGE AND HANDLING

A. The delivery, storage and handling of the pipe and fittings shall be done in accordance with the manufacturer's recommendations.

B. Pipe shall be stored on clean, level ground to prevent any scratching or gouging of the pipe. The handling of the pipe shall be done in a manner to avoid dragging the pipe over any hard or sharp objects to avoid cutting of the pipe's exterior. . If gouges/scratches are made in the pipe during handling the depth of the gouge/scratch shall be measured by an independent testing lab at no cost to the OWNER and the results shall be certified in writing to the OWNER.

1. If the gouge is less than 5% of the wall thickness, the gouge does not require remediation.
2. If the gouge is equal to or more than 5% of the wall thickness, the pipe shall be rejected and a section of the pipe shall be removed and re-fused or replaced.

C. The pipe shall be inspected prior to pull back. The ENGINEER and OWNER reserve the right to reject any and all gouges/scratches regardless of measured depth and or apparent cause. All decisions made by the ENGINEER and OWNER are final; the CONTRACTOR shall remove

and repair any rejected pipe sections.

D. Handling of the pipe shall be done in a manner to avoid all undue stress in the pipe caused by bending of the pipe.

E. The interior of the pipe shall be free of cuts, gouges and scratches.

1.06 QUALITY ASSURANCE

A. All HDPE pipe and fittings shall be manufactured in strict accordance with ASTM F714 and shall be from a manufacturer who is fully experienced, reputable and qualified in the manufacture of the polyethylene pipe and fittings to be furnished. All HDPE pipe and fittings shall be supplied by a distributor who is fully experienced, reputable, and qualified with the distribution of the pipe and fittings to be furnished. The pipe shall be designed, constructed, and installed in accordance with the best practices and methods and shall comply with these specifications. All pipe and fittings shall be NSF 61 approved.

B. All pipes under this contract shall be manufactured from a polyethylene resin that has been specifically stress regression tested to provide a product supplying a minimum Hydrostatic Design Basis (HDB) of 1600 psi, as determined in accordance with ASTM D2837.

C. All HDPE pipe to be installed under this Contract may be inspected at the factory for compliance with this Section by an independent testing laboratory provided by the Owner. The manufacturer's cooperation shall be required in these inspections. The cost of these plant inspections of all pipe approved for this Contract will be borne by the Owner.

D. Inspection of the pipe may also be made by the Engineer or other representatives of the Owner after delivery. The pipe shall be subject to rejection at any time on account of failure to meet any of the specified requirements, even though pipes may have been accepted as satisfactory at the place of manufacture. Pipe rejected after delivery shall be marked for identification and shall immediately be removed from the job.

1.07 WARRANTY

A. The pipe manufacturer shall provide a warranty against manufacturing defects of material and workmanship for a period of ten years after the final acceptance of the project by the Owner. The manufacturer shall replace, at no additional cost to the Owner, any defective pipe material within the warranty period.

PART 2 - PRODUCTS

2.01 MATERIALS

A. General

1. HDPE pipe is a flexible conduit and shall be designed to transfer imposed loads to the surrounding embedment medium. The pipe and fittings shall be free from all defects including indentations, delaminations, cracks, bubbles and pinholes, which due to their nature, degree, or extent, detrimentally affect the strength and serviceability of the pipe. Any pipe or fittings with such defects which, in the judgement of the Engineer, will affect the strength and serviceability shall be repaired or rejected.

2. HDPE pipe resins shall be high molecular weight, high density polyethylene with a cell classification number of PE445574C and PE445576C or higher cell classification in accordance with ASTM D3350 and meeting Type III, Class B or Class C, Category 5, Grade P34 Per ASTM S1248; and shall be listed in the name of the pipe and fitting manufactured in PPI (Plastics Pipe Institute).

B. Pipe and Fittings

1. Pipe and adaptors, shall have ductile iron pipe size outside dimensions and shall be furnished in DR 11 or DR 9 at the driller's discretion (for HDD crossing under Interstate 95) minimum thickness for reuse and DR 9 minimum thickness for force main.
2. All polyethylene pipes shall meet the requirements of ASTM F714.
3. Pipe greater than 4" shall be furnished in standard laying lengths not exceeding50-ft.
4. Joining system: The pipe and fittings shall be joined with thermal butt fusion joints (or electrofusion couplings on a case by case basis with the Engineer's approval). All joints shall be made in strict compliance with the manufacturer's recommendations and ASTM 2657.
5. All fittings shall be restrained joint ductile iron mechanical joint fittings as specified in Section 02616 and shall have a polyethylene wrap with a minimum 8 mils thickness and shall conform to ASTM specification D-1248.
6. Polyethylene pipe to be as listed in the Approved Materials Checklist
7. The polyethylene compound will be suitably protected against degradation by ultraviolet light as required by ASTM D1603.

2.02 PIPE IDENTIFICATION

A. At 5-ft intervals along the pipe, the pipe shall be marked with the name of the manufacturer, size and class (pressure and DR), and manufacturing reference to ASTM F714.

B. A color coded strip(s) shall be marked along the entire length of the pipe. Pipe for reuse shall be color coded purple and pipe for force main shall be color coded green.

C. The HDPE pipe shall be laid with two (2) strands of insulated, copper-clad stainless steel, minimum eight gauge, HDD Tracer wire with minimum 45 mil HDPE coating and a stainless steel core. Tracer wire shall be as listed in the Approved Materials Checklist.

2.03 ADAPTORS

A. Polyethylene flange or mechanical joint adaptors with stainless steel stiffeners will be used for connecting polyethylene pipe to ductile iron pipe or other material.

B. Adaptors shall be thermally butt-fused to the stub end of the pipe

C. For flanged connections, the polyethylene end or will be backed up by a ductile iron flange backup ring conforming to ANSI B16.1 shaped as necessary to suite outside dimension of the HDPE pipe.

D. For mechanical connections, accessories shall include ductile iron gland ring conforming to ANSI/AWWA C110, C111 & C153. Ductile iron coatings shall be ANSI/AWWWA

C104/A21.4 (asphaltic paint).

E. Gaskets shall be ANSI/AWWA C111/A21.11 Buna N, Neoprene or Nytryl-based rubber product approved by the Engineer.

F. Corrosion resistant bolts and nuts of Type 304 stainless steel as specified in ASTM A276 and ASTM A307 shall be used.

G. Polyethylene adaptors will be as manufactured by Orion; Integrity Fusion Products; Specified Fittings or equal.

PART 3 - EXECUTION

3.01 INSTALLATION

A. All pipe and fittings shall be installed in accordance with the manufacturer's instructions and ASTM D2774.

B. All fusion joints shall be done by a factory qualified technician as designated by the manufacturer with a minimum of five years' experience with the fusion equipment to be used. Installer certification (dated as completed or renewed within the last five years) is needed from the CONTRACTOR installing thermal butt fused HDPE pipe.

C. Joining of the pipe by heat fusion shall be done in accordance with ASTM D2657. Prior to the start of pipe installation, one test joint shall be made and tested. No joints shall be made until a successful test joint has been made.

D. When cutting pipe is required, the cutting shall be done by machine specifically designed for the cutting of HDPE pipe. The cut shall leave a smooth cut at right angles to the axis of the pipe.

E. Fittings shall be connected to HDPE pipe in accordance with manufacturer's recommendations.

3.02 TESTING FOR TRACING WIRE

A. See Section 02622 for testing of tracingwire.

3.03 CLEANING AND TESTING

A. At the conclusion of the work the CONTRACTOR shall thoroughly clean all of the new pipelines by pigging to remove all dirt, stones, pieces of wood, or other material which may have entered during the construction period. Debris cleaned from the lines shall be removed from the job site. If, after this cleaning, any obstructions remain, they shall be removed. Provide hoses, temporary pipes, ditches, etc., as required to dispose of flushing water without damage to adjacent properties.

B. Perform hydrostatic testing of all HDPE pipelines as set forth in the following, and conduct said tests in the presence of the ENGINEER and other authorized agencies, with 48 hours advance notice provided. Provide all labor, equipment and material required for testing the pipeline upon completion of installation, pipe laying and backfilling operations, and placement of any required temporary roadway surfacing.

1. Filled pipelines shall be allowed to thermally stabilize such that the 14 temperature of the water and the pipe are equal. At temperatures above 15 one hundred (100) degrees F, the ENGINEER hall be consulted regarding the need to reduce the testpressure.

2 The piping shall be tested between valved sections.

3. Test pipelines at 150 psi.

4. Field test all HDPE pipelines for leakage in accordance with manufacturer's recommendations for the size and class of pipeline installed. Unless other procedures recommended by the manufacturer are approved by the ENGINEER, pressure test the pipeline in accordance with latest version of ASTM F2164.

5. If any test of pipeline installed in not in compliance with ASTM F2164 locate and repair the cause of leakage and retest the pipeline, without additional cost to the OWNER. Repair all visible leaks regardless of the amount of leakage

END OF SECTION

SECTION 02901 - MISCELLANEOUS WORK AND CLEANUP

PART 1 GENERAL

1.01 SCOPE OF WORK

A. The CONTRACTOR shall furnish all labor, materials, equipment and incidentals required and perform the miscellaneous work not specified in other Sections but obviously necessary for the proper completion of the work as shown on the Drawings.

B. When applicable, the CONTRACTOR shall perform the work in accordance with other related Sections. When no applicable specification exists, perform the work in accordance with the best modern practice and/or as directed by the ENGINEER.

C. The work of this Section includes, but is not limited to, the following:
1. Crossing and relocating existing utilities
2. Restoring sidewalks, driveways, fences and curbing and gutters
3. Cleaning up
4. Incidental work
5. Job photographs
6. Protection and bracing of utility poles
7. Protection and/or removal and reinstallation of signs and lampposts.
8. Temporary facilities

1.02 SUBMITTALS

A. Submit a breakdown of the lump sum for miscellaneous work and clean up including the above items as a minimum.

PART 2 PRODUCTS

2.01 MATERIALS

A. Materials required for this Section shall be the same quality of materials that are to be restored.

B. When possible, reuse existing materials that are removed.

PART 3 EXECUTION

3.01 CROSSING AND RELOCATING EXISTING UTILITIES

A. Crossing of existing utilities is not anticipated during execution of this contract.

B. Field locate existing utilities and notify the Owner if conflicts are identified.

3.02 CLEANING UP

A. Remove all construction material, excess excavation, buildings, equipment and other debris remaining on the job as a result of construction operations and restore the site of the work to a neat and orderly condition.

3.03 INCIDENTAL WORK

A. The CONTRACTOR shall do all incidental work not otherwise specified, but obviously necessary to the proper completion of the work as shown on the Drawings and as specified herein.

3.04 REMOVAL AND REPLACEMENT OF SIGNS AND LAMPPOSTS

A. Existing signs and lampposts which may be damaged or removed during the course of installing the new pipelines shall be reinstalled in a vertical position at the same location from which they were removed, unless otherwise directed by OWNER. The CONTRACTOR shall replace damaged items with items of equal or better quality than the damaged items. The CONTRACTOR shall provide a concrete anchor as necessary, to ensure a rigid alignment. The CONTRACTOR shall exercise care in the reinstallation of all items to prevent damage to the newly installed pipelines.

3.05 RESTORATION AND REPLACEMENT OF CURBING

A. Existing concrete, bituminous, timber or granite curbing shall be protected. If necessary, curbing shall be removed and replaced after backfilling. Curbing which is damaged during construction shall be replaced with curbing of equal quality and dimension at the CONTRACTOR's expense.

3.06 COOPERATION WITH OTHER CONTRACTORS AND CONNECTION TO WORK BY OTHERS

A. At this location, construction on other contracts may be carried on during the same period as construction under this Contract. It will be necessary for the CONTRACTOR to plan his/her work and cooperate with the other contractors insofar as connections required to each other's work and to prevent any interference and delay for which he/she shall receive no other compensation than that agreed upon for this Item.

3.07 PROTECTION AND BRACING OF UTILITY POLES

A. Make all arrangements with the proper utility companies for bracing and protection of all utility poles that may be damaged or endangered by the operations. Work under this item shall include the related removal and reinstallation of guy wires, or support poles whether shown on the Drawings or not.

3.08 TEMPORARY FACILITIES

A. Furnish, install, maintain and remove all temporary facilities required for construction or called for in this Section.

3.09 RESTORING DRIVEWAYS, SIDEWALKS AND FENCES

A. Existing public and private driveways disturbed by the Work shall be replaced. Paved drives shall be repaved to the limits and thicknesses existing prior to construction. Gravel dirt roads and drives shall be replaced and regraded in kind.

B. Existing public and private sidewalks disturbed by the construction shall be replaced with sidewalks of equal quality and dimensions.

C. Fences in the vicinity of the work shall be protected from damage under this item. If damaged, fences shall be replaced in condition equal to that prior to being damaged and the work shall be satisfactory to the ENGINEER.

3.10 PHOTOGRAPHS OF PROJECT

A. Document existing conditions using construction photographs prior to construction. Provide the photographs to the OWNER in an electronic format prior to commencement of construction activities.

B. Document construction activities by taking various daily progress photos. A minimum of 10 photos each day shall be provided to OWNER in electronic format.

END OF SECTION

SECTION 02910 - GRASSING

PART 1 GENERAL

1.01 SCOPE OF WORK

A. CONTRACTOR shall furnish all labor, materials, equipment, and incidentals required and prepare lawn bed and seed those areas shown on Drawings and as specified herein.

B. Grassing by seeding shall be in accordance with FDOT Section 570. Grassing by sodding shall be in accordance with FDOT Section 575.

C. Areas to be seeded or sodded shall be as follows:

1. All areas on site that have been disturbed by construction activities shall be seeded.
2. Any area with slopes that are in excess of 4 to 1 shall be sodded.

PART 2 PRODUCT

2.01 SEED AND APPLICATION RATES

A. All materials used in grassing by seed or sod shall be in accordance with FDOT Section 981. Commercial Fertilizer used in these applications shall be in accordance with FDOT Section 982. Water used in the grassing operations shall be in accordance with FDOT Section 983.

B. Species to be used will be a mixture of Bahia, Bermuda and Rye grass.

C. Grass seed shall be applied at a rate of 20 lbs of each species (60 lbs total) per acre along with mulch material (weed free hay or straw) applied at a rate of 9 tons per acre. Hydro Seeding consisted of the same seed mixture and a cellulose fiber mulch at a rate of 750 lbs per acre (810 lbs total mixture weight per acre) will also be allowed.

PART 3 EXECUTION

3.01 INSPECTION

A. Verify that soil preparation and related preceding work has been completed.
B. Do not start work until conditions are satisfactory.

3.02 MAINTENANCE

A. Soil should be kept continuously moist, but not too wet, until seed has germinated and become well established.

3.03 CLEANING

A. Immediately clean spills from paved and finished surface areas.
B. Remove debris and excess materials from project site.

END OF SECTION

SECTION 03100 CONCRETE FORMWORK

PART 1 GENERAL

1.01 SCOPE OF WORK

A. Furnish all labor, materials, equipment and incidentals required to design, install and remove formwork for cast-in-place concrete complete as shown on the Drawings and specified herein.

B. Secure to forms as required or set for embedment as required, all miscellaneous metal items, sleeves, reglets, anchor bolts, inserts and other items furnished under other Sections and required to be cast into concrete, or approved in advance by the Engineer.

1.02 RELATED WORK

A. Concrete Reinforcement is included in Section 03200.

B. Concrete Joints and Joint Accessories are included in Section 03250.

C. Cast-in-Place Concrete is included in Section 03300.

D. Grout is included in Section 03600.

1.03 SUBMITTALS

A. Submit to the Engineer, in accordance with Section 01330, shop drawings, and product data showing materials of construction and details of installation for:
   1. Form release agent
   2. Form ties
   3. Form Savers

B. Samples

   1. Demonstrate to the Engineer on a designated area of the concrete substructure exterior surface that the form release agent will not adversely affect concrete surfaces to be painted, coated or otherwise finished and will not affect the forming materials.

1.04 REFERENCE STANDARDS

A. American Concrete Institute (ACI)

   1. ACI 301 – Standard Specification for Structural Concrete
   2. ACI 318 – Building Code Requirements for Reinforced Concrete
   3. ACI 347 – Formwork for Concrete

B. American Plywood Association (APA)
   1. Material grades and designations as specified

C. Where reference is made to one of the above standards, the revision in effect at the time of bid opening shall apply.

1.05 SYSTEM DESCRIPTION

A. Formwork shall be designed and erected in accordance with the requirements of ACI 301 and ACI 318 and as recommended in ACI 347 and shall comply with all applicable regulations and codes. The design shall consider any special requirements due to the use of plasticized and/or retarded setconcrete.

PART 2 PRODUCTS

2.01 GENERAL

A. The usage of a manufacturer's name and model or catalog number is for the purpose of establishing the standard of quality and general configurations desired.

2.02 MATERIALS

A. Forms for cast in place concrete shall be made of wood, metal, or other approved material. Construct wood forms of sound lumber or plywood of suitable dimensions and free from knotholes and loose knots. Where used for exposed surfaces, dress and match boards. Sand plywood smooth and fit adjacent panels with tight joints. Metal forms may be used when approved by the Engineer and shall be of an appropriate type for the class of work involved. All forms shall be designed and constructed to provide a flat, uniform concrete surface requiring minimal finishing or repairs.

B. Form Release Agent

1. Coat all forming surfaces in contact with concrete using an effective, non-staining, non-residual, water based, bond-breaking form coating unless otherwise noted. Form release agents used in potable water containment structures shall be suitable for use in contact with potable water and shall be non-toxic and free of taste or odor and meet the requirements of NSF/ANSI Standard 61. Form release agent shall be Farm Fresh by Unitex or approved equal.

PART 3 EXECUTION

3.01 GENERAL

A. Forms shall be used for all cast-in-place concrete including sides of footings. Forms shall be constructed and placed so that the resulting concrete will be of the shape, lines, dimensions and appearance indicated on the drawings.

B. Forms shall be sufficiently rigid to withstand construction loads and vibration and to prevent displacement or sagging between supports. Construct forms so that the concrete will not be damaged by their removal. The contractor shall be entirely responsible for the adequacy of the forming system

C. Before form material is re-used, all surfaces to be in contact with concrete shall be thoroughly cleaned, all damaged places repaired, all projecting nails withdrawn and all protrusions smoothed. Reuse of wooden forms for other than rough finish will be permitted only if a "like new" condition of the form is maintained.

3.02 FORM TOLERANCES

A. Forms shall be surfaced, designed and constructed in accordance with the recommendations of ACI 347 and shall meet the following additional requirements for the specified finishes.

1. Formed Surface Exposed to View: Edges of all form panels in contact with concrete shall be flush within 1/16-in and forms for plane surfaces shall be such that the concrete will be plane within 3/16-in in 4-ft. Forms shall be tight to prevent the passage of mortar, water and grout. The maximum deviation of the finish wall surface at any point shall not exceed ¼-in from the intended surface as shown on the Drawings. Form panels shall be arranged symmetrically and in an orderly manner to minimize the number of seams.
2. Formed surfaces not exposed to view or buried shall meet requirements of Class "C" Surface in ACI 347.
3. Formed rough surfaces including mass concrete, pipe encasement, electrical duct encasement and other similar installations shall have no minimum requirements for surface smoothness and surface deflections. The overall dimensions of the concrete shall be plus or minus 1-in.

3.03 FORM PREPARATION

A. Wood forms in contact with the concrete shall be coated with an effective release agent prior to form installation.

B. Steel forms shall be thoroughly cleaned and mill scale and other ferrous deposits shall be sandblasted or otherwise removed from the contact surface for all forms, except those utilized for surfaces receiving a rough finish. All forms shall have the contact surfaces coated with a release agent.

3.04 REMOVAL OF FORMS

A. The Contractor shall be responsible for all damage resulting from removal of forms. Forms and shoring for structural slabs or beams shall remain in place in accordance with ACI 301 and ACI 347. Form removal shall conform to the requirements specified in Section 03300 and a curing compound applied.

3.05 INSPECTION

A. The Engineer on site shall be notified when the forms are complete and ready for inspection at least 6 hours prior to the proposed concrete placement.

B. Failure of the forms to comply with the requirements specified herein or to produce concrete complying with the requirements of Section 03300 shall be grounds for rejection of that portion of the concrete work. Rejected work shall be repaired or

replaced as directed by the Engineer at no additional cost to the Owner. Such repair or replacement shall be subject to the requirements to this Section and approval of the Engineer.

END OF SECTION.

SECTION 03200 CONCRETE REINFORCEMENT

PART 1 GENERAL

1.01 SCOPE OF WORK

A. Furnish all labor, materials, equipment and incidentals required and install all concrete reinforcement complete as shown on the Drawings and as specified herein.

1.02 RELATED WORK

A. Concrete Formwork is included in Section 03100.

B. Cast-in-place Concrete is included in Section 03300.

1.03 SUBMITTALS

A. Submit to the Engineer shop drawings and product data showing materials of construction and details of installation for:

1. Reinforcing steel. Placement drawings shall conform to the recommendations of ACI 315. All reinforcement in a concrete placement shall be included on a single placement drawing or cross referenced to the pertinent main placement drawing. The main drawing shall include the additional reinforcement (around openings, at corners, etc) shown on the standard detail sheets. Bars to have special coatings and/or to be of special steel or special yield strength are to be clearly identified. For all cast-in- place concrete tanks, retaining walls, building stem walls, wall sections shall be included in the drawings.
2. Bar bending details. The bars shall be referenced to the same identification marks shown on the placement drawings.
3. Schedule of all placements to contain synthetic reinforcing fibers. The amount of fibers per cubic yard to be used for each of the placements shall be noted on the schedule. The name of the manufacturer of the fibers and the product data shall be included with the submittal.

1.04 REFERENCE STANDARDS

A. American Society for Testing and Materials (ASTM)

1. ASTM A82 - Standard Specification for Steel Wire, Plain, for Concrete Reinforcement.
2. ASTM A184 - Standard Specification for Fabricated Deformed Steel Bar Mats for Concrete Reinforcement.
3. ASTM A185 - Standard Specification for Steel Welded Wire Fabric, Plain, for Concrete Reinforcement
4. ASTM A496 - Standard Specification for Steel Wire, Deformed, for Concrete Reinforcement
5. ASTM A497 - Standard Specification for Steel Welded Wire Fabric, Deformed, for Concrete Reinforcement

6. ASTM A615 - Standard Specification for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement
7. ASTM A616 - Standard Specification for Rail-Steel Deformed and Plain Bars for Concrete Reinforcement
8. ASTM A617 - Standard Specification for Axle-Steel Deformed and Plain Bars for Concrete Reinforcement
9. ASTM A706 - Standard Specification for Low-Alloy Steel Deformed and Plain Bars for Concrete Reinforcement.
10. ASTM A767 - Standard Specification for Zinc-Coated (Galvanized) Steel Bars for Concrete Reinforcement
11. ASTM A775 - Standard Specification for Epoxy-Coated Reinforcing Steel Bars.
12. ASTM A884 - Standard Specification for Epoxy-Coated Steel Wire and Welded Wire Fabric for Reinforcement.
13. ASTM A934 - Standard Specification for Epoxy-Coated Prefabricated Steel Reinforcing Bars.

B. American Concrete Institute (ACI)
1. ACI 301 - Standard Specification for Structural Concrete
2. ACI 315 - Details and Detailing of Concrete Reinforcement.
3. ACI 318 - Building Code Requirements for Structural Concrete
4. ACI SP-66 - ACI Detailing Manual

C. Concrete Reinforcing Steel Institute (CRSI)
1. Manual of Standard Practice

D. American Welding Society (AWS)
1. AWS D1.4 - Structural Welding Code Reinforcing Steel

E. Where reference is made to one of the above standards, the revision in effect at the time of bid opening shall apply.

1.05 QUALITY ASSURANCE

A. Provide services of a manufacturer's representative, with at least 2 years experience in the use of the reinforcing fibers for a preconstruction meeting and assistance during the first placement of the material.

1.06 DELIVERY, HANDLING AND STORAGE

A. Reinforcing steel shall be substantially free from mill scale, rust, dirt, grease, or other foreign matter.

B. Reinforcing steel shall be shipped and stored with bars of the same size and shape fastened in bundles with durable tags, marked in a legible manner with waterproof markings showing the same "mark" designations as those shown on the submitted Placing Drawings.

C. Reinforcing steel shall be stored off the ground and kept free from dirt, oil, or other injurious contaminants

PART 2 PRODUCTS

2.01 MATERIALS

A. Materials shall be new, of domestic manufacture and shall comply with the following material specifications.

B. Deformed Concrete Reinforcing Bars: ASTM A615, Grade 60 deformed bars.

C. Concrete Reinforcing Bars required on the Drawings to be Welded: ASTM A706.

D. Welded Steel Wire Fabric: ASTM A185. Provide in flat sheets.

E. Welded Deformed Steel Wire Fabric: ASTM A497.

F. Welded Plain Bar Mats: ASTM A704 and ASTM A615 Grade 60 plain bars.

G. Fabricated Deformed Steel Bar Mats: ASTM A184 and ASTM A615 Grade 60 deformed bars.

H. The following alternate materials are allowed:

1. ASTM A615 Grade 60 may be used for ASTM A706 provided the following requirements are satisfied:

I. The actual yield strength of the reinforcing steel based on mill tests shall not exceed the specified yield strength by more than 18,000 psi. Retests shall not exceed this value by more than an additional 3000 psi.

J. The ratio of the actual ultimate tensile strength to the actual tensile yield strength of the reinforcement shall not be less than 1.25.

K. The carbon equivalency (CE) of bars shall be 0.55 or less.

L. Reinforcing Steel Accessories

1. Plastic Protected Bar Supports: CRSI Bar Support Specifications, Class 1 - Maximum Protection.
2. Stainless Steel Protected Bar Supports: CRSI Bar Support Specifications, Class 2 - Moderate Protection.
3. Precast Concrete Block Bar Supports: CRSI Bar Support Specifications, Precast Blocks. Blocks shall have equal or greater strength than the surrounding concrete.
4. Steel Protected Bar Supports: #4 Steel Chairs with plastic or rubber tips.

M. Tie Wire

1. Tie Wires for Reinforcement shall be 16-gauge or heavier, black annealed wire or stranded wire.

N. Mechanical reinforcing steel butt splices shall be positive connecting taper threaded type employing a hexagonal coupler such as Lenton rebar splices as manufactured by Erico Products Inc., Solon, OH or equal. They shall meet all ACI 318 Building Code requirements. Bar ends must be taper threaded with coupler manufacturer's bar threader to ensure proper taper and thread engagement. Bar couplers shall be torqued to manufacturer's recommended value.

1. Unless otherwise noted on the Drawings, mechanical tension splices shall be designed to produce a splice strength in tension or compression of not less than 125 percent of the ASTM specified minimum yield strength of the rebar.
2. Compression type mechanical splices shall provide concentric bearing from one bar to the other bar and shall be capable of developing the ultimate strength of the rebar in compression.

O. Fiber Reinforcement

1. Synthetic reinforcing fiber for concrete shall be 100 percent polypropylene collated, fibrillated fibers as manufactured by Propex Concrete Systems Chattanooga, TN - Propex or equal. Fiber length and quantity for the concrete mix shall be in strict compliance with the manufacturer's recommendations as approved by the Engineer.

2.02 FABRICATION

A. Fabrication of reinforcement shall be in compliance with the CRSI Manual of Standard Practice.

B. Bars shall be cold bent. Bars shall not be straightened or rebent.

C. Bars shall be bent around revolving collar having a diameter of not less than that recommended by the ACI 318.

D. Bar ends that are to be butt spliced, placed through limited diameter holes in metal, or threaded, shall have the applicable end(s) saw-cut. Such ends shall terminate in flat surfaces within 1-1/2 degrees of a right angle to the axis of the bar.

PART 3 EXECUTION

3.01 INSTALLATION

A. Surface condition, bending, spacing and tolerances of placement of reinforcement shall comply with the CRSI Manual of Standard Practice. The Contractor shall be solely responsible for providing and adequate number of bars and maintaining the spacing and clearances shown on the Drawings.

B. Except as otherwise indicated on the Drawings, the minimum concrete cover of reinforcement shall be as follows:
1. Concrete cast against and permanently exposed to earth: 3-in
2. Concrete exposed to soil, water, sewage, sludge and/or weather: 2-in

(Including bottom cover of slabs over water or sewage)

3. Concrete not exposed to soil, water, sewage, sludge and/or weather:
   a. Slabs (top and bottom cover), walls, joists, shells and folded plate members – 3/4 in.

C. Reinforcement which will be exposed for a considerable length of time after being placed shall be coated with a heavy coat of neat cement slurry.

D. No reinforcing steel bars shall be welded either during fabrication or erection unless specifically shown on the Drawings or specified herein, or unless prior written approval has been obtained from the Engineer. All bars that have been welded, including tack welds, without such approval shall be immediately removed from the work. When welding of reinforcement is approved or called for, it shall comply with AWS D1.4.

E. Reinforcing steel interfering with the location of other reinforcing steel, conduits or embedded items, may be moved within the specified tolerances or one bar diameter, whichever is greater. Greater displacement of bars to avoid interference shall only be made with the approval of the Engineer. Do not cut reinforcement to install inserts, conduits, mechanical openings or other items without the prior approval of the Engineer.

F. Securely support and tie reinforcing steel to prevent movement during concrete placement. Secure dowels in place before placing concrete.

G. Reinforcing steel bars shall not be field bent except where shown on the Drawings or specifically authorized in writing by the Engineer. If authorized, bars shall be cold-bent around the standard diameter spool specified in the CRSI. Do not heat bars. Closely inspect the reinforcing steel for breaks. If the reinforcing steel is damaged, replace, Cadweld or otherwise repair as directed by the Engineer. Do not bend reinforcement after it is embedded in concrete unless specifically shown otherwise on the Drawings.

3.02 REINFORCEMENT AROUND OPENINGS

A. Unless specific additional reinforcement around openings is shown on the Drawings, provide additional reinforcing steel on each side of the opening equivalent to one half of the cross-sectional area of the reinforcing steel interrupted by an opening. The bars shall have sufficient length to develop bond at each end beyond the opening or penetration.

3.03 SPLICING OF REINFORCEMENT

A. Splices designated as compression splices on the Drawings, unless otherwise noted, shall be 30 bar diameters, but not less than 12-in. The lap splice length for column vertical bars shall be based on the bar size in the column above.

B. Tension lap splices shall be provided at all laps in compliance with ACI 318. Splices in adjacent bars shall be staggered. Class A splices may be used when 50 percent or less of the bars are spliced within the required lap length. Class B splices shall be used at all other locations.

C. Splicing of reinforcing steel in concrete elements noted to be "tension members" on the Drawings shall be avoided whenever possible. However, if required for

constructability, splices in the reinforcement subject to direct tension shall be welded to develop, in tension, at least 125 percent of the specified yield strength of the bar. Splices in adjacent bars shall be offset the distance of a Class B splice.

D. Install wire fabric in as long lengths as practicable. Wire fabric from rolls shall be rolled flat and firmly held in place. Splices in welded wire fabric shall be lapped in accordance with the requirements of ACI-318 but not less than 12-in. The spliced fabrics shall be tied together with wire ties spaced not more than 24-in on center and laced with wire of the same diameter as the welded wire fabric. Do not position laps midway between supporting beams, or directly over beams of continuous structures. Offset splices in adjacent widths to prevent continuous splices.

E. Mechanical reinforcing steel splicers shall be used only where shown on the Drawings. Splices in adjacent bars shall be offset by at least 30 bar diameters. Mechanical reinforcing splices are only to be used for special splice and dowel conditions approved by the Engineer.

3.04 ACCESSORIES

A. Determine, provide and install accessories such as chairs, chair bars and the like in sufficient quantities and strength to adequately support the reinforcement and prevent its displacement during the erection of the reinforcement and the placement of concrete.

B. Use precast concrete blocks where the reinforcing steel is to be supported over soil.

C. Stainless steel bar supports or steel chairs with stainless steel tips shall be used where the chairs are set on forms for a concrete surface that will be exposed to weather, high humidity, or liquid (including bottom of slabs over liquid containing areas). Use of galvanized or plastic tipped metal chairs is permissible in all other locations unless otherwise noted on the Drawings or specified herein.

D. Alternate methods of supporting top steel in slabs, such as steel channels supported on the bottom steel or vertical reinforcing steel fastened to the bottom and top mats, may be used if approved by the Engineer.

3.05 INSPECTION

A. In no case shall any reinforcing steel be covered with concrete until the installation of the reinforcement, including the size, spacing and position of the reinforcement has been observed by the Engineer and the Engineer's release to proceed with the concreting has been obtained. The Engineer shall be given ample prior notice of the readiness of placed reinforcement for observation. The forms shall be kept open until the Engineer has finished his/her observations of the reinforcing steel.

END OF SECTION

SECTION 03250 - CONCRETE JOINTS AND JOINT ACCESSORIES

PART 1 GENERAL

1.01 SCOPE OF WORK

A. Furnish all labor, materials, equipment and incidentals required and install accessories for concrete joints as shown on the Drawings and as specified herein

1.02 RELATED WORK

A. Concrete Formwork is included in Section 03100.

B. Concrete Reinforcement is included in Section 03200.

C. Cast-In-Place Concrete is included in Section 03300.

D. Grout is included in Section 03600.

1.03 SUBMITTALS

A. Certifications

1. Certification that all materials used within the joint system is compatible with each other.

1.04 REFERENCE STANDARDS

A. American Society for Testing and Materials (ASTM)

1. ASTM A675 – Standard Specification for Steel Bars, Carbon, Hot-Wrought, Special Quality, Mechanical Properties.
2. ASTM C881 - Standard Specification for Epoxy-Resin-Base Bonding Systems for Concrete.
3. ASTM C1059 - Standard Specification for Latex Agents for Bonding Fresh to Hardened Concrete.
4. ASTM D1751 - Standard Specification for Preformed Expansion Joint Fillers for Concrete Paving and Structural Construction. (Nonextruding and Resilient Bituminous Types).
5. ASTM D1752 - Standard Specification for Preformed Sponge Rubber and Cork Expansion Joint Fillers for Concrete Paving and Structural Construction.

B. U.S. Army Corps of Engineers (CRD)
1. CRD C572 – Specification for Polyvinylchloride Waterstops.

C. Federal Specifications
1. FS SS-S-210A - Sealing Compound for Expansion Joints.

D. Where reference is made to one of the above standards, the revision in effect at the time of bid opening shall apply.

PART 2 PRODUCTS

2.01 GENERAL

A. The use of manufacturer's name and model or catalog number is for the purpose of establishing the standard of quality and general configuration desired.

B. All materials used together in a given joint (bond breakers, backer rods, joint fillers, sealants, etc.) shall be compatible with one another. Coordinate selection of suppliers and produce to ensure compatibility. Under no circumstances shall asphaltic bond breakers or joint fillers be used in joints receiving sealant.

C. All chemical sealant type waterstops shall be products specifically manufactured for the purpose for which they will be used and the products shall have been successfully used on similar structures for more than five years.

2.02 MATERIALS

A. Standard Waterstops

1. PVC Waterstops - The waterstop shall be made by extruding elastomeric plastic compound with virgin polyvinylchloride as the basic resins. The compound shall contain no reprocessed materials. Minimum tensile strength of waterstop shall be 1750 psi. The waterstop shall conform to CRD-C572. The waterstop shall be Greenstreak Group, Inc. model No. 679 or approved equal for construction joints. The waterstop shall be Greenstreak Group Inc. model No.732 or approved equal for control joints and Greenstreak Group Inc. Model No. 738 for expansion joints. Provide grommets or pre-punched holes spaced at 12 inches on center along length of waterstop.
2. Factory Fabrications: Provide factory made waterstop fabrications for all changes of direction, transitions, and intersections, leaving only straight butt joints of sufficient length for splicing in the field.

B. Special Waterstops

1. Base Seal PVC Waterstop - The waterstop shall be made by extruding elastomeric plastic compound with virgin polyvinylchloride as the basic resins. The compound shall contain no reprocessed materials. Minimum tensile strength of waterstop shall be 1750 psi. The waterstop shall conform to CRD-C572. Waterstops shall be style 925 for expansion joints, style 928 for control joints, and style 927 for construction joints by Greenstreak Plastic Products, St. Louis, MO or equal.

2. HYDROPHILLIC WATERSTOP (SWELLING) – HYDROTITE AS MANUFACTURED BY SIKA GREENSTREAK, OR APPROVED EQUAL.

3. Preformed adhesive waterstops - The waterstop shall be a rope type preformed plastic waterstop meeting the requirements of Federal Specification SS-S-210A. The rope shall have a cross-section of approximately one square inch unless otherwise specified or shown on the Drawings. The waterstop shall be Synko-

Flex waterstop as manufactured by Synko-Flex Products of Houston, TX, Lockstop by Greenstreak Group Inc., or approved equal. Primer for the material shall be as recommended by the waterstop manufacturer.

C. Pre-molded Joint Filler

1. Pre-molded joint filler - Structures. Self-expanding cork, pre-molded joint filler shall conform to ASTM D1752, Type III. The thickness shall be 3/4-in unless shown otherwise on the Drawings.

2. Pre-molded joint filler - sidewalk and roadway concrete pavements or where fiber joint filler is specifically noted on the Drawings. The joint filler shall be asphalt-impregnated fiber board conforming to ASTM D1751. Thickness shall be 3/4-in unless otherwise shown on the Drawings.

D. Bond Breaker

1. Bond breaker tape shall be an adhesive-backed glazed butyl or polyethylene tape which will satisfactorily adhere to the pre-molded joint filler or concrete surface as required. The tape shall be the same width as the joint.

2. Except where tape is specifically called for on the drawings, bond breaker for concrete shall be either bond breaker tape or a non-staining type bond prevention coating such as Williams Tilt-up Compound by Williams Distributors Inc.; Silcoseal 77, by SCA Construction Supply Division, Superior Concrete Accessories or equal.

E. Expansion Joint Dowels

1. Dowels shall be smooth steel conforming to ASTM A675, Grade 70. Dowels must be straight and clean, free of loose flaky rust and loose scale. Dowels may be sheared to length provided deformation from true shape caused by shearing does not exceed 0.04-in on the diameter of the dowel and extends no more than 0.04-in from the end. Bars shall be coated with a bond breaker on the expansion end of the dowel. Expansion caps shall be provided on the expansion end. Caps shall allow for at least 1-1/2-in of expansion.
2. Dowel Bar Sleeves: Provide Greenstreak two component Speed Dowel System, to accept 1" diameter x 12" long slip dowels. The Greenstreak Group, Inc. Speed Dowel System is comprised of a reusable base and a plastic sleeve. Both pieces shall be manufactured from polypropylene plastic.

F. Bonding Agent

1. Epoxy bonding agent shall be a two-component, solvent-free, moisture insensitive, epoxy resin material conforming to ASTM C881, Type II. The bonding agent shall be Sikadur 32 Hi-Mod by Sika Corporation of Lyndhurst, N.J.; Concresive Liquid (LPL) by Master Builders of Cleveland, OH or equal. Acrylic may be used if approved by the Engineer.

G. Compressible Joint Filler

1. The joint filler shall be a non-extruded watertight strip material use to fill expansion joints between structures. The material shall be capable of being compressed at least 40 percent for 70 hours at 68 degrees F and subsequently recovering at least 20 percent of its original thickness in the first 1/2 hour after unloading. Compressible Joint filler shall be Evasote 380 E.S.P, by E-Poxy Industries, Inc., Ravena, NY, Sikaflex 1a by Sika or equal.

PART 3 EXECUTION

3.01 INSTALLATION

A. Standards Waterstops

1. Install waterstops for all joints where indicated on the Drawings. Waterstops shall be continuous around all corners and intersections so that a continuous seal is provided. Provide factory made waterstop fabrications for all changes in direction, intersections and transitions leaving only straight butt joints splices for the field.
2. Horizontal waterstops in slabs shall be clamped in position by the bulkhead (unless previously set in concrete).
3. Waterstops shall be installed so that half of the width will be embedded on each side of the joint. Care shall be exercised to ensure that the waterstop is completely embedded in void-free concrete.
4. Waterstops shall be terminated 3-in below the exposed top of walls. Expansion joint waterstop center bulbs shall be plugged with foam rubber, 1-in deep, at point of termination.

B. Construction Joints

1. Make construction joints only at locations shown on the Drawings or as approved by the Engineer. Any additional or relocation of construction joints proposed by the Contractor, must be submitted to the Engineer for written approval.
2. Additional or relocated joints should be located where they least impair strength of the member. In general, locate joints within the middle third of spans of slabs, beams and girders. However, if a beam intersects a girder at the joint, offset the joint a distance equal to twice the width of the member being connected. Locate joints in walls and columns at the underside of floors, slabs, beams or girders and at tops of footings or floor slabs. Do not locate joints between beams, girders, column capitals, or drop panels and the slabs above them. Do not locate joints between brackets or haunches and walls or columns supporting them.
3. All joints shall be perpendicular to main reinforcement. Continue reinforcing steel through the joint as indicated on the Drawings. When joints in beams are allowed, provide a shear key and inclined dowels as approved by the Engineer.
4. Provide sealant grooves for joint sealant where indicated on the Drawings.
5. At all construction joints and at concrete joints designated on the Drawings to be "roughened", uniformly roughen the surface of the concrete to a full amplitude (distance between high and low points or side to side) of approximately 1/4-in to expose a fresh face. Thoroughly clean joint surfaces of loose or weakened

materials by water-blasting or sandblasting and prepare for bonding

6. Keyways shall not be used in construction joints unless specifically shown on the Drawings or approved by the Engineer.

C. Expansion Joints

1. Do not extend through expansion joints, reinforcement or other embedded metal items that are continuously bonded to concrete on each side of joint.
2. Position pre-molded joint filler material accurately. Secure the joint filler against displacement during concrete placement and compaction. Place joint filler over the face of the joint, allowing for sealant grooves as detailed on the Drawings. Tape all joint filler splices to prevent intrusion ofmortar. Seal expansion joints as shown on the Drawings.
3. Expansion joints shall be 3/4-in in width unless otherwise noted on the Drawings.
4. Where indicated on Drawings, install smooth dowels at right angles to expansion joints. Align dowels accurately with finished surface. Rigidly hold in place and support during concrete placement. Unless otherwise shown on the Drawings, apply oil or grease to one end of all dowels through expansion joints. Provide plastic expansion caps on the lubricated ends of expansion dowels.

D. Control Joints

1. Provide sealant grooves, sealants and waterstops at control joints in slabs on grade or walls as detailed. Provide waterstops at all wall and slab control joints in water containment structures and at other locations shown on the Drawings.
2. Control joints may be sawed if specifically approved by the Engineer. If control joint grooves are sawed, properly time the saw cutting with the time of the concrete set. Start cutting as soon as concrete has hardened sufficiently to prevent aggregates from being dislodged by the saw. Complete cutting before shrinkage stresses have developed sufficiently to induce cracking. No reinforcing shall be cut during sawcutting.
3. Extend every other bar of reinforcing steel through control joints or as indicated on the Drawings. Where specifically noted on the Drawings, coat the concrete surface with a bond breaker prior to placing new concrete against it. Avoid coating reinforcement or waterstops with bond breaker at these locations.

END OF SECTION

SECTION 03300 - CAST-IN-PLACE CONCRETE

PART 1 GENERAL

1.01 SCOPE OF WORK

A. Furnish all labor and materials required and install cast-in-place concrete complete as shown on the Drawings and as specified herein.

1.02 RELATED WORK

A. Concrete Formwork is included in Section 03100.

B. Concrete Reinforcement is included in Section 03200.

C. Concrete Joints and Joint Accessories are included in Section 03250.

D. Grout is included in Section 03600.

1.03 SUBMITTALS

A. Submit to the Engineer shop drawings and product data including the following:

1. Sources of cement, pozzolan and aggregates.
2. Material Safety Data Sheets (MSDS) for all concrete components and admixtures.
3. Air-entraining admixture. Product data including catalogue cut, technical data, storage requirements, product life, recommended dosage, temperature considerations and conformity to ASTM standards.
4. Water-reducing admixture. Product data including catalogue cut, technical data, storage requirements, product life, recommended dosage, temperature considerations and conformity to ASTM standards.
5. High-range water-reducing admixture (plasticizer). Product data including catalogue cut, technical data, storage requirements, product life, recommended dosage, temperature considerations, retarding effect, slump range and conformity to ASTM standards. Identify proposed locations of use.
6. Concrete mix for each formulation of concrete proposed for use including constituent quantities per cubic yard, water-cementitious materials ratio, concrete slump, type and manufacturer of cement. Provide either a. or b. below for each mix proposed.
   A. Standard deviation data for each proposed concrete mix based on statistical records.
   B. The curve of water-cementitious materials ratio versus concrete cylinder strength for each formulation of concrete proposed based on laboratory tests. The cylinder strength shall be the average of the 28 day cylinder strength test results for each mix. Provide results of 7 and 14 day tests if available.
7. Sheet curing material. Product data including catalogue cut, technical data and conformity to ASTM standard.
8. Liquid curing compound. Product data including catalogue cut, technical data,

storage requirements, product life, application rate and conformity to ASTM standards. Identify proposed locations of use.

B. Samples

1. Fine and coarse aggregates if requested by the Engineer.

C. Test Reports

1. Fine aggregates – sieve analysis, physical properties, and deleterious substance.
2. Coarse aggregates – sieve analysis, physical properties, and deleterious substances.
3. Cements – chemical analysis and physical properties for each type.
4. Pozzolans – chemical analysis and physical properties.
5. Proposed concrete mixes – compressive strength, slump and air content.

D. Certifications

1. Certify admixtures used in the same concrete mix are compatible with each other and the aggregates.
2. Certify admixtures are suitable for use in contact with potable water after 30 days of concrete curing.
3. Certify curing compound is suitable for use in contact with potable water after 30 days (non-toxic and free of taste or odor).

1.04 REFERENCE STANDARDS

A. American Society for Testing and Materials (ASTM)

1. ASTM C31 – Standard Practice for Making and Curing Concrete Test Specimens in the Field.
2. ASTM C33 - Standard Specification for Concrete Aggregates.
3. ASTM C39 - Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens.
4. ASTM C42 - Standard Test Method for Obtaining and Testing Drilled Cores and Sawed Beams of Concrete.
5. ASTM C94 - Standard Specification for Ready-Mixed Concrete.
6. ASTM C143 - Standard Test Method for Slump of Hydraulic Cement Concrete
7. ASTM C150 - Standard Specification for Portland Cement
8. ASTM C171 - Standard Specification for Sheet Materials for Curing Concrete
9. ASTM C173 - Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method.
10. ASTM C231 - Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method.
11. ASTM C260 - Standard Specification for Air-Entraining Admixtures for Concrete.
12. ASTM C309 - Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete.

13. ASTM C494 - Standard Specification for Chemical Admixtures for Concrete.
14. ASTM C618 - Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use as a Mineral Admixture in Concrete.
15. ASTM C1017 - Standard Specification for Chemical Admixtures for use in Producing Flowing Concrete.

B. American Concrete Institute (ACI).

1. ACI 304 - Guide for Measuring, Mixing, Transporting and Placing Concrete.
2. ACI 305 - Hot Weather Concreting.
3. ACI 306.1 - Standard Specification for Cold Weather Concreting.
4. ACI 318 - Building Code Requirements for Structural Concrete.
5. ACI 350 - Environmental Engineering Concrete Structures.
6. Where reference is made to one of the above standards, the revision in effect at the time of bid opening shall apply.

1.05 QUALITY ASSURANCE

A. Reinforced concrete shall comply with ACI 318, the recommendations of ACI 350R and other stated requirements, codes and standards. The most stringent requirement of the codes, standards and this Section shall apply when conflicts exist.

B. Only one source of cement and aggregates shall be used on any one structure. Concrete shall be uniform in color and appearance.

C. Well in advance of placing concrete, discuss with the Engineer the sources of individual materials and batched concrete proposed for use. Discuss placement methods, waterstops and curing. Propose methods of hot and cold weather concreting as required. Prior to the placement of any concrete containing a high- range water-reducing admixture (plasticizer), the Contractor, accompanied by the plasticizer manufacturer, shall discuss the properties and techniques of batching and placing plasticized concrete.

D. If, during the progress of the work, it is impossible to secure concrete of the required workability and strength with the materials being furnished, the Engineer may order such changes in proportions or materials, or both, as may be necessary to secure the desired properties. All changes so ordered shall be made at the Contractor's expense.

E. If, during the progress of the work, the materials from the sources originally accepted change in characteristics, the Contractor shall, at his/her expense, make new acceptance tests of aggregates and establish new design mixes.

F. Testing of the following materials shall be furnished by Contractor to verify conformity with this Specification Section and the stated ASTM Standards.

1. Fine aggregates for conformity with ASTM C33 - sieve analysis, physical properties, and deleterious substances.
2. Coarse aggregates for conformity with ASTM C33 - sieve analysis, physical properties, and deleterious substances.

3. Cements for conformity with ASTM C150 - chemical analysis and physical properties.
4. Pozzolans for conformity with ASTM C618 - chemical analysis and physical properties.
5. Proposed concrete mix designs - compressive strength, slump and air content.

G. Field testing and inspection services will be provided by the Owner. The cost of such work, except as specifically stated otherwise, shall be paid by the Owner. Testing of the following items shall be by the Owner to verify conformity with this Specification Section.

1. Concrete placements - compressive strength (cylinders), compressive strength (cores), slump, and air content.
2. Other materials or products that may come under question.

H. All materials incorporated in the work shall conform to accepted samples.

1.06 DELIVERY, STORAGE AND HANDLING

A. Cement: Store in weather-tight buildings, bins or silos to provide protection from dampness and contamination and to minimize warehouse set.

B. Aggregate: Arrange and use stockpiles to avoid excessive segregation or contamination with other materials or with other sizes of like aggregates. Build stockpiles in successive horizontal layers not exceeding 3-ft in thickness. Complete each layer before the next is started. Do not use frozen or partially frozen aggregate.

C. Sand: Arrange and use stockpiles to avoid contamination. Allow sand to drain to uniform moisture content before using. Do not use frozen or partially frozen aggregates.

D. Admixtures: Store in closed containers to avoid contamination, evaporation or damage. Provide suitable agitating equipment to assure uniform dispersion of ingredients in admixture solutions which tend to separate. Protect liquid admixtures from freezing and other temperature changes which could adversely affect their characteristics.

E. Pozzolan: Store in weather-tight buildings, bins or silos to provide protection from dampness and contamination.

F. Sheet Curing Materials: Store in weather-tight buildings or off the ground and under cover.

G. Liquid Curing Compounds: Store in closed containers.

PART 2 PRODUCTS

2.01 GENERAL

A. The use of manufacturer's name and model or catalog number is for the purpose of establishing the standard of quality and general configuration desired.

B. Cement: U.S. made Portland cement complying with ASTM C150. Air entraining cements shall not be used. Cement brand shall be subject to approval by the Engineer and one brand shall be used throughout the work.

2.02 MATERIALS

A. Materials shall comply with this Section and any applicable State or local requirements.

B. Cement: The following cement type(s) shall be used:

1. All Classes – Type I/II or Type II

C. Fine Aggregate: Washed inert natural sand conforming to the requirements of ASTM C33.

D. Coarse Aggregate: Well-graded crushed stone or washed gravel conforming to the requirements of ASTM C33. Grading requirements shall be as listed in ASTM C33 Table 2 for the specified coarse aggregate size number. Limits of Deleterious Substances and Physical Property Requirements shall be as listed in ASTM C33 Table 3 for severe weather regions. Size numbers for the concrete mixes shall be as shown in Table 1 herein.

E. Water: Potable water free from injurious amounts of oils, acids, alkalis, salts, organic matter, or other deleterious substances.

F. Admixtures: Admixtures shall be free of chlorides and alkalis (except for those attributable to water). When it is required to use more than one admixture in a concrete mix, the admixtures shall be from the same manufacturer. Admixtures shall be compatible with the concrete mix including other admixtures and shall be suitable for use in contact with potable water after 30 days of concrete curing.

1. Air-Entraining Admixture: The admixture shall comply with ASTM C260. Proportioning and mixing shall be in accordance with manufacturer's recommendations.
2. Water-Reducing Agent: The admixture shall comply with ASTM C494, Type A. Proportioning and mixing shall be in accordance with manufacturer's recommendations.
3. High-Range Water-Reducer (Plasticizer): The admixture shall comply with ASTM C494, Type F and shall result in non-segregating plasticized concrete with little bleeding and with the physical properties of low water/cement ratio concrete. The treated concrete shall be capable of maintaining its plastic state in excess of 2 hours. Proportioning and mixing shall be in accordance with manufacturer's recommendations. Where walls are 14" thick or less and the wall height exceeds 12 ft a mix including a plasticizer must be used.
4. Admixtures causing retarded or accelerated setting of concrete shall not be used without written approval from the Engineer. When allowed, the admixtures shall be retarding or accelerating water reducing or high range water reducing admixtures.

G. Pozzolan (Fly Ash): Pozzolan shall be Class C or Class F fly ash complying with ASTM C618 except the Loss on Ignition (LOI) shall be limited to 3 percent maximum.

H. Sheet Curing Materials. Waterproof paper, polyethylene film or white burlap-polyethylene sheeting all complying with ASTM C171.

I. Liquid Curing Compound. Liquid membrane-forming curing compound shall comply with the requirements of ASTM C309, Type 1-D (clear or translucent with fugitive dye) and shall contain no wax, paraffin, or oil. Curing compound shall comply with Federal, State and local VOC limits.

2.03 MIXES

A. Development of mix designs and testing shall be by an independent testing laboratory acceptable to the Engineer engaged by and at the expense of the Contractor.

B. Select proportions of ingredients to meet the design strength and materials limits specified in Table 1 and to produce concrete having proper placability, durability, strength, appearance and other required properties. Proportion ingredients to produce a homogenous mixture which will readily work into corners and angles of forms and around reinforcement without permitting materials to segregate or allowing excessive free water to collect on the surface.

C. The design mix shall be based on standard deviation data of prior mixes with essentially the same proportions of the same constituents or, if such data is not available, be developed by a testing laboratory, acceptable to the Engineer, engaged by and at the expense of the Contractor. Acceptance of mixes based on standard deviation shall be based on the modification factors for standard deviation tests contained in ACI 318. The water content of the concrete mix, determined by laboratory testing, shall be based on a curve showing the relation between water cementitious ratio and 7 and 28 day compressive strengths of concrete made using the proposed materials. The curves shall be determined by four or more points, each representing an average value of at least three test specimens at each age. The curves shall have a range of values sufficient to yield the desired data, including the specified design strengths as modified below, without extrapolation. The water content of the concrete mixes to be used, as determined from the curve, shall correspond to strengths 16 percent greater than the specified design strengths. The resulting mix shall not conflict with the limiting values for maximum water cementitious ratio and net minimum cementitious content as specified in Table 1.

D. Compression Tests: Provide testing of the proposed concrete mix or mixes to demonstrate compliance with the specified design strength requirements in conformity with the above paragraph.

E. Entrained air, as measured by ASTM C231, shall be as shown in Table 1.

1. If the air-entraining agent proposed for use in the mix requires testing methods other than ASTM C231 to accurately determine air content, make special note of this requirement in the admixture submittal.

F. Slump of the concrete as measured by ASTM C143, shall be as shown in Table 1. If a high-range water-reducer (plasticizer) is used, the slump indicated shall be that measured before plasticizer is added. Plasticized concrete shall have a slump ranging from 5 to 8-in.

G. Proportion admixtures according to the manufacturer's recommendations. Two or more admixtures specified may be used in the same mix provided that the admixtures in combination retain full efficiency and have no deleterious effect on the concrete or on the properties of each other.

TABLE 1

CONCRETE MIX REQUIREMENTS

Class	Design Strength (1)	Cement (2)	Fine Aggregate (2)	Coarse Aggregate (3)	Cementitious Content (4)
A	2500	C150 Type II	C33	57	440 min.
B	3000	C150 Type II	C33	57	480 min.
C	4000	C150 Type II	C33	57	560 min.
D	5000	C150 Type II	C33	57	600 min.

(5)	W/cm Ratio	Fly Ash (6)	AE Range (7)	WR	HRWR (8)	Slump Class Range Inches
A	0.63 max.	--	3.5 to 5	Yes	*	1-4
B	0.54 max.	--	3.5 to 5	Yes	*	1-3
C	0.44 max.	25% max	3.5 to 5	Yes	*	3-5
D	0.40 max.	--	3.5 to 5	Yes	*	3-5

NOTES:

(1) Minimum compressive strength in psi at 28 days
(2) ASTM designation
(3) Size Number in ASTM C33
(4) Cementitious content in lbs/cu yd
(5) W/Cm is Water-Cementitious ratio by weight
(6) AE is percent air-entrainment
(7) WR is water-reducer admixture

(8) HRWR is high-range water-reducer admixture

* HRWR used at contractor's option except where walls are 14" thick or less and the wall height exceeds 12 ft a mix including a plasticizer must be used.

PART 3 EXECUTION

3.01 MEASURING MATERIALS

A. Concrete shall be composed of portland cement, fine aggregate, coarse aggregate, water and admixtures as specified and shall be produced by a plant acceptable to the Engineer. All constituents, including admixtures, shall be batched at the plant except a high-range water-reducer may also be added in the field.

B. Measure materials for batching concrete by weighing in conformity with and within the tolerances given in ASTM C94 except as otherwise specified. Scales shall have been certified by the local Sealer of Weights and Measures within 1 year of use.

C. Measure the amount of free water in fine aggregates within 0.3 percent with a moisture meter. Compensate for varying moisture contents of fine aggregates. Record the number of gallons of water as-batched on printed batching tickets.

D. Admixtures shall be dispensed either manually using calibrated containers or measuring tanks, or by means of an automatic dispenser approved by the manufacturer of the specific admixture.

1. Charge air-entraining and chemical admixtures into the mixer as a solution using an automatic dispenser or similar metering device.
2. Inject multiple admixtures separately during the batching sequence.

3.02 MIXING AND TRANSPORTING

A. Batch plants shall have a current NRMCA Certification or equal.

B. Concrete shall be ready-mixed concrete produced by equipment acceptable to the Engineer. No hand-mixing will be permitted. Clean each transit mix truck drum and reverse drum rotation before the truck proceeds under the batching plant. Equip each transit-mix truck with a continuous, nonreversible, revolution counter showing the number of revolutions at mixing speeds.

C. Ready-mix concrete shall be transported to the site in watertight agitator or mixer trucks loaded not in excess of their rated capacities as stated on the nameplate.

D. Keep the water tank valve on each transit truck locked at all times. Any addition of water above the appropriate W/Cm ratio must be directed by the Engineer. Added water shall be incorporated by additional mixing of at least 35 revolutions. All added water shall be metered and the amount of water added shall be shown on each delivery ticket.

E. All central plant and rolling stock equipment and methods shall comply with ACI 318 and ASTM C94.

F. Select equipment of size and design to ensure continuous flow of concrete at the delivery end. Metal or metal-lined non-aluminum discharge chutes shall be used and shall have slopes not exceeding 1 vertical to 2 horizontal and not less than 1 vertical to 3 horizontal. Chutes more than 20-ft long and chutes not meeting slope requirements may be used if concrete is discharged into a hopper before distribution.

G. Retempering (mixing with or without additional cement, aggregate, or water) of concrete or mortar which has reached initial set will not be permitted.

H. Handle concrete from mixer to placement as quickly as practicable while providing concrete of required quality in the placement area. Dispatch trucks from the batching plant so they arrive at the work site just before the concrete is required, thus avoiding excessive mixing of concrete while waiting or delays in placing successive layers of concrete in the forms.

I. Furnish a delivery ticket for ready mixed concrete to the Engineer as each truck arrives. Each ticket shall provide a printed record of the weight of cement and each aggregate as batched individually. Use the type of indicator that returns for zero punch or returns to zero after a batch is discharged. Clearly indicate the weight of fine and coarse aggregate, cement and water in each batch, the quantity delivered, the time any water is added, and the numerical sequence of the delivery. Show the time of day batched and time of discharge from the truck. Indicate the number of revolutions of the truck mixer.

J. Temperature and Mixing Time Control

1. In cold weather, do not allow the as-mixed temperature of the concrete and concrete temperatures at the time of placement in the forms to drop below 40 degrees F.
2. If water or aggregate has been heated, combine water with aggregate in the mixer before cement is added. Do not add cement to mixtures of water and aggregate when the temperature of the mixture is greater than 90 degrees F.
3. In hot weather, cool ingredients before mixing to maintain temperature of the concrete below the maximum placing temperature of 90 degrees F. If necessary, substitute well-crushed ice for all or part of the mixing water.
4. The maximum time interval between the addition of mixing water and/or cement to the batch and the placing of concrete in the forms shall not exceed the values shown in Table 2.

TABLE 2 - MAXIMUM TIME TO DISCHARGE OF CONCRETE

Air or Concrete Temperature (whichever is higher)	Maximum Time 80 to
90 Degree F (27 to 32 Degree C)	45 minutes
70 to 79 Degree F (21 to 26 Degree C)	60 minutes
40 to 69 Degree F (5 to 20 Degree C)	90 minutes

If an approved high-range water-reducer (plasticizer) is used to produce plasticized concrete, the maximum time interval shall not exceed 90 minutes.

3.03 CONCRETE APPEARANCE

A. Concrete mix showing either poor cohesion or poor coating of the coarse aggregate with paste shall be remixed. If this does not correct the condition, the concrete shall be rejected. If the slump is within the allowable limit, but excessive bleeding, poor workability, or poor finishability are observed, changes in the concrete mix shall be obtained only by adjusting one or more of the following:

1. The gradation of aggregate.
2. The proportion of fine and coarse aggregate.
3. The percentage of entrained air, within the allowable limits.

B. Concrete for the work shall provide a homogenous structure which, when hardened, will have the required strength, durability and appearance. Mixtures and workmanship shall be such that concrete surfaces, when exposed, will require no finishing. When concrete surfaces are stripped, the concrete, when viewed in good lighting from 10-ft away, shall be pleasing in appearance, and at 20-ft shall show no visible defects.

3.04 PLACING AND COMPACTING

A. Placing

1. Verify that all formwork completely encloses concrete to be placed and is securely braced prior to concrete placement. Remove ice, excess water, dirt and other foreign materials from forms. Confirm that reinforcement and other embedded items are securely in place. Have a competent workman at the location of the placement who can assure that reinforcing steel and embedded items remain in designated locations while concrete is being placed. Sprinkle semi-porous subgrades or forms to eliminate suction of water from the mix. Seal extremely porous subgrades in an approved manner.
2. Deposit concrete as near its final position as possible to avoid segregation due to rehandling or flowing. Place concrete continuously at a rate which ensures the concrete is being integrated with fresh plastic concrete. Do not deposit concrete which has partially hardened or has been contaminated by foreign materials or on concrete which has hardened sufficiently to cause formation of seams or planes of weakness within the section. If the section cannot be placed continuously, place construction joints as specified or as approved.
3. Pumping of concrete will be permitted. Use a mix design and aggregate sizes suitable for pumping and submit for approval.
4. Remove temporary spreaders from forms when the spreader is no longer useful. Temporary spreaders may remain embedded in concrete only when made of galvanized metal or concrete and if prior approval has been obtained.
5. Do not place concrete for supported elements until concrete previously placed in the supporting element (columns, slabs and/or walls) has reached adequate strength.
6. Where surface mortar is to form the base of a finish, especially surfaces designated to be painted, work coarse aggregate back from forms with a suitable tool to bring the full surface of the mortar against the form. Prevent the formation of excessive surface voids.
7. Slabs

A. After suitable bulkheads, screeds and jointing materials have been positioned, the concrete shall be placed continuously between construction joints beginning at a bulkhead, edge form, or corner. Each batch shall be placed into the edge of the previously placed concrete to avoid stone pockets and segregation.

B. Avoid delays in casting. If there is a delay in casting, the concrete placed after the delay shall be thoroughly spaded and consolidated at the edge of that previously placed to avoid cold joints. Concrete shall then be brought to correct level and struck off with a straightedge. Bullfloats or darbies shall be used to smooth the surface, leaving it free of humps or hollows.

C. Where slabs are to be placed integrally with the walls below them, place the walls and compact as specified. Allow 1 hour to pass between placement of the wall and the overlying slab to permit consolidation of the wall concrete. Keep the top surface of the wall moist so as to prevent cold joints.

8. Formed Concrete

A. Place concrete in forms using tremie tubes and taking care to prevent segregation. Bottom of tremie tubes shall preferably be in contact with the concrete already placed. Do not permit concrete to drop freely more than 4-ft. Place concrete for walls in 12 to 24-in lifts, keeping the surface horizontal. If plasticized concrete is used, the maximum lift thickness may be increased to 4-ft.

9. Underwater concreting shall be performed in conformity with the recommendations of ACI 304R. The tremie system shall be used to place underwater concrete. Tremie pipes shall be in the range of 8 to 12-in in diameter and be spaced at not more than 16-ft on centers nor more than 8- ft from an end form. Where concrete is being placed around a pipe, there shall be at least one tremie pipe on each side of each pipe. Where the tremie system is not practical, direct pumped concrete for underwater placement may be used subject to approval of the system including details by the Engineer.

B. Compacting

1. Consolidate concrete by vibration, puddling, spading, rodding or forking so that concrete is thoroughly worked around reinforcement, embedded items and openings and into corners of forms. Puddling, spading, etc, shall be continuously performed along with vibration of the placement to eliminate air or stone pockets which may cause honeycombing, pitting or planes of weakness.

2. All concrete shall be placed and compacted with mechanical vibrators. The number, type and size of the units shall be approved by the Engineer in advance of placing operations. No concrete shall be ordered until sufficient approved vibrators (including standby units in working order) are on the job.

3. A minimum frequency of 7000 rpm is required for mechanical vibrators. Insert vibrators and withdraw at points from 18 to 30-in apart. At each insertion, vibrate sufficiently to consolidate concrete, generally from 5 to 15 seconds. Do not over vibrate so as to segregate. Keep a spare vibrator on the site during concrete placing operations.

4. Concrete Slabs: Concrete for slabs less than 8-in thick shall be consolidated with vibrating screeds; slabs 8 to 12-in thick shall be compacted with internal

vibrators and (optionally) with vibrating screeds. Vibrators shall always be placed into concrete vertically and shall not be laid horizontally or laid over.

5. Amount of Vibration: Vibrators are to be used to consolidate properly placed concrete but shall not be used to move or transport concrete in the forms. Vibration shall continue until:

   A. Frequency returns to normal.

   B. Surface appears liquefied, flattened and glistening.

   C. Trapped air ceases to rise.

   D. Coarse aggregate has blended into surface, but has not disappeared.

3.05 CURING AND PROTECTION

A. Protect all concrete work against injury from the elements and defacements of any nature during construction operations.

B. Curing Methods

1. Curing Methods for Concrete Surfaces: Cure concrete to retain moisture and maintain specified temperature at the surface for a minimum of 7 days after placement. Curing methods to be used are as follows:
   A. Water Curing: Keep entire concrete surface wet by ponding, continuous sprinkling or covered with saturated burlap. Begin wet cure as soon as concrete attains an initial set and maintain wet cure 24 hours a day.
   B. Sheet Material Curing: Cover entire surface with sheet material. Securely anchor sheeting to prevent wind and air from lifting the sheeting or entrapping air under the sheet. Place and secure sheet as soon as initial concrete set occurs.
   C. Liquid Membrane Curing: Apply over the entire concrete surface except for surfaces to receive additional concrete. Curing compound shall NOT be placed on any concrete surface where additional concrete is to be placed, where concrete sealers or surface coatings are to be used, or where the concrete finish requires an integral floor product. Curing compound shall be applied as soon as the free water on the surface has disappeared and no water sheen is visible, but not after the concrete is dry or when the curing compound can be absorbed into the concrete. Application shall be in compliance with the manufacturer's recommendations.
2. Specified applications of curing methods.
   A. Slabs on Grade and Footings (not used to contain water): Water curing, sheet material curing or liquid membrane curing.
   B. Structural Slabs (other than water containment): Water curing or liquid membrane curing.
   C. Horizontal Surfaces which will Receive Additional Concrete, Coatings, Grout or Other Material that Requires Bond to the substrate: Water curing.

D. Formed Surfaces: None if nonabsorbent forms are left in place 7 days. Water cure if absorbent forms are used. Sheet cured or liquid membrane cured if forms are removed prior to 7 days. Exposed horizontal surfaces of formed walls or columns shall be water cured for 7 days or until next placement of concrete is made.

E. Surfaces of Concrete Joints: Water cured or sheet material cured.

C. Finished surfaces and slabs shall be protected from the direct rays of the sun to prevent checking and crazing.

D. Cold Weather Concreting:

1. "Cold weather" is defined as a period when for more than 3 successive days, the average daily outdoor temperature drops below 40 degrees F. The average daily temperature shall be calculated as the average of the highest and the lowest temperature during the period from midnight to midnight.
2. Cold weather concreting shall conform to ACI 306.1 and the additional requirements specified herein. Temperatures at the concrete placement shall be recorded at 12 hour intervals (minimum).
3. Discuss a cold weather work plan with the Engineer. The discussion shall encompass the methods and procedures proposed for use during cold weather including the production, transportation, placement, protection, curing and temperature monitoring of the concrete. The procedures to be implemented upon abrupt changes in weather conditions or equipment failures shall also be discussed. Cold weather concreting shall not begin until the work plan is acceptable to the Engineer.
4. During periods of cold weather, concrete shall be protected to provide continuous warm, moist curing (with supplementary heat when required) for a total of at least 350 degree-days of curing.
   A. Degree-days are defined as the total number of 24 hour periods multiplied by the weighted average daily air temperature at the surface of the concrete (eg: 5 days at an average 70 degrees F = 350 degree-days).
   B. To calculate the weighted average daily air temperature, sum hourly measurements of the air temperature in the shade at the surface of the concrete taking any measurement less than 50 degrees F as 0 degrees F. Divide the sum thus calculated by 24 to obtain the weighted average temperature for that day.
5. Salt, manure or other chemicals shall not be used for protection.
6. The protection period for concrete being water cured shall not be terminated during cold weather until at least 24 hours after water curing has been terminated.

E. Hot Weather Concreting

1. "Hot weather" is defined as any combination of high air temperatures, low relative humidity and wind velocity which produces a rate of evaporation estimated in accordance with ACI 305R, approaching or exceeding 0.2 lbs/sqft/hr).
2. Concrete placed during hot weather, shall be batched, delivered, placed, cured and protected in compliance with the recommendations of ACI 305R and the

additional requirements specified herein.

A. Temperature of concrete being placed shall not exceed 90 degrees F and every effort shall be made to maintain a uniform concrete mix temperature below this level. The temperature of the concrete shall be such that it will cause no difficulties from loss of slump, flash set or cold joints.

B. All necessary precautions shall be taken to promptly deliver, to promptly place the concrete upon its arrival at the job and to provide vibration immediately after placement.

a. The Engineer may direct the Contractor to immediately cover plastic concrete with sheet material.

3. Discuss with the Engineer a work plan describing the methods and procedures proposed to use for concrete placement and curing during hot weather periods. Hot weather concreting shall not begin until the work plan is acceptable to the Engineer.

3.06 REMOVAL OF FORMS

A. Except as otherwise specifically authorized by the Engineer, forms shall not be removed before the concrete has attained a strength of at least 70 percent of its specified design strength for beams and slabs and at least 30 percent of its specified design strength for walls and vertical surfaces, nor before reaching the following number of day-degrees of curing (whichever is the longer)

TABLE 3 - MINIMUM TIME TO FORM REMOVAL

Forms for	Degree Days
Beams and slabs	500
Walls and vertical surfaces	100

(See definition of degree-days in Paragraph 3.05D above).

B. Shores shall not be removed until the concrete has attained at least 70 percent of its specified design strength and also sufficient strength to support safely its own weight and construction live loads.

3.07 INSPECTION AND FIELD TESTING

A. The batching, mixing, transporting, placing and curing of concrete shall be subject to the inspection of the Engineer at all times. The Contractor shall advise the Engineer of his/her readiness to proceed at least 24 hours prior to each concrete placement. The Engineer will inspect the preparations for concreting including the preparation of previously placed concrete, the reinforcing steel and the alignment, cleanliness and tightness of formwork. No placement shall be made without the inspection and acceptance of the Engineer.

B. Sets of field control cylinder specimens will be taken by the Engineer (or inspector) during the progress of the work, in compliance with ASTM C31. The number of sets of concrete test cylinders taken of each class of concrete placed each day shall not be less than one set per day, nor less than one set for each 150 cu yds of concrete nor less than one set for each 5,000 sq ft of surface area for slabs or walls.

1. A "set" of test cylinders consists of four cylinders: one to be tested at 7 days and

two to be tested and their strengths averaged at 28 days. The fourth may be used for a special test at 3 days or to verify strength after 28 days if 28 day test results are low.

2. When the average 28 day compressive strength of the cylinders in any set falls below the specified design strength or below proportional minimum 7 day strengths (where proper relation between seven and 28 day strengths have been established by tests), proportions, water content, or temperature conditions shall be changed to achieve the required strengths.

C. Cooperate in the making of tests by allowing free access to the work for the selection of samples, providing an insulated closed curing box for specimens, affording protection to the specimens against injury or loss through the operations and furnish material and labor required for the purpose of taking concrete cylinder samples. All shipping of specimens will be paid for by the Owner. Curing boxes shall be acceptable to the Engineer.

D. Slump tests will be made in the field immediately prior to placing the concrete. Such tests shall be made in accordance with ASTM C143. If the slump is greater the specified range, the concrete shall be rejected.

E. Air Content: Test for air content shall be made on fresh concrete samples. Air content for concrete made of ordinary aggregates having low absorption shall be made in compliance with either the pressure method complying with ASTM C231 or by the volumetric method complying with ASTM C173.

F. The Engineer may have cores taken from any questionable area in the concrete work such as construction joints and other locations as required for determination of concrete quality. The results of tests on such cores shall be the basis for acceptance, rejection or determining the continuation of concrete work.

G. Cooperate in obtaining cores by allowing free access to the work and permitting the use of ladders, scaffolding and such incidental equipment as may be required. Repair all core holes. The work of cutting and testing the cores will be at the expense of the Contractor.

H. See Specification Section 03900 for Leak Testing.

3.08 FAILURE TO MEET REQUIREMENTS

A. Should the strengths shown by the test specimens made and tested in compliance with the previous provisions fall below the values given in Table 1, the Engineer shall have the right to require changes in proportions outlined to apply to the remainder of the work. Furthermore, the Engineer shall have the right to require additional curing on those portions of the structure represented by the test specimens which failed. The cost of such additional curing shall be at the Contractor's expense. In the event that such additional curing does not give the strength required, as evidenced by core and/or load tests, the Engineer shall have the right to require strengthening or replacement of those portions of the structure which fail to develop the required strength. The cost of all such core borings and/or load tests and any strengthening or concrete replacement required because strengths of test specimens are below that specified, shall be entirely at the expense of the Contractor. In such cases of failure to meet strength requirements the

Contractor and Engineer shall confer to determine what adjustment, if any, can be made in compliance with Sections titled "Strength" and "Failure to Meet Strength Requirements" of ASTM C94. The "purchaser" referred to in ASTM C94 is the Contractor in this Section.

B. When the tests on control specimens of concrete fall below the specified strength, the Engineer will permit check tests for strengths to be made by means of typical cores drilled from the structure in compliance with ASTM C42 and C39. In the case of cores not indicating adequate strength, the Engineer, in addition to other recourses, may require, at the Contractor's expense, load tests on any one of the slabs, beams, piles, caps, and columns in which such concrete was used. Tests need not be made until concrete has aged 60 days.

C. Should the strength of test cylinders fall below 60 percent of the required minimum 28 day strength, the concrete shall be rejected and shall be removed and replaced.

3.09 PATCHING AND REPAIRS

A. It is the intent of this Section to require quality work including adequate forming, proper mixture and placement of concrete and curing so completed concrete surfaces will require no patching.

B. Defective concrete and honeycombed areas as determined by the Engineer shall be repaired as specified by the Engineer.

C. As soon as the forms have been stripped and the concrete surfaces exposed, fins and other projections shall be removed; recesses left by the removal of form ties shall be filled; and surface defects which do not impair structural strength shall be repaired. Clean all exposed concrete surfaces and adjoining work stained by leakage of concrete, to approval of the Engineer.

D. Immediately after removal of forms remove plugs and break off metal ties as required by Section 03100. Promptly fill holes upon stripping as follows: Moisten the hole with water, followed by a 1/16-in brush coat of neat cement slurry mixed to the consistency of a heavy paste. Immediately plug the hole with a 1 to 1.5 mixture of cement and concrete sand mixed slightly damp to the touch (just short of "balling"). Hammer the grout into the hole until dense, and an excess of paste appears on the surface in the form of a spiderweb. Trowel smooth with heavy pressure. Avoid burnishing.

E. When patching exposed surfaces the same source of cement and sand as used in the parent concrete shall be employed. Adjust color if necessary by addition of proper amounts of white cement. Rub lightly with a fine Carborundum stone at an age of 1 to 5 days if necessary to bring the surface down with the parent concrete. Exercise care to avoid damaging or staining the virgin skin of the surrounding parent concrete. Wash thoroughly to remove all rubbed matter.

3.10 SCHEDULE

A. The following (Table 4) are the general applications for the various concrete classes and design strengths:

TABLE 4
CONCRETE
SCHEDULE

Class	Design Strength (psi)	Description
A	2,500	Concrete fill and duct encasement
B	3,000	Concrete overlay slabs and pavements

END OF SECTION

SECTION 03600 - GROUT

PART 1 GENERAL

1.01 SCOPE OF WORK

A. Furnish all labor, materials, equipment and incidentals required and install grout complete as shown on the Drawings and as specified herein.

1.02 RELATED WORK

A. Formwork is included in Section 03100.

B. Concrete Reinforcement is included in Section 03200.

C. Concrete Joints and Joint Accessories are included in Section 03250.

D. Cast-in-Place Concrete is included in Section 03300.

1.03 SUBMITTALS

A. Submit to the Engineer shop drawings and product data showing materials of construction and details of installation for:

1. Commercially manufactured nonshrink cementitious grout. The submittal shall include catalog cuts, technical data, storage requirements, product life, working time after mixing, temperature consideration, conformity to required ASTM standards and Material Safety Data Sheet.
2. Commercially manufactured non-shrink epoxy grout. The submittal shall include catalog cuts, technical data, storage requirements, product life, working time after mixing, temperature considerations, conformity to required ASTM standards and Material Safety Data Sheet.
3. Cement grout. The submittal shall include the type and brand of the cement, the gradation of the fine aggregate, product data on any proposed admixtures and the proposed mix of the grout.
4. Concrete grout. The submittal shall include data as required for concrete as delineated in Section 03300 and for fiber reinforcement as delineated in Section 03200. This includes the mix design, constituent quantities per cubic yard and the water/cement ratio.

B. Laboratory Test Reports

1. Submit laboratory test data is required under Section 03300 for concrete to be used as concrete grout.

C. Certifications

1. Certify that commercially manufactured grout products and concrete grout admixtures are suitable for use in contact with potable water after 30 days curing.

D. Qualifications

1. Grout manufacturers shall submit documentation that they have at least 10 years experience in the production and use of the proposed grouts which they will supply.

1.04 REFERENCE STANDARDS

A. American Society for Testing and Materials (ASTM)

1. ASTM C531 - Standard Test Method for Linear Shrinkage and Coefficient of Thermal Expansion of Chemical Resistant Mortars, Grouts and Monolithic Surfacings and Polymer Concretes
2. ASTM C579 - Standard Test Method for Compressive Strength of Chemical Resistant Mortars, Grouts and Monolithic Surfacings and Polymer Concretes
3. ASTM C827 - Standard Test Method for Change in Height at Early Ages of Cylindrical Specimens from Cementitious Mixtures
4. ASTM C1107 - Standard Specification for Packaged Dry, Hydraulic- Cement Grout (Nonshrink)

B. U.S. Army Corps of Engineers Standard (CRD)

1. CRD C-621 - Corps of Engineers Specification for Nonshrink Grout

C. Where reference is made to one of the above standards, the revision in effect at the time of bid opening shall apply.

1.05 QUALITY ASSURANCE

A. Qualifications

1. Grout manufacturer shall have a minimum of 10 years experience in the production and use of the type of grout proposed for the work.

B. Pre-installation Conference

1. Well in advance of grouting, hold a pre-installation meeting to review the requirements for surface preparation, mixing, placing and curing procedures for each product proposed for use. Parties concerned with grouting shall be notified of the meeting at least 10 days prior to its scheduled date.

C. Services of Manufacturer's Representative

1. A qualified field technician of the nonshrink grout manufacturer, specifically trained in the installation of the products, shall attend the pre- installation conference and shall be present for the initial installation of each type of nonshrink grout. Additional services shall also be provided, as required, to correct installation problems.

D. Field Testing

1. All field testing and inspection services required shall be provided by the Contractor. The Contractor shall assist in the sampling of materials and shall provide any ladders, platforms, etc, for access to the work. The methods of testing shall comply in detail with the applicable ASTM Standards.

2. The field testing of Concrete Grout shall be as specified for concrete in Section 03300.

1.06 DELIVERY, STORAGE AND HANDLING

A. Deliver materials to the jobsite in original, unopened packages, clearly labeled with the manufacturer's name, product identification, batch numbers and printed instructions.

B. Store materials in full compliance with the manufacturer's recommendations. Total storage time from date of manufacture to date of installation shall be limited to 6 months or the manufacturer's recommended storage time, whichever isless.

C. Material which becomes damp or otherwise unacceptable shall be immediately removed from the site and replaced with acceptable material at no additional expense to the Owner.

D. Nonshrink cement-based grouts shall be delivered as preblended, prepackaged mixes requiring only the addition of water.

E. Nonshrink epoxy grouts shall be delivered as premeasured, prepackaged, three component systems requiring only blending as directed by themanufacturer.

1.07 DEFINITIONS

A. Nonshrink Grout: A commercially manufactured product that does not shrink in either the plastic or hardened state, is dimensionally stable in the hardened state and bonds to a clean base plate.

PART 2 PRODUCTS

2.01 GENERAL

A. The use of a manufacturer's name and product or catalog number is for the purpose of establishing the standard of quality desired.

B. Like materials shall be the products of one manufacturer or supplier in order to provide standardization of appearance.

2.02 MATERIALS

A. Nonshrink Cementitious Grout

1. Nonshrink cementitious grouts shall meet or exceed the requirements of ASTM

C1107, Grades B or C and CRD C-621. Grouts shall be portland cement based, contain a pre-proportioned blend of selected aggregates and shrinkage compensating agents and shall require only the addition of water. Nonshrink cementitious grouts shall not contain expansive cement or metallic particles. The grouts shall exhibit no shrinkage when tested in conformity with ASTM C827.

a. General purpose nonshrink cementitious grout shall conform to the standards stated above and shall be SikaGrout 212 by Sika Corp.; Set Grout by Master Builders, Inc.; Gilco Construction Grout by Gifford Hill & Co.; Euco NS by the Euclid Chemical Co.; NBEC Grout by U.S. Grout Corp. or equal.

b. Flowable (Precision) nonshrink cementitious grout shall conform to the standards stated above and shall be Masterflow 928 by Master Builders, Inc.; Hi-Flow Grout by the Euclid Chemical Co.; SikaGrout 212 by Sika Corp. ; Supreme Grout by Gifford Hill & Co. ; Five Star Grout by U.S. Grout Corp. or equal.

B. Nonshrink Epoxy Grout

1. Nonshrink epoxy-based grout shall be a pre-proportioned, three component, 100 percent solids system consisting of epoxy resin, hardener, and blended aggregate. It shall have a compressive strength of 14,000 psi in 7 days when tested in conformity with ASTM D695 and have a maximum thermal expansion of 30 x 10-6 when tested in conformity with ASTM C531. The grout shall be Ceilcote 648 CP by Master Builders Inc.; Five Star Epoxy Grout by U.S. Grout Corp.; Sikadur 42 Grout-Pak by Sika Corp.; High Strength Epoxy Grout by the Euclid Chemical Co. or equal.

C. Cement Grout

1. Cement grouts shall be a mixture of one part portland cement conforming to ASTM C150, Types I, II, or III and 1 to 2 parts sand conforming to ASTM C33 with sufficient water to place the grout. The water content shall be sufficient to impart workability to the grout but not to the degree that it will allow the grout to flow.

D. Concrete Grout

1. Concrete grout shall conform to the requirements of Section 03300 except as specified herein. It shall be proportioned with cement, coarse and fine aggregates, water, water reducer and air entraining agent to produce a mix having an average strength of 2900 psi at 28 days, or 2500 psi nominal strength. Coarse aggregate size shall be 1/2-in maximum. Slump should not exceed 5-in and should be as low as practical yet still retain sufficient workability.
2. Synthetic reinforcing fibers as specified in Section 03200 shall be added to the concrete grout mix at the rate of 1.5 lbs of fibers per cubic yard of grout. Fibers shall be added from the manufacturer's premeasured bags and according to the manufacturer's recommendations in a manner which will ensure complete dispersion of the fiber bundles as single monofilaments within the concrete grout.

E. Water

1. Potable water, free from injurious amounts of oil, acid, alkali, organic matter, or other deleterious substances.

PART 3 EXECUTION

3.01 PREPARATION

A. Grout shall be placed over cured concrete which has attained its full design strength unless otherwise approved by the Engineer.

B. Concrete surfaces to receive grout shall be clean and sound; free of ice, frost, dirt, grease, oil, curing compounds, laitance and paints and free of all loose material or foreign matter which may affect the bond or performance of the grout.

C. Roughen concrete surfaces by chipping, sandblasting, or other mechanical means to a minimum of ¼" amplitude or provide a raked finish in order to ensure bond of the grout to the concrete. Remove loose or broken concrete. Irregular voids or projecting coarse aggregate need not be removed if they are sound, free of laitance and firmly embedded into the parent concrete.

1. Air compressors used to clean surfaces in contact with grout shall be the oilless type or equipped with an oil trap in the air line to prevent oil from being blown onto the surface.

D. Remove all loose rust, oil or other deleterious substances from metal embedments or bottom of baseplates prior to the installation of the grout.

E. Concrete surfaces shall be washed clean and then kept moist for at least 24 hours prior to the placement of cementitious or cement grout. Saturation may be achieved by covering the concrete with saturated burlap bags, use of a soaker hose, flooding the surface, or other method acceptable to the Engineer. Upon completion of the 24 hour period, visible water shall be removed from the surface prior to grouting. The use of an adhesive bonding agent in lieu of surface saturation shall only be used when approved by the Engineer for each specific location of grout installation.

F. Epoxy-based grouts do not require the saturation of the concrete substrate. Surfaces in contact with epoxy grout shall be completely dry before grouting.

G. Construct grout forms or other leakproof containment as required. Forms shall be lined or coated with release agents recommended by the grout manufacturer. Forms shall be of adequate strength, securely anchored in place and shored to resist the forces imposed by the grout and its placement.

H. Forms for epoxy grout shall be designed to allow the formation of a hydraulic head and shall have chamfer strips built into forms.

I. Level and align the structural or equipment bearing plates in accordance with the structural requirements and the recommendations of the equipment manufacturer.

J. Equipment shall be supported during alignment and installation of grout by shims, wedges, blocks or other approved means. The shims, wedges and blocking devices shall be prevented from bonding to the grout by appropriate bond breaking coatings and removed after grouting unless otherwise approved by the Engineer.

3.02 INSTALLATION – GENERAL

A. Mix, apply and cure products in strict compliance with the manufacturer's recommendations and this Section.

B. Have sufficient manpower and equipment available for rapid and continuous mixing and placing. Keep all necessary tools and materials ready and close at hand.

C. Maintain temperatures of the foundation plate, supporting concrete, and grout between 40 and 90 degrees F during grouting and for at least 24 hours thereafter or as recommended by the grout manufacturer, whichever is longer. Take precautions to minimize differential heating or cooling of baseplates and grout during the curing period.

D. Take special precautions for hot weather or cold weather grouting as recommended by the manufacturer when ambient temperatures and/or the temperature of the materials in contact with the grout are outside of the 60 and90 degrees F range.

E. Install grout in a manner which will preserve the isolation between the elements on either side of the joint where grout is placed in the vicinity of an expansion or control joint.

F. Reflect all existing underlying expansion, control and construction joints through the grout.

3.03 INSTALLATION - CEMENT GROUTS AND NONSHRINK CEMENTITIOUS GROUTS

A. Mix in accordance with manufacturer's recommendations. Do not add cement, sand, pea gravel or admixtures without prior approval by the Engineer.

B. Avoid mixing by hand. Mixing in a mortar mixer (with moving blades) is recommended. Pre-wet the mixer and empty excess water. Add premeasured amount of water for mixing, followed by the grout. Begin with the minimum amount of water recommended by the manufacturer and then add the minimum additional water required to obtain workability. Do not exceed the manufacturer's maximum recommended water content.

C. Placements greater than 3-in in depth shall include the addition of clean, washed pea gravel to the grout mix when approved by the manufacturer. Comply with the manufacturer's recommendations for the size and amount of aggregate to be added.

D. Place grout into the designated areas in a manner which will avoid segregation or entrapment of air. Do not vibrate grout to release air or to consolidate the material. Placement should proceed in a manner which will ensure the filling of all spaces and

provide full contact between the grout and adjoining surfaces. Provide grout holes as necessary.

E. Place grout rapidly and continuously to avoid cold joints. Do not place cement grouts in layers. Do not add additional water to the mix (retemper) after initial stiffening.

F. Just before the grout reaches its final set, cut back the grout to the substrate at a 45 degree angle from the lower edge of bearing plate unless otherwise approved by the Engineer. Finish this surface with a wood float (brush) finish.

G. Begin curing immediately after form removal, cutback, and finishing. Keep grout moist and within its recommended placement temperature range for at least 24 hours after placement or longer if recommended by the manufacturer. Saturate the grout surface by use of wet burlap, soaker hoses, ponding or other approved means. Provide sunshades as necessary. If drying winds inhibit the ability of a given curing method to keep grout moist, erect wind breaks until wind is no longer a problem or curing is finished.

3.04 INSTALLATION - NONSHRINK EPOXY GROUTS

A. Mix in accordance with the procedures recommended by the manufacturer. Do not vary the ratio of components or add solvent to change the consistency of the grout mix. Do not overmix. Mix full batches only to maintain proper proportions of resin, hardener and aggregate.

B. Monitor ambient weather conditions and contact the grout manufacturer for special placement procedures to be used for temperatures below 60 or above 90 degrees F.

C. Place grout into the designated areas in a manner which will avoid trapping air. Placement methods shall ensure the filling of all spaces and provide full contact between the grout and adjoining surfaces. Provide grout holes as necessary.

D. Minimize "shoulder" length (extension of grout horizontally beyond base plate). In no case shall the shoulder length of the grout be greater than the grout thickness.

E. Finish grout by puddling to cover all aggregate and provide a smooth finish. Break bubbles and smooth the top surface of the grout in conformity with the manufacturer's recommendations.

F. Epoxy grouts are self curing and do not require the application of water. Maintain the formed grout within its recommended placement temperature range for at least 24 hours after placing, or longer if recommended by the manufacturer.

3.05 INSTALLATION - CONCRETE GROUT

A. Screed underlying concrete to the grade shown on the Drawings. Prepare the surface according to 3.01B. Protect and keep the surface clean until placement of concrete grout.

B. Remove the debris and clean the surface by sweeping and vacuuming of all dirt and other foreign materials. Wash the tank slab using a strong jet of water. Flushing of

debris into tank drain lines will not be permitted.

C. Saturate the concrete surface for at least 24 hours prior to placement of the concrete grout. Saturation may be maintained by ponding, by the use or soaker hoses, or by other methods acceptable to the Engineer. Remove excess water just prior to placement of the concrete grout. Place a cement slurry immediately ahead of the concrete grout so that the slurry is moist when the grout is placed. Work the slurry over the surface with a broom until it is coated with approximately 1/16 to 1/8-in thick cement paste. (A bonding grout composed of 1 part portland cement, 1.5 parts fine sand, an approved bonding admixture and water, mixed to achieve the consistency of thick paint, may be substituted for the cement slurry.)

D. Place concrete grout to final grade using the scraper mechanism as a guide for surface elevation and to ensure high and low spots are eliminated. Unless specifically approved by the equipment manufacturer, mechanical scraper mechanisms shall not be used as a finishing machine or screed.

E. Provide grout control joints as indicated on the Drawings.

F. Finish and cure the concrete grout as specified for cast-in-place concrete.

3.06 SCHEDULE

A. The following list indicates where the particular types of grout are to be used:

B. General purpose nonshrink cementitious grout: Use at all locations where non shrink grout is called for on the plans except for base plates greater in area than 3- ft wide by 3-ft long and except for the setting of anchor rods, anchor bolts or reinforcing steel in concrete.

C. Flowable nonshrink cementitious grout: Use under all base plates greater in area than 3-ft by 3-ft. Use at all locations indicated to receive flowable nonshrink grout by the Drawings. The Contractor, at his/her option and convenience, may also substitute flowable nonshrink grout for general purpose nonshrink cementitious grout..

D. Nonshrink epoxy grout: Use for the setting of anchor rods, anchor bolts and reinforcing steel in concrete and for all locations specifically indicated to receive epoxy grout.

E. Cement grout: Cement grout may be used for grouting of incidental base plates for structural and miscellaneous steel such as post base plates for platforms, base plates for beams, etc. It shall not be used when nonshrink grout is specifically called for on the Drawings or for grouting of primary structural steel members such as columns and girders.

F. Concrete grout: Use for overlaying the base concrete under scraper mechanisms of clarifiers to allow more control in placing the surface grade.

END OF SECTION

SECTION 15200 VALVES AND ACCESSORIES

PART 1 GENERAL

1.01 WORK INCLUDED

A. This Section covers the Work necessary for furnishing and installing the various valves in the mechanical and yard piping systems.

1.02 GENERAL

A. Like items of equipment specified herein shall be the end products of one (1) manufacturer in order to achieve standardization for operation, maintenance, spare parts, and manufacturer's service.

B. See CONDITIONS OF THE CONTRACT and Section GENERAL REQUIREMENTS, which contain information and requirements that apply to the work specified herein and are mandatory for this Project.

1.03 SUBMITTALS DURING CONSTRUCTION

A. Submittals during construction shall be made as required in Section GENERAL REQUIREMENTS. In addition, the following specific information shall be provided:

1. Valve type number.
2. Number and direction of turns needed to open and close.
3. Dimensional drawings with weight and materials of construction.

PART 2 PRODUCTS

2.01 GENERAL

A. All valves shall be complete with all necessary operators, handwheels, operating nuts, wrenches, and other accessories or appurtenances, which are required for the proper completion of the Work. Operators and other accessories shall be sized and furnished by the valve supplier and factory mounted.

B. Valves shall be suitable for the intended service. Renewable parts including discs, packing, and seats shall be of types recommended by valve manufacturer for intended service, but not of a lower quality than specified herein.

C. Valves shall be suitable for the exposure they are subject to, buried, interior or exterior, as applicable.

D. Unless otherwise shown, valves shall be the same size as the adjoining pipe.

E. All units shall have the name of the manufacturer and the size of the valve cast on the body or bonnet or shown on a permanently attached plate in raised letters.

F. All valves supplied and placed in the work shall be as listed in the Approved Materials

Checklist

2.02 VALVE TYPES

A. Valve types are specified by number. The type of valve to be used for each service and application is indicated on the Drawings by valve number callout, although not all valves are called out by number on the Drawings.

2.03 DESIGN FEATURES

A. Brass and Bronze Components:

1. Brass and bronze components of valves and appurtenances which have surfaces in contact with the water shall be alloys containing less than sixteen (16)% percent zinc and two (2%) percent aluminum.
2. Approved alloys are of the following ASTM designations:
   a. B61, B62, B98 (Alloy UNS No. C65100, C65500, or C66100), B139 (Alloy UNS No. C51000), B584 (Alloy UNS No. C90300 or C94700), B164, B194, and B127 and C995.
   a. Stainless steel Alloy 18-8 may be substituted for bronze at the option of the manufacturer and with the approval of the Engineer.
3. All gland bolts on iron body valves shall be bronze and shall be fitted with brass nuts.
4. Valve ends shall be as specified, as shown on the Drawings, and to suit the adjacent piping.

2.04 VALVE OPERATORS

A. General: All valves shall be equipped with operators. The valve operator types, as specified herein, describe only the general characteristics of the operator. The operator shall be compatible with the valve that it will be used with and shall be of the same manufacturer, or a product that is recommended by the valve manufacturer. All valve operators shall open by turning counterclockwise.

B. Manual Operators:

1. General: Manual handwheel operators shall be provided for above ground valves unless otherwise shown or specified. Ferrous handwheels shall be painted red or as selected by the Owner.
2. Buried Operators: Buried service operators on valves larger than 2-1/2- inches shall have a 2-inch AWWA operating nut. All moving parts of the valve and operators shall be enclosed in the housing to prevent contact with the soil.

2.05 ACCESSORIES

A. Tagging: Each valve shall be provided with a 1½-inch minimum diameter heavy brass or stainless steel tag. The tags shall be attached to the valve with key rings so that ring and tag cannot be removed. The numbers and letters shall be of block type, with ¼-inch high numbers and letters stamped thereon.

B. Valve Boxes: Valve boxes shall be cast iron two (2) piece adjustable heavy roadway type with 5 ¼ inch diameter and appropriate length for the installation. Include cast iron lid with the work "Water" cast into the top of the lid. Extension pieces, if required, shall be the manufacturer's standard type.

C. Provide Type 304 stainless steel bolts, nuts and washers for all flanged valves.

2.06 VALVES

A. Air Release Valve:

1. Air release valves shall automatically exhaust small Amounts of entrained air that may accumulate in a system. In the closed position, the valve shall seat against a resilient seat to prevent water leakage. Air release valves shall be designed for 150 psi working pressure and shall have cast iron, or bronze bodies and covers with stainless steel float and trim, built to manufacturer's standards, suitable for wastewater service and as listed in the Approved Materials Checklist.

B. Plug, Check, Gate and Valves:

1. Provide in accordance with St. Johns County Utility Department standards and as listed in the Approved Materials Checklist.

PART 3 EXECUTION

3.01 GENERAL

A. Bolt holes of flanged valves shall straddle the vertical centerline of the pipe run. Prior to installing flanged valves, the flange faces shall be thoroughly cleaned. After cleaning, insert gasket and bolts, and tighten the nuts progressively and uniformly. If flanges leak under pressure, loosen or remove the nuts andbolts, reset or replace the gasket, retighten and/or reinstall the nuts and bolts, and retest the joints. Joints shall be watertight at test pressures before acceptance.

B. Thoroughly clean threads of screwed joints by wire brushing, swabbing, or other approved methods. Apply approved joint compound to threads prior to making joints. Joints shall be watertight at test pressures before acceptance.

3.02 TESTING

A. Valves shall be tested at the same time that the adjacent pipeline is tested. Joints shall show no visible leakage under test. Repair joints that show signs of leakage prior to final acceptance. If there are any special parts of control systems or operators that might be damaged by the pipeline test, they shall be properly protected. The Contractor will be held responsible for any damage caused by the testing.

B. If requested by the Engineer, the valve manufacturer shall furnish an Affidavit stating the materials options furnished and/or that he has complied with these and other referenced Specifications.

END OF SECTION

FLORIDA DEPARTMENT OF TRANSPORTATION

UTILITY PERMIT

December 14, 2016

PERMIT NO: 2022-H-297-00198

STATE ROAD INFORMATION

County:	Section:	State Road No:	Beginning Mile Post:	Ending Mile Post:
St. Johns	78051000	SR 207	15.567	15.567

APPLICANT INFORMATION

The Utility Agency Owner (UAO) shall be identified in this Applicant Information Box. When the UAO is a City or County and desires to have the Utility Builder make a joint permit applicant, as prescribed in Section 2.1(4) of the 2017 Utility Accommodation Manual (UAM), the Utility Builder shall also be identified in this Applicant Information Box. A Utility Builder alone cannot apply for a utility permit without the City or County adding them as a joint applicant.

Utility Agency/Owner (UAO)

Name: St. Johns County Utility Department
Contact Person: St. Johns County Utility Department
Address: 1205 SR 16
City: St. Augustine
State: Florida
Zip: 32084
Telephone: 9042092608
Email: ccannan@sjcfl.us

Utility Builder (only applicable when the UAO is a City or County)

Name:
Contact Person:
Address:
City:
State:
Zip:
Telephone:
Email:

WORK DESCRIPTION

The Applicant(s) requests permission from the Florida Department of Transportation (FDOT) to construct, operate, and maintain the utilities as described below and as depicted in the incorporated documentation.

Work is for installation of a new forcemain along SR207 as shown in the attached plans

Utility Work No:

Additional sheets are attached and are incorporated into this permit Yes ☑ No ☐

For FDEP certification, the FDOT agency report is attached in accordance with UAM Section 2.4.1 (13) Yes ☐ No ☑

TRAFFIC CONTROL (TCP)

☑ The TCP will comply with the following 600 series index(es) 612

☑ A TCP has been attached and incorporated into this permit application in compliance with UAM Section 2.4.2.

MOT Technician's contact information (may be supplied at the two (2) business day notification to FDOT):

Name: Telephone Email:

COMMENCEMENT OF WORK

The UAO and/or Utility Builder shall commence actual construction in good faith within sixty (60) calendar days after approval of the permit application. If the beginning date is more than sixty (60) calendar days from the date of approval, the UAO and/or Utility Builder must review the permit with the FDOT Approving Engineer listed to make sure no changes have occurred to the transportation facility that would affect the permit's continued approval. The UAO and/or Utility Builder shall make good faith efforts to expedite the work and complete the work within the calendar days indicated.

Anticipated Start Date: 1/9/2023

Calendar days needed to completed: 180

Florida Department of Transportation

UTILITY PERMIT

PERMIT NO: 2022-H-297-00198

APPLICANT SIGNATURE

By the below signature(s) the UAO and/or Utility Builder agree(s) to construct, operate, and maintain the work as noted in the above Work Description, shown in plans and incorporated documents, in compliance with the UAM, all instructions noted in the FDOT Special Instructions Box, and special instructions incorporated into this permit. The UAO and/or Utility Builder declares, the location of all existing utilities that it owns or has an interest in, both aerial and underground, are accurately shown on the plans of the work areas. In accordance with UAM Section 2.8, the UAO and/or Utility Builder further declares that a letter of notification was delivered to the owners of other facilities within the work areas and that those listed below are the only facility owners known to be involved or potentially impacted by the proposed work.

Date Notified:	Name of other facility owners (attach additional sheets if necessary).
5/2/2022	A&TT

Utility Agency/Owner	Utility Builder (when applicable)
Signature: CHAD SMITH (digital signature) Date: 7/25/2022	Signature: _____ Date: _____
Name (printed): CHAD SMITH	Name (printed): _____
Title: _____	Title: _____

FDOT PROJECT INFORMATION

Pursuant to UAM Section 2.1(10), the utility work is within FDOT projects listed below and must have a Utility Work Schedule for each project approved prior to commencement of work within the FDOT project limits:

FDOT construction is proposed or underway. Refer to Financial Project Id: Falls within FIN 4455461
This work is related to an approved Utility Work Schedule.

FDOT SPECIAL INSTRUCTIONS

In accordance with UAM Section 2.7, FDOT incorporates the below and attached special instructions into this permit.

1. All work must be coordinated through Fin Project# 445546-1 and comply with approved UWS.
2.Clay Dicks is the Assigned Permits Inspector, he can be contacted at (386) 984-8110 /clay.dicks@atkinsglobal.com. Please contact him a minimum of two (2) business days prior to beginning work.
3. Donald Devenny is the Construction Project Manager for the Construction project and contact for this permit. Please contact Mr. Devenny prior to

Additional FDOT Special Instructions are attached and incorporated into this permit. Yes ☐ No ☑

PERMIT APPROVAL

By signature below, FDOT gives permission to the UAO and /or Utility Builder to construct, operate, and maintain the utilities indicated in this Utility Permit in compliance with the UAM, all incorporated documents, and special instructions. Any changes to the approved work must be approved by the FDOT's Approving Engineer and attached and incorporated into this permit in accordance with UAM Section 2.11.

Approving Engineer: Nathan Gottschalk (digital signature) Date: 9/22/2022
Name: Nathan Gottschalk
Title: MAINTENANCE MANAGER/PERMITS

Notification of Utility Work to be provided to: Telephone (386) 984-8110 ext. _____ or Email: clay.dicks@atkinsglobal.com

An FDOT Representative is required to be present on the worksite prior to commencement of work. Yes ☑ No ☐

Rep. Name: Christopher Pogue Telephone 9048255086 Email: christopher.pogue@dot.state.fl.us

Florida Department of Transportation

UTILITY PERMIT

PERMIT NO: 2022-H-297-00198

CERTIFICATION

I, the undersigned UAO and/or Utility Builder, hereby CERTIFY that the utilities were constructed and inspected in compliance with the UAM all incorporated documents, and special instructions. Pursuant to UAM Section 2.11, all changes have been approved by the FDOT's Approving Engineer and incorporated into this permit along with all other material certifications, test results, bore logs, approved plans changes, as-built plans or other required documentation.

I also CERTIFY that work began on _____ and was completed on _____ and that the area was left in as good or better condition than when the work began.

Utility Agency/Owner	Utility Builder (when applicable)
Signature: _____ Date _____	Signature: _____ Date _____
Name (printed): _____	Name (printed): _____
Title: _____	Title: _____

FINAL INSPECTION OF WORK

☐ The work was inspected and found to be in non-compliance as noted below:

☐ All issues of non-compliance listed above have been brought into compliance and/or FDOT has no outstanding issues that need to be addressed by the UAO and/or Utility Builder. However, this final inspection does not release the UAO and/or Utility Builder of their continuing responsibilities pursuant to Rule 14-46.001, the UAM, all incorporated documents, and special instructions.

FDOT Inspector: _____ Date: _____

Name: _____

Title: _____

PERMIT NO.: 2022-H-297-00198

The complete special instructions could not fit in the space allotted on Page 2 of the Utility Permit so they are displayed below.

Special FDOT Instructions

1. All work must be coordinated through Fin Project# 445546-1 and comply with approved UWS.
2.Clay Dicks is the Assigned Permits Inspector, he can be contacted at (386) 984-8110 /clay.dicks@atkinsglobal.com. Please contact him a minimum of two (2) business days prior to beginning work.
3. Donald Devenny is the Construction Project Manager for the Construction project and contact for this permit. Please contact Mr. Devenny prior to beginning construction with in FDOT RW. Mr. Devenny can be reached at (386) 312-4826 or email donald.devenny@dot.state.fl.us
4. Contact St. Johns County Traffic Division, Hank Mein, (904) 209-0170 or signallocate@sjcfl.us for work within/between/near traffic light controlled intersections. (Possible signal interconnect & ITS cable.)
5. All Lane closure request must be submitted for review and approval. Request must be submitted by the close of business the Wednesday prior to week needing the lane closure for review and approval.

Pollution FD Prevention

EROSION & SEDIMENT CONTROL REQUIREMENTS ON DEPARTMENT'S RIGHT OF WAY

No Clearing, grading, excavating, filling, dewatering, or other construction related activities will be permitted until the Department reviews the erosion and sediment controls plan submitted along with the Permit Application.

Erosion and sediment control measures are site specific and performance oriented. Even if the structural controls are installed on site as specified in the permit application, the site is only in compliance when these controls are **effectively maintained.**

In general, the need for erosion and sediment control measures should be evaluated prior to Permit Application. This evaluation should include gathering the appropriate information to address the identified needs of the project. Once the proper erosion and sediment control measures are determined, A plan should be developed. The sequence of construction operations need not be specified in the plans for this purpose. The Department's Best Management Practices for Erosion and Sedimentation Control at Construction Sites should be used as a guide (see attachment)

SPECIAL NOTE: A Florida Department of Environmental Protection Generic Permit for Discharge of Ground Water from Dewatering Operations (62-621.300(2) FAC) is part of the Permit required by FDOT when requesting dewatering activities in its Right of Way. In addition, the erosion and sediment control plan submitted must include a double filter socks or any other similar absorbent type protection for all inlets in the construction zone. Otherwise, an installation of a flexible discharge pipe or hose through the Departments' storm sewer system to the outfall point will be required.

The rationale behind these requirements is to avoid any potential adverse impact or deleterious effect on receiving waters, including their quality, quantity, surface area, aesthetics or usefulness for human or natural uses. Such deleterious effect is or may potentially be harmful or injurious to human health, welfare, safety or property, or which unreasonably interfere with the enjoyment of life or property, including outdoor recreation.



FOR MORE INFORMATION
Call 1-80o-749-2967

Alan Obaigbena, P.E. Ext. 7064

Karen K-LacIdn, P.E. *Ext.* 562o

Approved
2022-H-297-00198
Nathan Gottschalk
9/22/2022

Pollution FDOT Prevention

Best Management Practices (BMPs) for Erosion and Sedimentation Control at Construction

The use of best management practices (BMPs) for sedimentation and erosion control for all excavations are now required. BMPs must provide equal or better protection than those currently compiled by the Florida Department of Environmental Protection.

Did you know that uncontrolled erosion *run-off* from a construction site will most likely end up in a creek or lake? Eroding construction sites are a leading cause of water quality problems in Florida. Turbid run-off from construction sites enters nearby storm *sewer* systems that discharge directly to water bodies_ This cloudy water can:

- **smother vegetation and other in-stream habitats,**
- **prevent light penetration within the water body,**
- **clog gills of fish and other aquatic organisms, and**
- **transport toxic metals and other compounds to our surface waters.**



A properly installed silt fence can prevent sediments from migrating off site.

Erosion control is easy and can be relatively inexpensive. When developing your erosion control plan remember to apply the principals of erosion and sediment control:

- **Fit development to the terrain**
- **Install protective measures before any clearing or earth moving**
- **Time grading and construction to minimize soil exposure**
- **Retain existing vegetation wherever possible**
- **Vegetate and mulch denuded areas**
- **Divert runoff away from denuded areas**
- **Minimize length and steepness of slopes**
- **Keep runoff velocities low**
- **Prepare conveyances and outlets to handle increased flows**
- **Trap sediment on site**
- **Inspect and maintain control measures**

Did You Know???



For every acre under construction, about a dump truck and a half of soil washes into the storm system and into a nearby stream/Creek unless the contractor uses proper erosion can-trol.

Approved
2022-H-297-00198
Nathan Gottschalk
9/22/2022

TIPS FOR COMMONLY USED BMPs

Construction Entrances

- Remove vegetation, roots, and other material from
- entrance.
- Lay down geotextile then 6 inches of FDOT No. 1 Coarse Aggregate on top.
- The length of entrance must be at least 50 feet.
- Maintain as needed to prevent tracking or flow of mud onto public rights-of-way.

Silt Fences

- Install within 24 hours of land disturbance.
- Bury 8 inches of fabric in trench.
- Leave no gaps (overlap or twist *ends* together).
- **Maintain and repair until a ground cover is established.**

Soil Piles

- **Locate away** from downslope streets, driveways, streams, wetlands, lakes, etc.
- **Keep covered with plastic sheeting.**
- Carefully wet down exposed soil to keep dust and erosion to a minimum.

Storm *Sewer* Inlet Protection

- Protect nearby storm sewer inlets with straw or synthetic bale, synthetic fabric, filter sock, or other measure.
- Inspect, repair, and replace as needed, and remove sediment deposits after every storm.

Sediment Cleanup

- Remove soil tracked onto the street after each workday.
- Cleanup all soil that has washed off site following a storm.

Preserving Existing Vegetation

- Preserve existing trees, shrubs, and other vegetation whenever possible.
- To prevent root damage, do not grade, place soil piles, or park vehicles near trees marked for preservation.
- Place plastic mesh around trees extending to the drip line to protect the area below their branches.

Revegetation

- Seed, sod, or mulch bare soil as soon as possible. **Vegetation is the most effective way to control erosion.**

Seeding and Mulching

- Spread and compact 2 - 4 inches topsoil.
- ***Seed* with appropriate** mix for **site** and season.
- .Rake lightly to cover seed with $_4$ inch of soil.
- Mulch with anchored straw.
- Gently water every other day until grass is 2 inches tall.

Sodding

- Leave or replace 4 inches of topsoil.
- Lightly water soil before laying sod.
- On slopes, lay sod starting at the bottom **and** work toward the top, laying in a brickwork pattern. Peg each piece down in several places.
- Use sod from sources certified by the Division of Plant Industry as "noxious weed-free".
- Initial watering should wet soil 6 inches deep. Then water lightly every other day to keep soil moist.

For additional information regarding erosion and sediment control, refer to the "Florida Development Manual: A Guide to Sound Land and Water Management" and the FDEP uStormwater, Erosion, and Sedimentation Control Inspector **Manual".**

For more information contact:

Alan Obaigbena, P.E

F iorida Department of Transportation

800-749-2967 extn 7064

Approved
2022-H-297-00198
Nathan Gottschalk
9/22/2022

Information Requiredfor Dewatering Approvalfor FDOT Permits

Please provide the following at the time of application. If your permit was previously approved, please submit this information as soon as you recognize the need for dewatering activities:

- **Dewatering Plan, signed and sealed by a Professional Engineer of a Professional Geologist, which addresses the following:**
  - Project Background and dewatering requirements
  - Plan and profile view of dewatering systems
  - Subsurface soil and groundwater conditions in the project area
  - The hydraulic conductivity of the sub-soils present at the site
  - The nature, locations, and depths of subsurface installations for the dewatering systems
  - The nature, locations, and detailed dewatering pump(s) information
  - The general route of discharge and all points of discharge
  - The estimated groundwater extraction and discharge rates for system
  - The Best Management Practices to control turbidity and erosion at the discharge location.
- **FDEP Generic Permit for Discharge of Produced Ground Water from Non-Contaminated Site Activity**
- **WMD Noticed General Permit for Short Term Construction Dewatering Activities will be required if :**
  - Withdrawal is over 300,000 gallons per day
  - Withdrawal exceeds 30 days duration
  - The capacity of the pump is over 1,000,000 gallons per day

A Short-Term Construction Dewatering Permit can be issued for activities when:

1. The withdrawal method is a well-point system or vacuum underdrain (sock).
2. A hydraulic pump is used to maintain or repair existing permitted systems, and discharges through the permitted control structure.
3. The withdrawal method does not discharge directly into an OFW, Class I or Class II water body ("not directly" means a mixing zone or dispersal method must be employed).
4. The withdrawal method cannot be used on lands used for industrial purposes or landfills.
5. The maximum total withdrawal does not exceed 180 million gallons (maximum daily for first 5 days (<6 mgd, thereafter <4 mgd. Average daily for first 60 days = 2 mgd and = 1 mgd for duration).
6. The maximum duration does not exceed 180 days.
7. Turbidity control measures are in place when needed.
8. No adverse impacts occur off-site.

Note A – Exceeding the above Short-Term Construction Dewatering Permit thresholds will require a general or individual CUP based on project rate/volume thresholds.

Note B – Dewatering projects with numerous phases and/or contractors may not qualify for Short-Term Construction Dewatering Permits based on the connectivity/complexity of the project and will be assessed on a case-by-case basis.

- **Proposed steps and effort to be taken to prevent offsite flooding, if not addressed in the Dewatering Plan.**

This item has been digitally signed and sealed by Fred R. Jones, Jr. on the date adjacent to the seal.

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

CONSTRUCTION PLANS FOR

SR 207 FORCEMAIN DESIGN

ST. JOHNS COUNTY

GENERAL NOTES:

A. TOPOGRAPHIC BOUNDARY SURVEY, INCLUDING PROPERTY LINES, LEGAL DESCRIPTION EXISTING UTILITIES, SITE TOPOGRAPHY WITH SPOT ELEVATIONS, OUTSTANDING PHYSICAL FEATURES AND EXISTING STRUCTURE LOCATIONS WAS PROVIDED BY THE FOLLOWNG COMPANY, AS CONTRACTORS TO THE OWNER:

ENGLAND, THIMS AND MILLER, INC.
14775 OLD SAINT AUGUSTINE ROAD
JACKSONVILLE FL. 32258
CONTACT: DAMON KELLY
PHONE: (904) 265-3107

MATTHEWS DESIGN GROUP, LLC AND ITS ASSOCIATES WILL NOT BE HELD RESPONSIBLE FOR THE ACCURACY OF THE SURVEY OR FOR DESIGN ERRORS OR OMISSIONS RESULTING FROM SURVEY INACCURACIES.

B. THE GENERAL CONTRACTOR SHALL NOTIFY THE OWNER/ENGINEER OF ANY DISCREPANCIES BETWEEN THE SURVEY AND FIELD VERIFICATION OF INFORMATION ABOVE OR BELOW GROUND THAT MAY BE CRITICAL TO THE DESIGN OF THIS PROJECT. THE GENERAL CONTRACTOR WILL BE HELD SOLELY RESPONSIBLE FOR AND SHALL TAKE ALL PRECAUTIONS NECESSARY TO AVOID PROPERTY DAMAGE TO ADJACENT PROPERTIES DURING THE CONSTRUCTION OF THIS PROJECT.

C. WARRANTY / DISCLAIMER:

THE DESIGNS REPRESENTED IN THESE PLANS ARE IN ACCORDANCE WITH ESTABLISHED PRACTICES OF CIVIL ENGINEERING FOR THE DESIGN FUNCTIONS AND USES INTENDED BY THE OWNER AT THIS TIME. HOWEVER, NEITHER THE ENGINEER NOR ITS PERSONNEL CAN OR DO WARRANT THESE DESIGNS OR PLANS AS CONSTRUCTED EXCEPT IN THE SPECIFIC CASES WHERE THE ENGINEER IS INVOLVED WITH THE PHYSICAL CONSTRUCTION ON AN ONGOING BASIS AT THE SITE.

MATTHEWS DESIGN GROUP (MDG) IS THE PROJECT'S ENGINEER OF RECORD (EOR). MDG IS NOT A GENERAL CONTRACTOR, UTILITY CONTRACTOR, SITE CONTRACTOR, OR ANY OTHER TYPE OF CONTRACTOR.

D. SAFETY NOTICE TO CONTRACTOR:

IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. ANY CONSTRUCTION OBSERVATION BY THE ENGINEER OF THE CONTRACTOR'S PERFORMANCE IS NOT INTENDED TO INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES IN, ON OR NEAR THE CONSTRUCTION SITE.

E. CONSTRUCTION TESTING:

CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COORDINATION, TESTING, LABORATORY ANALYSES, REPORTS, COSTS, ETC., CONCERNING SOILS AND PAVEMENT RELATED DESIGN REQUIREMENTS AND SPECIFICATIONS AS SET FORTH IN THESE PLANS.

F. AS-BUILT SURVEY NOTE:

UPON COMPLETION OF CONSTRUCTION, CONTRACTOR IS REQUIRED TO PROVIDE OWNER / ENGINEER WITH A SIGNED AND SEALED AS-BUILT SURVEY AND ANY OTHER RELATED CONSTRUCTION DOCUMENTS, IN ACCORDANCE WITH APPLICABLE PERMITTING AGENCY REQUIREMENTS, AS THE BASIS FOR PROJECT CERTIFICATIONS AND CLOSE-OUT.

G. RIGHT-OF-WAY:

ANY AND ALL WORK CONDUCTED WITHIN THE ST. JOHNS COUNTY RIGHT-OF-WAYS MUST BE IN ACCORDANCE WITH THE APPLICABLE LAND DEVELOPMENT CODES.

H. PRE-CONSTRUCTION MEETING:

IT IS THE RESPONSIBILITY OF THE APPLICANT TO SCHEDULE A PRE-CONSTRUCTION / PRE PERMIT ISSUANCE MEETING WITH ST. JOHNS COUNTY STAFF AFTER PLANS HAVE BEEN RELEASED FOR CONSTRUCTION BY THE COUNTY AND PRIOR TO STARTING ANY SITE ACTIVITIES. THE PRE-CONSTRUCTION MEETING WILL BE HELD IN CONJUNCTION WITH THE ST. JOHNS COUNTY MANDATORY PRE-CONSTRUCTION MEETING.

I. ALL ELEVATIONS SHOWN HEREIN ARE REFERENCED TO NAVD88

J. FIRE SEVICES

WHEN VERTICAL CONSTRUCTION BEGINS, FIRE DEPT. ACCESS IS REQUIRED

*FIRE DEPT ACCESS ROADS SHALL BE PROVIDED AT THE START OF THE PROJECT AND SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION. (NFPA 1, CHP 18)

*FIRE DEPT ACCESS ROAD SHALL BE UNOBSTRUCTED 20 FEET WIDE, STABILIZED SURFACE TO SUPPORT 80,000 LBS AND PROVIDE TURNAROUND FOR A 50 FOOT FIRE APPARATUS. (NFPA 1, CHP 18)



VICINITY MAP
N.T.S.

OWNER:
ST. JOHNS COUNTY BOARD OF COUNTY COMMISSIONERS
500 SAN SEBASTIAN VIEW
ST. AUGUSTINE, FL 32084
PHONE: (904) 209-0150
CONTACT: DAVID E. PYLE, CPPB

PREPARED BY:
MATTHEWS DESIGN GROUP
P.O. BOX 3126, 7 WALDO STREET
ST. AUGUSTINE, FL 32084
PHONE: 904.826.1334 • FAX: 904.826.4547
INFO@MDGINC.COM

Sheet List Table	
Sheet Number	Sheet Title
1	COVER SHEET
2	GENERAL NOTES
3	SJCUD UTILITY NOTES
4 - 9	DEMOLITION PLAN
10 - 20	UTILITY PLAN - PROFILE
21	CONSTRUCTION DETAILS
22	DEWATERING DETAILS
23	SWPPP
24 - 25	MOT PLAN

PERMITS / APPROVALS	SUBMITTED	RECEIVED
ST. JOHNS COUNTY UTILITY DEPARTMENT		
ST JOHNS RIVER WATER MANAGEMENT DISTRICT		
FDEP - WATER		
FDEP - SEWER		
FDOT		

RESOURCE LIST

ST. JOHNS COUNTY UTILITY DEPARTMENT
1205 STATE ROAD 16
ST. AUGUSTINE, FLORIDA 32084
(904) 209-2700

FDOT
3600 DOT ROAD
ST. AUGUSTINE, FLORIDA 32084
(904) 825-5026
CONTACT: NATHAN D. GOTTSCHALK

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT
7775 BAYMEADOWS WAY, SUITE 102
JACKSONVILLE, FLORIDA 32256
(904) 730-6270

FDEP - WATER & SEWER
8800 BAYMEADOWS WAY, SUITE 100
JACKSONVILLE, FLORIDA 32256
(904) 256-1700

811
Know what's below.
Call before you dig.

REGISTERED ENGINEER
FRED R. JONES, JR., P.E.
FL LIC. NO. 84314
CA# 2535 FL #4314

NO.	DATE	REVISIONS DESCRIPTION
—	—	—
—	—	—
—	—	—
—	—	—
—	—	—

DSN. BY: D.M.
DWN. BY: FDH
CHK. BY: SAK
DATE: 05-16-22
JOB NO.: 1812230

MATTHEWS DESIGN GROUP
P.O. BOX 3126, 7 WALDO STREET
ST. AUGUSTINE, FL 32084
PHONE: 904.826.1334 • FAX: 904.826.4547
INFO@MDGINC.COM

COVER SHEET
SR 207 FORCEMAIN DESIGN
ST. JOHNS COUNTY
PREPARED FOR
ST. JOHNS COUNTY BOARD OF COUNTY COMMISSIONERS

SHEET NO.
1
OF 25

Approved
2022-HA-687-00186
Nathan Gottschalk
5/25/2022
23-02 Exhibit B | Page 9 of 36

GENERAL SITE NOTES:

1. MATTHEWS DESIGN GROUP (MDG) IS THE PROJECTS ENGINEER OF RECORD (EOR). MDG IS NOT A GENERAL CONTRACTOR, UTILITY CONTRACTOR, SITE CONTRACTOR, OR ANY OTHER TYPE OF CONTRACTOR.
2. ALL WORK AND MATERIALS SHALL BE IN COMPLETE ACCORDANCE WITH ALL RELATIVE SECTIONS OF ST. JOHNS COUNTY LAND DEVELOPMENT CODE, (LATEST REVISION) AND ALL COUNTY STANDARD DETAILS.
3. ALL WORK SHALL BE PERFORMED IN A SAFE MANNER. ALL SAFETY RULES AND GUIDELINES OF OSHA SHALL BE FOLLOWED. THE CONTRACTOR SHALL BE WHOLLY RESPONSIBLE FOR ANY INJURIES OF THEIR EMPLOYEES, AND FOR ANY DAMAGE TO PRIVATE PROPERTY OR PERSONS DURING THE COURSE OF THIS PROJECT. ALL COSTS ASSOCIATED WITH COMPLYING WITH OSHA REGULATIONS AND THE FLORIDA TRENCH SAFETY ACT MUST BE INCLUDED IN THE CONTRACTORS BID.
4. PRIOR TO CONSTRUCTION, THE SITE CONTRACTOR SHALL VERIFY ALL SURVEY CONTROL POINTS AS PROVIDED IN THE BOUNDARY SURVEY. THE CONTRACTOR SHALL NOTIFY THE OWNER AND ENGINEER OF ANY DISCREPANCIES.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VISITING THE JOB SITE PRIOR TO PREPARING THE BID FOR THE PURPOSE OF FAMILIARIZING THEMSELVES WITH THE NATURE AND THE EXTENT OF THE WORK AND LOCAL CONDITIONS, EITHER SURFACE OR SUB-SURFACE, WHICH MAY AFFECT THE WORK TO BE PERFORMED, AND THE EQUIPMENT, LABOR AND MATERIALS REQUIRED. FAILURE TO DO SO WILL NOT RELIEVE THE CONTRACTOR OF COMPLETE PERFORMANCE UNDER THE CONSTRUCTION CONTRACT. THE CONTRACTOR IS ALSO URGED TO TAKE COLOR PHOTOGRAPHS ALONG THE ROUTE OF OR WITHIN THE PROJECT TO RECORD EXISTING CONDITIONS PRIOR TO CONSTRUCTION, AND TO AID IN RESOLVING POSSIBLE FUTURE ISSUES THAT MAY OCCUR DUE TO THE CONSTRUCTION OF THE PROJECT.
6. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO EITHER CONDUCT ANY FIELD EXPLORATION OR ACQUIRE ANY GEOTECHNICAL ASSISTANCE REQUIRED TO ESTIMATE THE AMOUNT OF UNSUITABLE MATERIAL THAT WILL REQUIRE REMOVAL AND/OR TO ESTIMATE THE AMOUNT OF OFF SITE BORROW THAT WILL BE REQUIRED. FAILURE OF THE CONTRACTOR TO IDENTIFY/QUANTIFY THE AMOUNT OF UNSUITABLE MATERIAL TO BE REMOVED AND REPLACED DURING THE BID PROCESS WILL NOT RELIEVE THE CONTRACTOR OF COMPLETE PERFORMANCE UNDER THE CONSTRUCTION CONTRACT.
7. ALL IMPROVEMENTS SHOWN ARE TO BE WARRANTED BY THE CONTRACTOR TO THE DEVELOPER AND ST. JOHNS COUNTY FOR A PERIOD OF ONE YEAR FROM DATE OF ACCEPTANCE BY THE OWNER AND ST. JOHNS COUNTY.
8. FOR BOUNDARY, ROADWAY, AND BUILDING GEOMETRY INFORMATION SEE ENGINEERING SITE PLAN. IT IS THE CONTRACTORS RESPONSIBILITY TO VERIFY THAT THE BUILDING DIMENSIONS SHOWN ON THE ENGINEERING PLAN AGREES WITH THE DIMENSIONS SHOWN ON THE ARCHITECTURAL PLAN. IF ANY DIMENSIONS DO NOT AGREE, THE ARCHITECT, ENGINEER, AND OWNER SHALL BE NOTIFIED AND THE DIMENSIONS ADJUSTED PRIOR TO COMMENCING WITH CONSTRUCTION.
9. UNLESS DIRECTED OTHERWISE BY THE OWNER OR THE ENGINEER, THE CONTRACTOR WILL CONTRACT WITH AN INDEPENDENT TESTING LABORATORY TO PERFORM MATERIAL TESTING AND SOIL TESTING IN ACCORDANCE WITH COUNTY REQUIREMENTS. THIS SHALL INCLUDE DENSITY TESTS IN ALL PAVEMENT AREAS AND IN ALL UTILITY TRENCHES LOCATED IN PAVEMENT AREAS, CONCRETE TESTING AND ALL OTHER MATERIAL TESTING. PRIOR TO LIMEROCK PLACEMENT, THE PROJECT GEOTECHNICAL ENGINEER SHALL MAKE RECOMMENDATION FOR UNDERDRAIN PLACEMENT.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND INSURANCE REQUIRED FOR THE PROJECT INCLUDING ST. JOHNS COUNTY RIGHT-OF-WAY PERMITS FOR WORK IN THE COUNTY RIGHT-OF-WAY OR EASEMENT.
11. THE CONTRACTOR SHALL COORDINATE THEIR CONSTRUCTION WITH ALL OTHER CONTRACTORS. IN THE EVENT OF ANY CONFLICT WHATSOEVER, THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND OWNER PRIOR TO PROCEEDING WITH CONSTRUCTION.
12. THE LOCATION OF ALL EXISTING UTILITIES, STRUCTURES AND IMPROVEMENTS SHOWN ON THE DRAWINGS IS BASED ON LIMITED INFORMATION AND MAY NOT HAVE BEEN FIELD VERIFIED. THE LOCATIONS ARE APPROXIMATE. THE CONTRACTOR SHALL NOTIFY RESPECTIVE UTILITY OWNERS AND FIELD VERIFY LOCATIONS OF EXISTING UTILITIES AND OTHER IMPROVEMENTS PRIOR TO COMMENCING ANY CONSTRUCTION. IF THE LOCATIONS SHOWN ARE CONTRARY TO THE ACTUAL LOCATIONS, THE CONTRACTOR SHALL NOTIFY THE OWNER AND ENGINEER OF THE DISCREPANCY. THIS DISCREPANCY SHOULD BE RESOLVED PRIOR TO COMMENCING CONSTRUCTION. THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION WHEN WORKING IN AREAS NEAR EXISTING UTILITIES AND IMPROVEMENTS AND SHALL BE RESPONSIBLE FOR AND SHALL REPAIR OR PAY FOR ALL DAMAGE MADE TO EXISTING UTILITIES OR OTHER IMPROVEMENTS. PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION, THE CONTRACTOR SHALL VERIFY ALL GRADES, INVERTS AND TYPE OF MATERIAL OF EXISTING UTILITIES TO WHICH THEY SHALL CONNECT, AND NOTIFY THE OWNER AND ENGINEER OF ANY DISCREPANCIES.
13. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE CIVIL ENGINEER TO DETERMINE IF THIS PROJECT IS WITHIN THE COUNTY'S JURISDICTION FOR INSPECTION. IF SO, THEN IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE COUNTY FOR A PRE-CON MEETING FOR INSPECTIONS.
14. DUE TO THE PROXIMITY TO EXISTING RESIDENTIAL HOMES THE APPLICANT SHOULD LIMIT HOURS OF OPERATION TO DAYTIME HOURS AND PROVIDE MITIGATION TO NOISE FROM PUMPS IF 24 HOUR DEWATERING ACTIVITIES ARE REQUIRED.

PAVING & DRAINAGE NOTES:

1. CONTRACTOR IS RESPONSIBLE FOR PROTECTION OF ALL SURVEY AND PROPERTY MONUMENTS. IF A MONUMENT IS DISTURBED, THE CONTRACTOR SHALL CONTRACT WITH THE SURVEYOR OF RECORD FOR REINSTALLATION OF THE MONUMENT.
2. ALL DEBRIS RESULTING FROM ALL ACTIVITIES SHALL BE DISPOSED OF OFF-SITE BY CONTRACTOR.
3. ALL EXCESS SUITABLE AND UNSUITABLE MATERIAL SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR AT HIS EXPENSE UNLESS DIRECTED OTHERWISE BY ENGINEER OR OWNER.
4. ALL EXISTING TREES TO REMAIN SHALL BE PRESERVED AND PROTECTED.
5. BURNING OF TREES, BRUSH, AND OTHER MATERIAL SHALL BE APPROVED, PERMITTED, AND COORDINATED WITH ST. JOHNS COUNTY FIRE MARSHAL.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING A PERMANENT STAND OF SOD AND/OR GRASS PER ST. JOHNS COUNTY STANDARDS AND MEETING THE NPDES FINAL STABILIZATION REQUIREMENTS.
7. UNSUITABLE MATERIALS UNDER WATER PIPE, SEWER PIPE, STORM PIPE, OR STRUCTURES SHALL BE REMOVED AND REPLACED WITH SELECTED BACKFILL, PROPERLY COMPACTED AT CONTRACTOR'S EXPENSE.
8. THE CONTRACTOR SHALL COORDINATE THE WORK WITHIN COUNTY OR STATE RIGHT-OF-WAY WITH THE PROPER AGENCIES FOR MAINTENANCE OF TRAFFIC AND METHOD OF CONSTRUCTION AND REPAIR.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING A DEWATERING PERMIT FROM THE SJRWMD.
10. PRIOR TO ANY DISCHARGE OF GROUND WATER (DEWATERING) FROM CONSTRUCTION ACTIVITIES ASSOCIATED WITH THIS PROJECT TO WATERS OF THE STATE (INCLUDING, BUT NOT LIMITED TO, WETLANDS, CREEKS, SWALES AND MUNICIPAL STORM SEWERS), THE CONTRACTOR SHALL TEST THE EFFLUENT (WATER TO BE DISCHARGED) IN ACCORDANCE WITH RULE 62-621.300(2), F.A.C. IF THE TEST RESULTS ON THE EFFLUENT ARE BELOW THE SCREENING VALUES OF RULE 62-621.300(2), F.A.C., THE CONTRACTOR SHALL SUBMIT A SUMMARY OF THE PROPOSED CONSTRUCTION ACTIVITY AND THE TEST RESULTS TO THE DEPARTMENT OF ENVIRONMENTAL PROTECTION DISTRICT OFFICE, WITHIN ONE (1) WEEK AFTER DISCHARGE BEGINS. THE CONTRACTOR SHALL CONTINUE TO SAMPLE THE EFFLUENT AS REQUIRED THROUGHOUT THE PROJECT AND COMPLY WITH ALL CONDITIONS OF RULE 62-621.300(2), F.A.C. IF THE GROUND WATER EXCEEDS THE SCREENING VALUES OF RULE 62-621.300(2), F.A.C., THE CONTRACTOR SHALL COMPLY WITH OTHER APPLICABLE RULES AND REGULATIONS PRIOR TO DISCHARGE OF THE EFFLUENT (GROUND WATER) TO SURFACE WATERS OF THE STATE.
11. IF DEWATERING CAPACITY REQUIRES A CONSUMPTIVE USE PERMIT (C.U.P.), IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN THE PERMIT THROUGH THE ST. JOHNS RIVER WATER MANAGEMENT DISTRICT.
12. PRIOR TO INSTALLATION OF SANITARY SEWER, THE CONTRACTOR SHALL EXCAVATE, VERIFY AND CALCULATE ALL CROSSINGS AND INFORM THE ENGINEER OF ANY CONFLICTS PRIOR TO CONSTRUCTION. THE ENGINEER WILL BE HELD HARMLESS IN THE EVENT THE HE/SHE IS NOT NOTIFIED OF DESIGN CONFLICTS.
15. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF VARIOUS UTILITY COMPANIES, AND MEASUREMENTS TAKEN IN THE FIELD WHEN POSSIBLE. THE INFORMATION SHOWN HEREON, IS NOT BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 48 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATIONS OF THE UTILITIES.

GENERAL SIGNING & MARKING NOTES:

1. ALL STRIPING SHALL CONFORM TO ST. JOHNS COUNTY AND/OR FDOT SPECIFICATIONS.
2. MATCH EXISTING PAVEMENT MARKINGS AT THE BEGINNING AND ENDING OF PROJECT AND ALL SIDE STREETS.
3. SIGNS SHALL BE PLACED IN ACCORDANCE WITH INDEX NO. 700-010, AND 700-101.
4. SIGN ASSEMBLY LOCATIONS SHOWN ON PLANS WHICH ARE IN CONFLICT WITH LIGHTING, UTILITIES, DRIVEWAYS, CURB CUTS, ETC. SHALL BE ADJUSTED AS DIRECTED BY ENGINEER.
5. EXISTING SIGNS TO BE REMOVED SHALL BE DELIVERED AND STOCKPILED ON SITE IN THE MATERIALS STORAGE AREA AND RETURNED TO THE OWNER.
6. COST FOR SIGNING AND MARKING, IF ANY, SHALL BE INCLUDED IN THE COSTS FOR PAVEMENT.

GENERAL DEMOLITION NOTES:

1. ALL UTILITIES SHALL REMAIN IN PLACE AND UNHARMED UNLESS SPECIFICALLY INDICATED OTHERWISE BY THE DEMOLITION PLANS (SHEETS 4 - 9).
2. THE CONTRACTOR IS RESPONSIBLE FOR PROPERLY ABANDONING WELLS OR SEPTIC SYSTEMS FOUND DURING CONSTRUCTION. ABANDONMENT SHALL BE IN ACCORDANCE WITH ALL COUNTY, STATE REGULATIONS, PER THE REQUIREMENTS SET FORTH IN THE F.A.C.

WATER AND SEWER NOTES:

1. REFER TO WATER & SEWER NOTES ON 3.

EROSION CONTROL NOTES:

1. NO CONSTRUCTION ACTIVITY INVOLVING EXCAVATION, DEMUCKING OR DEMOLITION OF ANY SITE SURFACE OR STOCKPILING OF ANY EARTHEN OR AUDIBLE MATERIALS SHALL BEGIN WITHOUT AN APPROVED PLAN AND/OR WRITTEN CONSENT BY THE ST. JOHNS COUNTY PUBLIC WORKS.
2. THE CONTRACTOR SHALL ESTABLISH ALL EROSION CONTROL MEASURES PRIOR TO EXCAVATION, DEMUCKING OR DEMOLITION OF ANY SITE SURFACE OR STOCKPILING OF ANY EARTHEN OR ERODIBLE MATERIALS.
3. THE CONTRACTOR SHALL MAINTAIN ALL EROSION CONTROL MEASURES THROUGHOUT THE DEVELOPMENT OF THE PROJECT AND SHALL NOT REMOVE ANY EROSION CONTROL MEASURE UNTIL ALL CONTRIBUTING SITE SURFACES AND VEGETATION HAVE BEEN ESTABLISHED AND STABILIZED.
4. THE CONTRACTOR SHALL PERFORM DAILY CLEAN UP OF ALL SEDIMENT AND DEBRIS WHICH LEAVES THE PROJECT SITE(S).
5. THE CONTRACTOR IS RESPONSIBLE FOR CLEANING ALL COUNTY STORM DRAIN SYSTEMS WHICH RECEIVE SEDIMENT OR DEBRIS AS A RESULT OF CONSTRUCTION, STOCKPILING OR DISPOSAL ACTIVITIES. CLEANING OF THE STORM DRAIN WILL OCCUR FROM THE POINT OF INTERCEPT TO THE OUTFALL OF THE SYSTEM OR TO A POINT WITHIN THE SYSTEM WHERE SEDIMENT OR DEBRIS IS NO LONGER PRESENT.
6. RAIN DAYS CLAIMED BY THE CONTRACTOR, DO NOT EXCUSE THE CONTRACTOR OF DAILY INSPECTION AND MAINTENANCE OF ALL SITE EROSION CONTROL MEASURES AND CLEANUP.
7. ALL SEDIMENT COLLECTION SYSTEMS MUST BE MUCKED OUT WHEN 1/3 FULL MUCKED SEDIMENT MUST BE PROPERLY CONTAINED AND DISPOSED.

ROW IMPROVEMENT NOTES:

1. ALL EXISTING UTILITIES ARE TO BE ADJUSTED TO FINAL GRADE.
2. CONTRACTOR SHALL REMOVE ANY CONFLICTING STRIPING.

ST JOHNS COUNTY NOTES:

1. SUBMITTAL OF AS-BUILT SITE SURVEY, INCLUDING BENCHMARKS, IS REQUIRED IN COMPLIANCE WITH SECTION 6.04.09 OF THE LATEST ST. JOHNS COUNTY LAND DEVELOPMENT CODE AND SECTION 15 (AS-BUILTS) OF THE DEVELOPMENT REVIEW MANUAL PRIOR TO SCHEDULING A FINAL INSPECTION OF THE WORK.
2. ST. JOHNS COUNTY DEVELOPMENT REVIEW INSPECTOR SHALL BE CONTACTED 24 HOURS PRIOR TO ALL NECESSARY SITE WORK INSPECTIONS AND 5 DAYS PRIOR TO FINAL INSPECTION.
3. IT IS THE RESPONSIBILITY OF THE APPLICANT TO SCHEDULE A PRE-CONSTRUCTION / PRE-PERMIT ISSUANCE MEETING WITH SJC STAFF AFTER PLANS HAVE BEEN RELEASED FOR CONSTRUCTION BY THE COUNTY, AND PRIOR TO STARTING ANY SITE ACTIVITIES. THE PRE-CONSTRUCTION MEETING WILL BE HELD IN CONJUNCTION WITH THE MANDATORY SJCUD PRE-CONSTRUCTION MEETING.

GENERAL FDOT RIGHT OF WAY NOTES:

1. ALL WORK PERFORMED WITHIN THE DEPARTMENT RIGHT-OF-WAY SHALL CONFORM TO THE MOST CURRENT EDITION OF THE FOLLOWING PUBLICATIONS:
   - A. STANDARD PLANS
   - B. STANDARD SPECIFICATIONS
   - C. FDOT DESIGN MANUAL
   - D. FDOT FLEXIBLE PAVEMENT DESIGN MANUAL
   - E. FDOT UTILITY ACCOMMODATION MANUAL

   (SHOULD A CONFLICT ARISE BETWEEN THE DETAILS SHOWN IN THE PLANS AND THE DEPARTMENT OF TRANSPORTATION STANDARDS THE ENGINEER/APPLICANT SHALL IMMEDIATELY CONFER WITH THE DEPARTMENTS ENGINEER IN ORDER TO RESOLVE THE DISCREPANCY)
2. ALL TRAFFIC STRIPING AND MARKINGS ARE TO BE LEAD-FREE, NON-SOLVENT BASED THERMO PLASTIC.
3. REMOVAL OF EXISTING STRIPING SHALL BE ACCOMPLISHED USING THE "HYDRO-BLAST" METHOD. IF THIS PROCESS DAMAGES / SCARS PAVEMENT, THEN THE PAVEMENT SHALL BE MILLED AND RESURFACED PER FDOT STANDARDS.
4. ALL DIRECTIONAL ARROWS SHALL BE PLACED AS ONE SEGMENT.
5. ALIGNMENT OF PROPOSED PAVEMENT MARKINGS SHALL MATCH EXISTING PAVEMENT MARKINGS AT PAVEMENT MARKING LIMITS OF CONSTRUCTION.
6. ALL CURB AND GUTTER AND SIDEWALK, WILL BE REMOVED AND REPLACED JOINT TO JOINT.
7. ALL BROKEN / CRACKED DRIVEWAYS MUST BE FULLY REMOVED AND REPLACED.
8. ALL DISTURBED AREAS WITHIN THE DEPARTMENT'S RIGHT-OF-WAY WILL BE RESTORED TO ORIGINAL OR BETTER CONDITION BY GRADING AND SODDING THE AREA DISTURBED (BERMUDA IN URBAN, BAHIA IN RURAL).
9. BURNING OF ANY MATERIAL OR DEBRIS IS PROHIBITED IN FDOT RIGHT OF WAY.
10. ALL LANES MUST BE OPENED FOR TRAFFIC DURING AN EVACUATION NOTICE OF A HURRICANE OR OTHER CATASTROPHIC EVENT AND SHALL REMAIN OPEN FOR THE DURATION OF THE EVACUATION OR EVENT.

EXISTING LEGEND

- PROPERTY / RIGHT OF WAY LINE
- WETLAND LINE
- ROADWAY CENTERLINE
- CURB & GUTTER
- WETLANDS
- XX.XX — SPOT ELEVATION
- GRAVITY SEWER
- FORCE MAIN SEWER
- WATER MAIN
- 6 — MAJOR CONTOUR
- 6 — MINOR CONTOUR

PROPOSED LEGEND

- PROPERTY / RIGHT OF WAY LINE
- DRAINAGE EASEMENT LINE
- UTILITY EASEMENT LINE
- ROADWAY CENTERLINE
- BUILDING SETBACK LINE
- CURB & GUTTER
- XX.XX — SPOT ELEVATION
- SLOPE INDICATOR
- DRAINAGE SWALE / FLOW DIRECTION
- EXISTING TREE TO BE REMOVED
- EXISTING TREE TO BE SAVED
- TREE PROTECTION FENCING
- STORM PIPE
- STORM DITCH BOTTOM INLET
- CURB INLET
- MITERED END SECTION
- HEADWALL
- STORM MANHOLE
- SPOT ELEVATION
- 6 — MAJOR CONTOUR
- 6 — MINOR CONTOUR
- DRAINAGE DIVIDE
- FLOW DIRECTION
- SILT FENCE
- CRP-1 — CONSTRUCTION REFERENCE POINT
- PROPOSED WATER MAIN W/SIZE
- PROPOSED GATE VALVE W/BOX AND COVER
- FIRE HYDRANT ASSEMBLY
- SINGLE WATER SERVICE
- FLUSHING VALVE
- PROPOSED SANITARY SEWER MAIN
- PROPOSED SANITARY SEWER MANHOLE
- SANITARY SEWER CLEAN OUT
- SANITARY SEWER SERVICE LATERAL
- PROPOSED SANITARY SEWER FORCE MAIN
- PROPOSED FIRE PROTECTION MAIN
- REDUCED PRESSURE BACK FLOW PREVENTER
- UTILITY CROSSING
- SAMPLE POINT (SP)
- END OF WATER MAIN PLUG
- DOUBLE WATER SERVICE
- L1 — LINE NUMBER
- C1 — CURVE NUMBER
- 10+00 — STATION NUMBER
- 58 — LOT NUMBER
- (XX) — NUMBER OF PARKING SPACES

ABBREVIATIONS

ABBREVIATION	DESCRIPTION
A	ARC
AC	ACRE
BOC	BACK OF CURB
BFP	BACK FLOW PREVENTER
BLDG	BUILDING
BM	BENCHMARK
BOTT	BOTTOM
CI	CURB INLET
CO	CLEANOUT
CB	CHORD BEARING
CH	CHORD
CMP	CORRUGATED METAL PIPE
CONC	CONCRETE
CONSTR	CONSTRUCT
CONT	CONTINUATION
COORD	COORDINATE
DRL CI	DOUBLE CURB INLET
DE	DRAINAGE EASEMENT
DHW	DESIGN HIGH WATER
DIP	DUCTILE IRON PIPE
Δ	DELTA
E	EAST
EOP	EDGE OF PAVEMENT
EL	ELEVATION
ERCP	ELLIPTICAL REINFORCED CONCRETE PIPE
ESMT	EASEMENT
EXIST	EXISTING
FF	FINISH FLOOR
FH	FIRE HYDRANT
FL	FLOW LINE
FM	FORCE MAIN
FP	FIRE PROTECTION MAIN
FV	FLUSHING VALVE
GV	GATE VALVE
HDPE	HIGH DENSITY POLYETHYLENE
HDWL	HEADWALL
HWL	HIGH WATER LEVEL
INV	INVERT
L	LENGTH
LF	LINEAR FEET
MES	MITERED END SECTION
MAX	MAXIMUM
M	MANHOLE
MIN	MINIMUM
N	NORTH
NIC	NOT IN CONTRACT
NG	NATURAL GRADE
NTS	NOT TO SCALE
NWL	NORMAL WATER LEVEL
PC	POINT OF CURVATURE
PCC	POINT OF COMPOUND CURVE
PI	POINT OF INTERSECTION
POB	POINT OF BEGINNING
PRC	POINT OF REVERSE CURVE
PT	POINT OF TANGENCY
PVC	POINT OF VERTICAL CURVATURE
PVI	POINT OF VERTICAL INFLECTION
PVT	POINT OF VERTICAL TANGENCY
PVMT	PAVEMENT
PVC	POLYVINYL CHLORIDE PIPE
R	RADIUS
RP	RADIUS POINT
R/W	RIGHT OF WAY
RCP	REINFORCED CONCRETE PIPE
RED	REDUCER
RPZBFP	REDUCED PRESSURE BACKFLOW PREVENTER
S	SOUTH
SAN	SANITARY
SEP	SEPARATION
SL	SLOPE
SP	SAMPLE POINT
SPET	SPECIFY
STA	STATION
SWMF	STORM WATER MANAGEMENT FACILITY
TOB	TOP OF BANK
SWR	SEWER
TOC	TOP OF CURB
TRI CI	TRIPLE CURB INLET
TYP	TYPICAL
UDAE	UNOBSTRUCTED DRAINAGE & ACCESS EASEMENT
UDE	UNOBSTRUCTED DRAINAGE EASEMENT
UE	UTILITY EASEMENT
VC	VERTICAL CURVE
W	WEST
WM	WATER MAIN

REVISIONS

NO	DATE	DESCRIPTION
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—	—	—
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DSN BY: D.M.I
DWN BY: P.D.H
CHK BY: S.A.K
DATE: 05-16-22
JOB #: 18122.53

REGISTERED DURESS
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GENERAL NOTES

SR 207 FORCEMAIN DESIGN

ST. JOHNS COUNTY

PREPARED FOR
ST. JOHNS COUNTY BOARD OF COUNTY COMMISSIONERS

SHEET NO.
2
OF 25

THESE PLANS, AS AN INSTRUMENT OF SERVICE, ARE AND SHALL REMAIN THE PROPERTY OF MATTHEWS DESIGN GROUP, INC. THEY ARE NOT TO BE USED IN WHOLE OR IN PART FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF MATTHEWS DESIGN GROUP, INC.

ST. JOHNS COUNTY UTILITY DEPARTMENT (SJCUD) GENERAL NOTES

GENERAL:

1. TWO (2) COPIES OF THE SHOP DRAWINGS (STAMPED APPROVED BY THE ENGINEER) SHALL BE SUBMITTED TO SJCUD FOR REVIEW PRIOR TO SCHEDULING THE MANDATORY PRE-CONSTRUCTION CONFERENCE. THE INITIAL SHOP DRAWING REVIEW BY SJCUD WILL BE COMPLETED WITHIN FIFTEEN (15) WORKING DAYS. SUBSEQUENT SHOP DRAWING REVIEWS WILL BE COMPLETED WITHIN TEN (10) WORKING DAYS.

2. A PRE-CONSTRUCTION CONFERENCE IS REQUIRED WITH THE DEVELOPER, THE ENGINEER OF RECORD, THE UTILITY CONTRACTOR, AND THE SJCUD PRIOR TO THE START OF ANY CONSTRUCTION. A PRE-CONSTRUCTION CONFERENCE WITH SJCUD IS REQUIRED REGARDLESS OF OTHER AGENCIES REQUIREMENTS.

3. ALL WATER, SEWER, AND/OR REUSE CONSTRUCTION SHALL BE PERFORMED BY A CONTRACTOR LICENSED UNDER THE PROVISIONS OF CHAPTER 489, FLORIDA STATUTES. A COPY OF THE CONTRACTOR'S GENERAL LICENSE AND/OR UNDERGROUND UTILITY LICENSE SHALL BE PROVIDED AT THE PRE-CONSTRUCTION CONFERENCE.

4. THE CONTRACTOR IS RESPONSIBLE FOR INSPECTING THE SITE PRIOR TO CONSTRUCTION.

5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFICATION OF ALL LOCATIONS & ELEVATIONS PRIOR TO COMMENCEMENT OF CONSTRUCTION.

6. THE CONTRACTOR(S) SHALL LOCATE, VERIFY, AND IDENTIFY ALL EXISTING UTILITIES AND UNDERGROUND UTILITIES, SHOWN OR NOT SHOWN ON THE PLANS PRIOR TO ANY EXCAVATING ACTIVITIES AND TAKE ALL MEASURES NECESSARY TO PROTECT UTILITIES DURING CONSTRUCTION. SHOULD ANY UTILITY OWNED OR COMPONENT BEYOND DAMAGED OR REQUIRE RELOCATION, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE AFFECTED UTILITY COMPANY, ENGINEER OF RECORD, COUNTY, AND SJCUD.

7. THE WATER, SEWER, AND/OR REUSE SYSTEM SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE SJCUD APPROVED CONSTRUCTION DRAWINGS AND SPECIFICATIONS. IF THERE IS ANY DEVIATION FROM THE APPROVED CONSTRUCTION DRAWINGS OR SPECIFICATIONS, WITHOUT PRIOR AUTHORIZATION AND CONSENT FROM THE SJCUD, THE CONTRACTOR SHALL REMOVE THE DEVIATION AND RESTORE IT TO THE APPROVED CONSTRUCTION DRAWING CONFIGURATION AT NO EXPENSE TO THE SJCUD. ANY DEVIATIONS FROM THE APPROVED DOCUMENTS WILL DELAY THE SJCUD SUBMITTAL PROCESS.

8. THE CONTRACTOR SHALL FIELD VERIFY THE CONNECTION POINTS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. ALL DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER OF RECORD AND SJCUD IMMEDIATELY.

9. EXISTING UTILITIES SHOWN ON THESE PLANS HAVE BEEN LOCATED PER AVAILABLE MEANS WITHOUT EXCAVATION.

10. VERTICAL LOCATIONS OF ALL UTILITIES (EXCLUDING EXISTING STORM SEWERS) SHOWN ON PLAN AND PROFILE SHEETS HAVE BEEN REFERENCED TO A BENCH MARK SHOWN ON THE UTILITY PLANS. CONTRACTOR SHALL EXERCISE CAUTION DURING EXCAVATION NEAR EXISTING UTILITIES SHOWN ON THE PLANS AND NOTIFY THE ENGINEER IF LOCATION DIFFERS FROM THAT SHOWN ON THE PLANS BEFORE CONTINUING WITH CONSTRUCTION.

11. SHOULD CONDITIONS VARY FROM THOSE SHOWN ON THESE PLANS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER AND SJCUD PRIOR TO CONTINUING CONSTRUCTION.

12. THE CONTRACTOR SHALL PROTECT SURVEY MARKERS, MONUMENTS, ETC. DURING CONSTRUCTION. THE CONTRACTOR SHALL RESTORE/REPLACE, AT NO ADDITIONAL EXPENSE TO THE OWNER, ANY DAMAGE DONE BY CONSTRUCTION ACTIVITIES.

13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING UTILITIES CAUSED BY HIS OPERATIONS. ANY DAMAGE SHALL BE REPLACED/REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER.

14. THE CONTRACTOR SHALL COORDINATE ALL CONSTRUCTION AND BUILDING PLACEMENT WITH ALL OTHER UTILITIES CONSTRUCTION.

15. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL AND DISPOSAL OF ANY UNSUITABLE MATERIAL THAT IS ENCOUNTERED DURING TRENCH EXCAVATION. SUITABLE REPLACEMENT BACKFILL MATERIAL SHALL BE IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL REGULATIONS.

16. UNSUITABLE MATERIALS UNDER WATER, SEWER, AND/OR REUSE MAINS SHALL BE REMOVED AND REPLACED WITH SELECTED BACKFILL PROPERLY COMPACTED TO 95% OF MAXIMUM DENSITY. BACKFILL SHALL BE COMPACTED IN A MAXIMUM OF ONE-FOOT (1) LIFTS. DENSITY TESTS SHALL BE TAKEN AFTER COMPACTION OF EVERY LIFT.

17. THE CONTRACTOR(S) SHALL NOTIFY ALL APPLICABLE UTILITIES COMPANIES, THE ENGINEER OF RECORD, AND THE PROPERTY OWNER 72 HOURS PRIOR TO INITIATING ANY EXCAVATION ACTIVITIES, OR AS SPECIFIED BY THE UTILITY COMPANIES AND THE PERMITS OBTAINED FOR THE WORK.

18. THE ENGINEER OF RECORD AND SJCUD SHALL BE GIVEN SEVENTY TWO HOURS (72-HRS) NOTICE FOR ALL PLOWLESS MEETINGS AND/OR TESTING MEASURES RELATED TO THE PROJECT.

19. ALL WORK, MATERIALS, AND EQUIPMENT SHALL BE IN COMPLETE ACCORDANCE WITH ALL RELEVANT ST. JOHNS COUNTY STANDARDS AND REQUIREMENTS AS WELL AS STATE AND LOCAL REGULATIONS.

20. ALL UNDERGROUND UTILITY EQUIPMENT, MATERIALS AND INSTALLATION SHALL BE IN ACCORDANCE WITH THE LATEST REVISION OF THE MANUAL OF WATER, WASTEWATER, AND REUSE DESIGN STANDARDS & SPECIFICATIONS, ALL APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS, AND THE APPROVED SITE PLANS.

21. ALL UTILITY CROSSINGS SHALL COMPLY WITH FDEP REGULATIONS (CH. 62-555.314, FAC)

22. ANY LANDSCAPING TREES SHALL BE PLACED AT A MINIMUM OF 7.5 FEET AWAY FROM THE EDGE OF PIPELINE TO THE EDGE OF THE TREE LINE.

23. ALL FOOD AND UNSUITABLE SJCUD STOICS (AS DESCRIBED IN APPLICABLE AWWA AND ST. JOHNS COUNTY UTILITIES STANDARDS AND/OR PIPE MANUFACTURER'S RECOMMENDED INSTALLATION PROCEDURES) FOUND IN TRENCHES FOR NEW AND RELOCATED PIPE SHALL BE REMOVED TO A DEPTH OF AT LEAST SIX (6) INCHES BELOW THE BOTTOM OF THE PIPE. CONTINUOUS AND UNIFORM BEDDING SHALL BE PROVIDED FOR NEW AND RELOCATED PIPES. THE BACKFILL MATERIAL SHALL BE TAMPED IN LAYERS AROUND THE NEW AND RELOCATED PIPES UP TO A SUFFICIENT HEIGHT ABOVE SUCH PIPE TO ADEQUATELY SUPPORT AND PROTECT THE PIPE.

24. FOR WATER, WASTEWATER, AND REUSE MAINS SMALLER THAN 12 INCHES, THE MINIMUM AND MAXIMUM COVER SHALL BE 30 INCHES AND 36 INCHES, RESPECTIVELY, IN PAVED AREAS AND 36 INCHES AND 42 INCHES, RESPECTIVELY, IN UNPAVED AREAS AND IN EASEMENTS. FOR MAINS 12 INCHES OR GREATER, THE MINIMUM AND MAXIMUM COVER SHALL BE 42 INCHES AND 54 INCHES, RESPECTIVELY. EXCEPTIONS WILL BE MADE FOR CONFLICTS.

25. WHERE FORCE MAINS, WATER MAINS, OR REUSE MAINS ARE LAID WITHOUT FITTINGS, THE MAXIMUM DEFLECTION SHALL BE 80% OF THAT RECOMMENDED BY THE MANUFACTURER.

26. FITTINGS SHALL BE USED AT LOCATIONS INDICATED ON THE PLANS, UNLESS OTHERWISE APPROVED BY THE ENGINEER. ALL FITTINGS SHALL BE RESTRAINED PER "THE RESTRAINED JOINT" TABLE IN THE APPROVED PLAN SET.

27. ALL UNDERGROUND VALVES SHALL BE INSTALLED WITH AN ADJUSTABLE CAST IRON VALVE BOX WITH TOP SET TO FINAL GRADE IN ACCORDANCE WITH SJCUD DETAILS AND SPECIFICATIONS. ALL VALVES SHALL HAVE RED LOCATORS (145.7 KILOHERTZ).

28. CONTRACTOR IS RESPONSIBLE FOR PROPER NOTIFICATION OF INSPECTING AUTHORITIES BEFORE AND DURING CONSTRUCTION.

29. CONTRACTOR SHALL PROVIDE A MINIMUM OF SEVEN (7) CALENDAR DAYS NOTICE TO SJCUD PRIOR TO SCHEDULING THE FINAL INSPECTION.

NOTICE OF PROCEDURE:

1. ALL COMMERCIAL BUILDING PERMITS AND METERS PROCESSED THROUGH SJCUD CUSTOMER SERVICE SHALL BE ACCOMPANIED BY A SET OF APPROVED CIVIL PLANS.

2. ALL CONNECTIONS TO THE WATER, SEWER, AND/OR REUSE SYSTEM, FLUSHING, AND PRESSURE TESTS TO BE PERFORMED BY THE UTILITY CONTRACTOR OR LICENSED MASTER PLUMBER MUST BE SCHEDULED AT LEAST FIVE (5) WORKING DAYS IN ADVANCE WITH THE SJCUD. A SJCUD INSPECTOR MUST BE PRESENT PRIOR TO THE CONNECTION BEING MADE OR TESTING.

3. IT IS THE ENGINEER OF RECORD'S RESPONSIBILITY TO SECURE APPLICABLE PERMITS PRIOR TO CONSTRUCTION.

4. THE PROPERTY OWNER SHALL PURCHASE THE WATER METER THROUGH THE SJCUD ON PROJECTS THAT REQUIRE A WATER METER LARGER THAN ONE (1) INCH. THE OWNER'S CONTRACTOR SHALL INSTALL ALL METERS THREE (3) INCHES AND LARGER.

5. WATER, SEWER, AND/OR REUSE UNIT CONNECTION FEES SHALL BE PAID AT THE TIME OF BUILDING PERMIT APPLICATION.

6. ALL ON-SITE PRIVATE WATER, SEWER, AND/OR REUSE CONSTRUCTION BETWEEN THE METER AND BUILDING MAY BE INSPECTED BY THE SJCUD TO ENSURE STANDARDS ARE MET.

7. ALL REQUIREMENTS BY THE SJCUD (I.E. FINAL INSPECTION, CORRECTION OF PUNCH LIST ITEMS, AS-BUILTS, FDEP CERTIFICATION OF COMPLETION, ETC.) MUST BE SATISFIED PRIOR OF ISSUANCE OF CERTIFICATES OF OCCUPANCY.

POTABLE WATER SYSTEMS NOTES:

1. ALL WATER MAINS 4" THROUGH 12" DIAMETER SHALL BE PVC C-900, DR-18, COLOR "BLUE" WITH PUSH-ON GASKETED JOINTS OR C-906 HDPE DR 11 COLOR "BLUE" OR DIP CLASS 350.

2. ALL WATER MAINS 16" THROUGH 20" DIAMETER SHALL BE PVC C-905, DR-25, COLOR "BLUE" WITH PUSH-ON GASKETED JOINTS OR C-906 HDPE DR 11 COLOR "BLUE" OR DIP CLASS 250.

3. ALL WATER MAINS 24" AND LARGER DIAMETER SHALL BE DUCTILE IRON PIPE.

4. ALL WATER LINES 2" DIAMETER OR LESS SHALL BE HDPE DR 9 COLOR "BLUE".

5. ALL CURB STOPS ARE TO BE BALL-TYPE WITH LOCKING CAPABILITY.

6. THE SEPARATION REQUIREMENT BETWEEN POTABLE WATER MAINS AND OTHER UTILITIES SHALL BE PER CH. 62-555, FAC.

7. A FULL UNCUT LENGTH OF WATER MAIN PIPE (USUALLY 20 FEET) SHALL BE CENTERED AT THE POINT OF CROSSING OF ALL WATER AND SEWER (INCLUDING STORM) LINES AT THE POINT OF CROSSINGS REGARDLESS OF THE VERTICAL SEPARATION.

8. WHERE SOLVENT CONTAMINATION IS FOUND IN THE TRENCH, WORK WILL BE STOPPED AND THE PROPER AUTHORITIES NOTIFIED. WITH THE APPROVAL OF THE ST. JOHNS COUNTY HEALTH DEPARTMENT, DUCTILE IRON PIPE, FITTINGS, AND APPROVED CONCRETE RESISTANT GASKET MATERIAL SHALL BE USED IN THE CONTAMINATED AREA. THE DUCTILE IRON PIPE WILL EXTEND AT LEAST 100 FEET BEYOND ANY DISCOVERED CONTAMINATION.

9. NO CONNECTION TO EXISTING POTABLE WATER SYSTEM SHALL BE ALLOWED UNTIL ALL PROPERLY WATER LINES HAVE PASSED PRESSURE TESTING, DISINFECTED, CLEARED FOR SERVICE AND ACCEPTED FOR MAINTENANCE BY THE SJCUD AND FDEP.

10. JUMPER CONNECTIONS WITH BACKFLOW PREVENTION DEVICE SHALL BE USED TO FILL OR FLUSH WATER MAINS.

11. ALL NEW AND RELOCATED WATER MAIN PIPE, FITTINGS, VALVES, AND FIRE HYDRANTS SHALL BE IN CONFORMANCE WITH APPLICABLE AMERICAN WATER WORKS ASSOCIATION (AWWA) AND SJCUD STANDARDS.

12. ALL NEW AND RELOCATED WATER MAIN PIPE AND FITTINGS WILL COMPLY WITH THE LATEST FDEP AND AWWA STANDARDS FOR LEAD CONTENT.

13. ALL NEW AND RELOCATED WATER MAINS SHALL BE PRESSURE TESTED AND LEAKAGE TESTED IN ACCORDANCE WITH AWWA STANDARD C600, LATEST EDITION.

14. ALL NEW AND RELOCATED WATER MAINS SHALL BE DISINFECTED IN ACCORDANCE WITH AWWA STANDARD C651 AND RULE 62-555.349, F.A.C.

15. ALL NEW AND RELOCATED WATER SERVICES SHALL BE IN CONFORMANCE WITH THE STATE PLUMBING CODE AND SJCUD STANDARDS.

16. THE BACTERIOLOGICAL SAMPLE POINTS SHALL BE INDICATED ON THE AS BUILT DRAWINGS. THE SAMPLE POINT NUMBERING AND STATIONING SHALL CORRESPOND TO THOSE OF THE BACTERIOLOGICAL SAMPLE CHAIN OF CUSTODY FORMS.

WASTEWATER SYSTEM NOTES:

1. INTERIOR JOINTS ARE REQUIRED ON JUNCTION MANHOLES WITH THREE OR MORE INVERTS.

2. SANITARY SEWER LINE TO DEPTHS UP TO 10'. SHALL BE SDR-35 PVC PIPE CONFORMING TO ASTM D-3034 (COLORED GREEN). SANITARY SEWER LINE OF DEPTHS 10' TO 15' SHALL BE SDR-26 PVC. ALL SANITARY SEWER LINES SHALL BE SWEPT AND CLEARLY MARKED ON THE PLANS.

3. SANITARY SEWER FORCE MAIN 4" AND LARGER SHALL BE C900 DR25 PVC PIPE CONFORMING TO AS/M D-1784 CLASS 12454-B, AND D-2241 DUCTILE IRON PIPE SHALL BE CLAD IN LIQUID WITH HIGHLY ADHESIVE, BY THE SJCUD. SANITARY FORCE MAIN SHALL BE COLOR CODED GREEN AND CLEARLY MARKED.

4. THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER OF RECORD AND SJCUD ALL VIDEO LOGS, WRITTEN REPORTS, AND DEFLECTION TEST RESULTS FOR REVIEW AND APPROVAL.

5. THE CONTRACTOR SHALL CONTACT SJCUD PRE-TREATMENT DEPARTMENT AT (904) 209-2600 FOR INSPECTION AFTER INSTALLATION OF GREASE TRAPS, INTERCEPTORS, AND/OR OIL-WATER SEPARATORS.

6. ALL FORCE MAIN LINES 4" SHALL BE HDPE DR 9 OR 11 COLOR "GREEN".

AS-BUILTS:

1. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PRODUCE, SUBMIT AND OBTAIN APPROVAL OF REPRODUCIBLE "AS-BUILT" DRAWINGS FROM JURISDICTIONAL AGENCIES AS MAY BE REQUIRED.

2. "AS-BUILT" INFORMATION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. CONTRACTOR SHALL EMPLOY THE SERVICES OF A SURVEYOR REGISTERED IN THE STATE OF FLORIDA TO DETERMINE AS "AS BUILT" INFORMATION. UPON COMPLETION OF THE WORK, THE CONTRACTOR SHALL PROVIDE UP TO SIX COPIES AND THE CAD FILE OF AS-BUILT DRAWINGS TO THE ENGINEER.

3. A MINIMUM OF FIVE WORKING DAYS PRIOR TO THE FINAL INSPECTION, TWO (2) SETS OF PRELIMINARY BLACKLINE "AS-BUILTS" AND COPY ON DISK IN AUTOCAD FORMAT SHOWING THE REQUIRED INFORMATION, SHALL BE SUBMITTED TO THE ENGINEER OF RECORD.

4. THE RECORD OR "AS BUILT" DRAWINGS TO BE PREPARED BY THE CONTRACTOR AND SUBMITTED AT THE TIME OF THE REQUEST FOR A LETTER OF RELEASE TO PLACE THE CONSTRUCTION INTO SERVICE WILL CLEARLY DEPICT THE VERTICAL CLEARANCES BETWEEN WATER, SEWER (INCLUDING STORM) AND REUSE LINES AT ALL CROSSING AND PARALLEL RUNS WHERE THE HORIZONTAL SEPARATION IS LESS THAN 10 FEET. IN ADDITION, THE CENTERING OF UNCUT LENGTHS OF PIPE (USUALLY 20 FEET) AT POINTS OF CROSSINGS WILL BE DOCUMENTED ON THE DRAWINGS AND ALL ENCASING CONSTRUCTION MEASURES CLEARLY DEPICTED IN CASES WHERE A MINIMUM OF 6 INCHES OF VERTICAL CLEARANCE BETWEEN THE WATER MAIN OR SEWER (INCLUDING STORM) LINES IS NOT POSSIBLE.

5. AFTER SJCUD HAS APPROVED "PRELIMINARY AS BUILT", THREE (3) SETS OF BLACKLINE AS-BUILTS (SIGNED AND SEALED), ONE SET OF MYLARS AS BUILT (SIGNED), AND COPY ON DISK IN AUTOCAD (LATEST VERSION) DRAWING (NO LISP FILES), SHALL BE SUBMITTED TO SJCUD THROUGH ST. JOHNS COUNTY DEVELOPMENT SERVICES.

STANDARD WATER/ SEWER/ RECLAIMED WATER SEPARATION STATEMENT:

THE CONTRACTOR SHALL INSTALL ALL MAINS IN ACCORDANCE WITH THE REQUIREMENTS OF "RULE 62-555.314, FAC." BELOW. THE CONTRACTOR SHALL NOTIFY SJCUD IN ANY INSTANCE WHERE THE BELOW REQUIREMENTS CANNOT BE MET PRIOR TO INSTALLATION OF PIPE.

"62-555.314 LOCATION OF PUBLIC WATER SYSTEM MAINS.

FOR THE PURPOSE OF THIS SECTION, THE PHRASE "WATER MAINS" SHALL MEAN WATER LINES CONVEYING TREATMENT PLANT PROCESS PIPING, CONVEYING EITHER RAW, PARTIALLY TREATED, OR FINISHED DRINKING WATER; FIRE HYDRANT LEADS; AND SERVICE LINES THAT ARE UNDER THE CONTROL OF A PUBLIC WATER SYSTEM AND THAT HAVE AN INSIDE DIAMETER OF THREE INCHES OR GREATER.

(1) HORIZONTAL SEPARATION BETWEEN UNDERGROUND WATER MAINS AND SANITARY OR STORM SEWERS, WASTEWATER OR STORM WATER FORCE MAINS, RECLAIMED WATER PIPELINES, AND ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS.

(a) NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF 3 FEET (PREFERABLY 10 FEET) BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED STORM SEWER, STORM WATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C. (THE MINIMUM HORIZONTAL SEPARATION DISTANCE BETWEEN WATER FORCE MAINS AND GRAVITY SANITARY SEWERS SHALL BE INCREASED TO THREE FEET WHERE THE BOTTOM OF THE WATER MAIN IS LAID AT LEAST SIX INCHES ABOVE THE TOP OF THE SEWER.

(b) NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST TEN FEET BETWEEN THE OUTSIDE OF THE WATER MAIN AND ALL PARTS OF ANY EXISTING OR PROPOSED NON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEM AS DEFINED IN SECTION 381.0065(2), F.S., AND RULE 64E-6.002, F.A.C.

(2) VERTICAL SEPARATION BETWEEN UNDERGROUND WATER MAINS AND SANITARY OR STORM SEWERS, WASTEWATER OR STORM WATER FORCE MAINS, AND RECLAIMED WATER PIPELINES.

(a) NEW OR RELOCATED, UNDERGROUND WATER MAINS CROSSING ANY EXISTING OR PROPOSED GRAVITY- OR VACUUM-TYPE SANITARY SEWER OR STORM SEWER SHALL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST SIX INCHES AND PREFERABLY 12 INCHES ABOVE OR AT LEAST 12 INCHES BELOW THE OUTSIDE OF THE OTHER PIPELINE. HOWEVER, IT IS PREFERABLE TO LAY THE WATER MAIN ABOVE THE OTHER PIPELINE.

(b) NEW OR RELOCATED, UNDERGROUND WATER MAINS CROSSING ANY EXISTING OR PROPOSED PRESSURE-TYPE SANITARY SEWER, WASTEWATER OR STORM WATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER SHALL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST 12 INCHES ABOVE OR BELOW THE OUTSIDE OF THE OTHER PIPELINE. HOWEVER, IT IS PREFERABLE TO LAY THE WATER MAIN ABOVE THE OTHER PIPELINE.

(c) AT THE UTILITY CROSSINGS DESCRIBED IN PARAGRAPHS (a) AND (b) ABOVE, ONE FULL LENGTH OF WATER MAIN PIPE SHALL BE CENTERED ABOVE OR BELOW THE OTHER PIPELINE SO THE WATER MAIN JOINTS WILL BE AS FAR AS POSSIBLE FROM THE OTHER PIPELINE. ALTERNATIVELY, AT SUCH CROSSINGS, THE PIPES SHALL BE ARRANGED SO THAT ALL WATER MAIN JOINTS ARE AT LEAST THREE FEET FROM ALL JOINTS IN VACUUM-TYPE SANITARY SEWERS, STORM SEWERS, STORM WATER FORCE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C., AND AT LEAST SIX FEET FROM ALL JOINTS IN GRAVITY- OR PRESSURE-TYPE SANITARY SEWERS, WASTEWATER FORCE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.

(3) SEPARATION BETWEEN WATER MAINS AND SANITARY OR STORM SEWER MANHOLES.

(a) NO WATER MAIN SHALL PASS THROUGH OR COME INTO CONTACT WITH ANY PART OF A SANITARY SEWER MANHOLE.

(b) EFFECTIVE AUGUST 28, 2002, WATER MAINS SHALL NOT BE CONSTRUCTED OR ALTERED TO PASS THROUGH OR COME INTO CONTACT WITH ANY PART OF A STORM SEWER MANHOLE OR INLET STRUCTURE. WHERE IT IS NOT TECHNICALLY FEASIBLE OR ECONOMICALLY SENSIBLE TO COMPLY WITH THIS REQUIREMENT (E.G., WHERE THERE IS A CONFLICT IN THE ROUTING OF A WATER MAIN AND A STORM SEWER AND WHERE ALTERNATIVE ROUTING OF THE WATER MAIN OR THE STORM SEWER IS NOT TECHNICALLY FEASIBLE OR IS NOT ECONOMICALLY SENSIBLE), THE DEPARTMENT SHALL ALLOW EXCEPTIONS TO THIS REQUIREMENT (I.E., THE DEPARTMENT SHALL ALLOW CONSTRUCTION OF CONFLICT MANHOLES), BUT SUPPLIERS OF WATER OR PERSONS PROPOSING TO CONSTRUCT CONFLICT MANHOLES MUST FIRST OBTAIN A SPECIFIC PERMIT FROM THE DEPARTMENT IN ACCORDANCE WITH PART V OF THIS CHAPTER AND MUST PROVIDE IN THE PRELIMINARY DESIGN REPORT OR DRAWINGS, SPECIFICATIONS, AND DESIGN DATA ACCOMPANYING THEIR PERMIT APPLICATION THE FOLLOWING INFORMATION:

1. TECHNICAL OR ECONOMIC JUSTIFICATION FOR EACH CONFLICT MANHOLE.

2. A STATEMENT IDENTIFYING THE PARTY RESPONSIBLE FOR MAINTAINING EACH CONFLICT MANHOLE.

3. ASSURANCE OF COMPLIANCE WITH THE DESIGN AND CONSTRUCTION REQUIREMENTS IN SUB-SUBPARAGRAPHS A. THROUGH D. BELOW.

A. EACH WATER MAIN PASSING THROUGH A CONFLICT MANHOLE SHALL HAVE A FLEXIBLE, WATERTIGHT JOINT ON EACH SIDE OF THE MANHOLE TO ACCOMMODATE DIFFERENTIAL SETTING BETWEEN THE MAIN AND THE MANHOLE.

B. WITHIN EACH CONFLICT MANHOLE, THE WATER MAIN PASSING THROUGH THE MANHOLE SHALL BE ENCASED IN A WATERTIGHT CASING PIPE HAVING HIGH IMPACT STRENGTH (I.E., HAVING AN IMPACT STRENGTH AT LEAST EQUAL TO THAT OF DUCTILE IRON PIPE).

C. EACH CONFLICT MANHOLE SHALL HAVE AN ACCESS OPENING AND SHALL BE SIZED TO ALLOW FOR EASY CLEARING OF THE MANHOLE.

D. GRATINGS SHALL BE INSTALLED AT ALL STORM SEWER INLETS UPSTREAM OF EACH CONFLICT MANHOLE TO PREVENT LARGE OBJECTS FROM ENTERING THE MAIN OLE.

(4) SEPARATION BETWEEN FIRE HYDRANT DRAINS AND SANITARY OR STORM SEWERS, WASTEWATER OR STORM WATER FORCE MAINS, RECLAIMED WATER PIPELINES, AND ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS. VIEW OR RELOCATED FIRE HYDRANTS WITH UNDERGROUND DRAINS SHALL BE LOCATED SO THAT THE DRAINS ARE AT LEAST THREE FEET FROM ANY SANITARY SEWER, VACUUM-TYPE STORM SEWER, STORM WATER MAIN, OR PIPELINE CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C. AT LEAST THREE FEET AND PREFERABLY TEN FEET, FROM ANY EXISTING OR PROPOSED VACUUM-TYPE SAND ANY GRAVITY AT LEAST SIX FEET, AND PREFERABLY TEN FEET, FROM ANY LOW PRESSURE GRAVITY- OR PRESSURE-TYPE SANITARY SEWER, WASTEWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.; AND AT LEAST TEN FEET FROM ANY EXISTING OR PROPOSED "ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEM" AS DEFINED IN SECTION 381.0065(2), F.S., AND RULE 64E-6.002, F.A.C.

(5) EXCEPTIONS. WHERE IT IS NOT TECHNICALLY FEASIBLE OR ECONOMICALLY SENSIBLE TO COMPLY WITH THE REQUIREMENTS IN SUBSECTION (1) OR (2) ABOVE, THE DEPARTMENT SHALL ALLOW EXCEPTIONS TO THESE REQUIREMENTS IF SUPPLIERS OF WATER OR CONSTRUCTION PERMIT APPLICANTS PROVIDE TECHNICAL OR ECONOMIC JUSTIFICATION FOR EACH EXCEPTION AND PROVIDE ADDITIONAL MEASURES THAT ARE NECESSARY TO ASSURE LONG-TERM RELIABILITY AND PUBLIC HEALTH PROTECTION. ACCEPTABLE ALTERNATIVE CONSTRUCTION FEATURES INCLUDE THE FOLLOWING:

(a) WHERE AN UNDERGROUND WATER MAIN IS BEING LAID LESS THAN THE REQUIRED MINIMUM HORIZONTAL DISTANCE AWAY FROM ANOTHER PIPELINE AND WHERE AN UNDERGROUND WATER MAIN IS CROSSING ANOTHER PIPELINE AND JOINTS IN THE WATER MAIN ARE BEING LOCATED LESS THAN THE REQUIRED MINIMUM DISTANCE FROM JOINTS IN THE OTHER PIPELINE:

1. USE OF PRESSURE-RATED PIPE CONFORMING TO THE AMERICAN WATER WORKS ASSOCIATION STANDARDS INCORPORATED BY RULE 62-555.330, F.A.C., FOR THE OTHER PIPELINE IF IT IS A GRAVITY- OR VACUUM-TYPE PIPELINE;

2. USE OF WELDED, FUSED, OR OTHERWISE RESTRAINED JOINTS FOR EITHER THE WATER MAIN OR THE OTHER PIPELINE; OR

3. USE OF WATERTIGHT CASING PIPE OR CONCRETE ENCASEMENT AT LEAST FOUR INCHES THICK FOR EITHER THE WATER MAIN OR THE OTHER PIPELINE.

(b) WHERE AN UNDERGROUND WATER MAIN IS BEING LAID LESS THAN THREE FEET HORIZONTALLY FROM ANOTHER PIPELINE AND WHERE AN UNDERGROUND WATER MAIN IS CROSSING ANOTHER PIPELINE AND IS BEING LAID LESS THAN THE REQUIRED MINIMUM VERTICAL DISTANCE FROM THE OTHER PIPELINE:

1. USE OF PIPE, OR CASING PIPE, HAVING HIGH IMPACT STRENGTH (I.E., HAVING AN IMPACT STRENGTH AT LEAST EQUAL TO THAT OF 0.26-INCH-THICK DUCTILE IRON PIPE) OR CONCRETE ENCASEMENT AT LEAST FOUR INCHES THICK FOR THE WATER MAIN; AND

2. USE OF PIPE, OR CASING PIPE, HAVING HIGH IMPACT STRENGTH (I.E., HAVING AN IMPACT STRENGTH AT LEAST EQUAL TO THAT OF 0.26-INCH-THICK DUCTILE IRON PIPE) OR CONCRETE ENCASEMENT AT LEAST FOUR INCHES THICK FOR THE OTHER PIPELINE IF IT IS NEW AND IS CONVEYING WASTEWATER OR RECLAIMED WATER."

HYDROSTATIC TESTING NOTES:

1. AFTER ALL PRESSURE PIPES ARE INSTALLED, THE JOINTS COMPLETED, AND THE TRENCH BACKFILLED, ALL NEW PIPE AND APPURTENANCES SHALL BE SUBJECTED TO A HYDROSTATIC TEST FOR A PERIOD OF AT LEAST TWO (2) HOURS. THE ENGINEER AND THE SJCUD MUST BE NOTIFIED AT LEAST 72 HOURS BEFORE A TEST IS TO BE PERFORMED. TEST SHALL BE AS SET FORTH IN AWWA STANDARD C600, ANY LEAKS DETECTED SHALL BE CORRECTED AND THE SECTION OF PIPELINE RETESTED. THE TWO HOUR TEST PERIOD SHALL BEGIN WHEN ALL JOINTS HAVE BEEN DETERMINED TO BE WATER TIGHT. LEAKAGE SHALL BE LIMITED TO THAT ALLOWABLE SET FORTH IN SECTION 4 OF AWWA STANDARD C600, LATEST EDITION. HYDROSTATIC AND LEAKAGE TEST AND BLOW-DOWN (ZEROING OF GAGE) MUST OCCUR BEFORE SAMPLING FOR BACTERIOLOGICAL TEST. THE MAXIMUM ALLOWABLE PRESSURE LOSS IS 5 PSI.

NO.	BY	DATE	SYMBOL	REVISIONS
1				
2				
3				
4				
5				

DESIGNER:
DRAWN BY:
DATE:
CHECKED BY:
DATE:

DESIGN ENGINEER

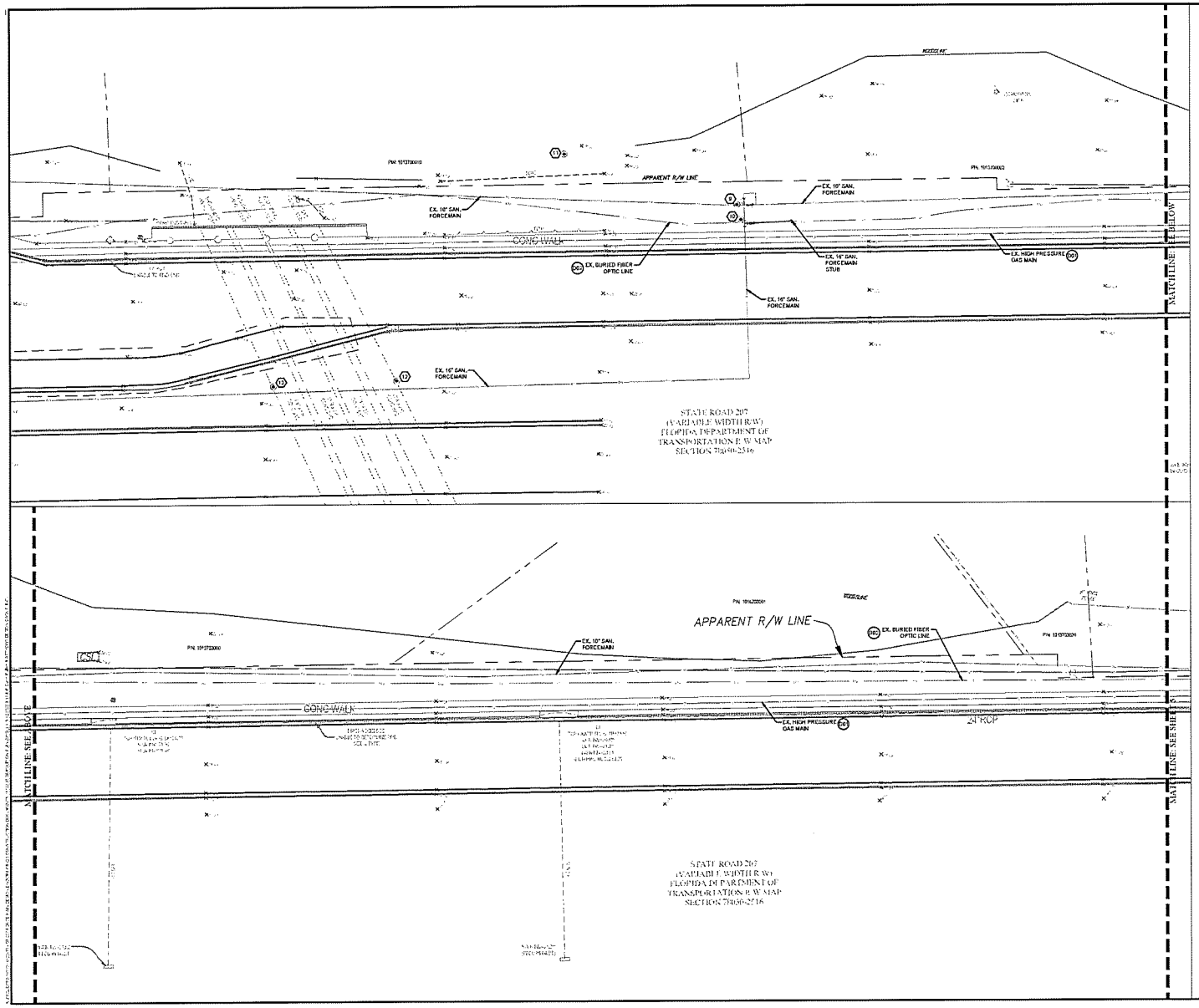
FLORIDA REGISTRATION NO.

ST. JOHNS COUNTY UTILITY DEPARTMENT
1205 STATE ROAD 16
ST AUGUSTINE, FLORIDA 32084-8649
Phone (904) 209-2700 • Fax (904) 209-2708

SR 207 FORCEMAIN DESIGN
SJCUD UTILITY NOTES

NO. SHEETS 25
SHEET NO. 3
DRAWING NO. GN-01.dwg

SJCUD STANDARD DRAWING FOR REFERENCE 2017-07-10



GRAPHIC SCALE

0 20' 30' 40'

1" = 20'

SURVEY UTILITY LOCATE NOTES

1	VAH 1	FOUND 10" GREEN PVC DEPTH = 4.21
2	VAH 2A	FOUND 1" DIRECT BURY CABLE DEPTH = 4.03'
	VAH 2B	FOUND 2" DIRECT BURY CABLE DEPTH = 3.99'
	VAH 2C	FOUND 0.5" DIRECT BURY CABLE DEPTH = 4.09'
3	VAH 3	FOUND 10" FELT WRAPPED FRENCH DRAIN DEPTH = 2.90'
4	NO UTILITY FOUND CLEARED TO 8'	
6	VAH 6A	FOUND 1" DIRECT BURY CABLE DEPTH = 2.84'
	VAH 6B	FOUND 2" DIRECT BURY CABLE DEPTH = 3.75'
	VAH 6C	FOUND 0.5" DIRECT BURY CABLE DEPTH = 3.90'
7	VAH 7	FOUND 10" FELT WRAPPED FRENCH DRAIN DEPTH = 5.00'
9	NO UTILITY FOUND CLEARED TO 10'	
9	VAH 1B	FOUND 10" BLUE PVC TO BLACK HDPE COUPLING DEPTH = 6.85'
10	VAH 1C	NO UTILITIES FOUND (EXPLORED TO 15.00')
11	VAH 1A	FOUND 12" BLACK HDPE FM DEPTH 4.10'
12	VAH 6	FOUND EAST EDGE BOX CULVERT DEPTH = 5.40'
13	VAH 7	FOUND SOUTH EDGE BOX CULVERT DEPTH = 5.25'

DEMOLITION NOTES

D01 EXISTING HIGH PRESSURE GAS TRANSMISSION MAIN. SIZE UNKNOWN. COVER 6'±. CONTRACTOR TO USE EXTREME CAUTION WHEN NEAR THIS UNDERGROUND GAS MAIN.

D02 EXISTING BURIED FIBER OPTIC LINE. DEPTH UNKNOWN. CONTRACTOR TO USE EXTREME CAUTION WHEN WORKING NEAR THIS FIBER OPTIC.

D03 EXISTING SANITARY PRESSURE SERVICE TO BE ABANDONED IN PLACE. PRESSURE SERVICES THAT ARE 4" OR GREATER IN DIAMETER SHALL BE FILLED WITH GROUT.

NOTE:
ANY DAMAGE OR REMOVED SIGNS DUE TO CONSTRUCTION SHALL BE REPLACED OR REINSTALLED PER CURRENT FDOT DESIGN STANDARDS INDEX NO. 700-010 AND 700-101.

REVISIONS

NO	DATE	DESCRIPTION
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REGISTERED ENGINEER
FRED R. TUCCI JR. P.E.
FLORIDA LICENSE NO. 70005

DSN:	DJM
DWN:	FRH
CHK:	SAK
DATE:	05-16-22
JOB #:	1012.50

MATTHEWS DESIGN GROUP
P.O. BOX 3126, 7 WALDO STREET
ST. AUGUSTINE, FL 32084
PHONE: 904.825.3124 FAX: 904.826.4547
INFO@MDGINC.COM

DEMOLITION PLAN

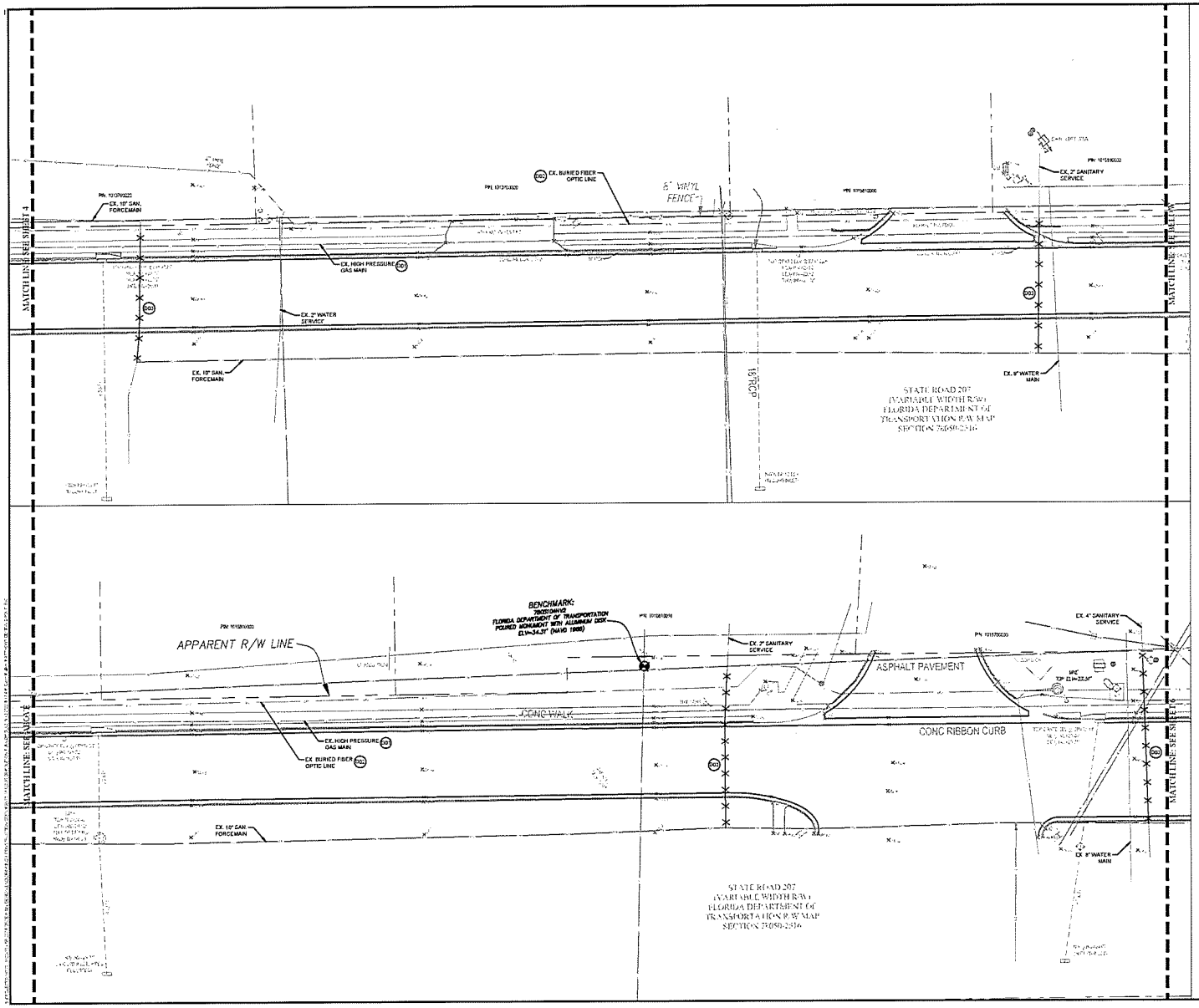
SR 207 FORCEMAIN DESIGN

ST. JOHNS COUNTY

PREPARED FOR

ST. JOHNS COUNTY BOARD OF COUNTY COMMISSIONERS

SHEET NO.
4
OF 25



GRAPHIC SCALE

0 20' 30' 40'

1" = 20'

SURVEY UTILITY LOCATE NOTES

1	VAH 1	FOUND 18" GREEN PVC DEPTH = 4.01
2	VAH 2A	FOUND 1" DIRECT BURY CABLE DEPTH = 4.03'
	VAH 2B	FOUND 2" DIRECT BURY CABLE DEPTH = 3.98'
	VAH 2C	FOUND 0.5" DIRECT BURY CABLE DEPTH = 4.20'
3	VAH 3	FOUND 18" FELT WRAPPED FRENCH DRAIN DEPTH = 2.80'
4		NO UTILITY FOUND CLEARED TO 8'
6	VAH 6A	FOUND 1" DIRECT BURY CABLE DEPTH = 3.84'
	VAH 6B	FOUND 2" DIRECT BURY CABLE DEPTH = 3.75'
	VAH 6C	FOUND 0.5" DIRECT BURY CABLE DEPTH = 3.90'
7	VAH 7	FOUND 18" FELT WRAPPED FRENCH DRAIN DEPTH = 3.00'
8		NO UTILITY FOUND CLEARED TO 10'
9	VAH 10	FOUND 16" BLUE PVC TO BLACK HDPE COUPLING DEPTH = 6.85'
10	VAH 1C	NO UTILITIES FOUND (EXPLORED TO 15.00')
11	VAH 1A	FOUND 12" BLACK HDPE FM DEPTH 4.10'
12	VAH 8	FOUND EAST EDGE BOX CULVERT DEPTH = 5.40'
13	VAH 7	FOUND SOUTH EDGE BOX CULVERT DEPTH = 5.25'

DEMOLITION NOTES

D01 EXISTING HIGH PRESSURE GAS TRANSMISSION MAIN, SIZE UNKNOWN, COVER 6'±. CONTRACTOR TO USE EXTREME CAUTION WHEN NEAR THIS UNDERGROUND GAS MAIN.

D02 EXISTING BURIED FIBER OPTIC LINE, DEPTH UNKNOWN. CONTRACTOR TO USE EXTREME CAUTION WHEN WORKING NEAR THIS FIBER OPTIC.

D03 EXISTING SANITARY PRESSURE SERVICE TO BE ABANDONED IN PLACE. PRESSURE SERVICES THAT ARE 4" OR GREATER IN DIAMETER SHALL BE FILLED WITH GROUT.

NOTE:
ANY DAMAGE OR REMOVED SIGNS DUE TO CONSTRUCTION, SHALL BE REPLACED OR REINSTALLED PER CURRENT FDOT DESIGN STANDARDS INDEX NO. 700-010 AND 700-101.

REGISTERED ENGINEER
FRED A. WOOD JONES P.E.
CA 26515 FLA 84314

NO.	DATE	REVISIONS DESCRIPTION
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D.M.	FDH
SAK	SAK
DATE	05-16-22
JOB NO.	18122.53

MATTHEWS DESIGN GROUP
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PHONE: 904 826 1334 • FAX: 904 826 4537
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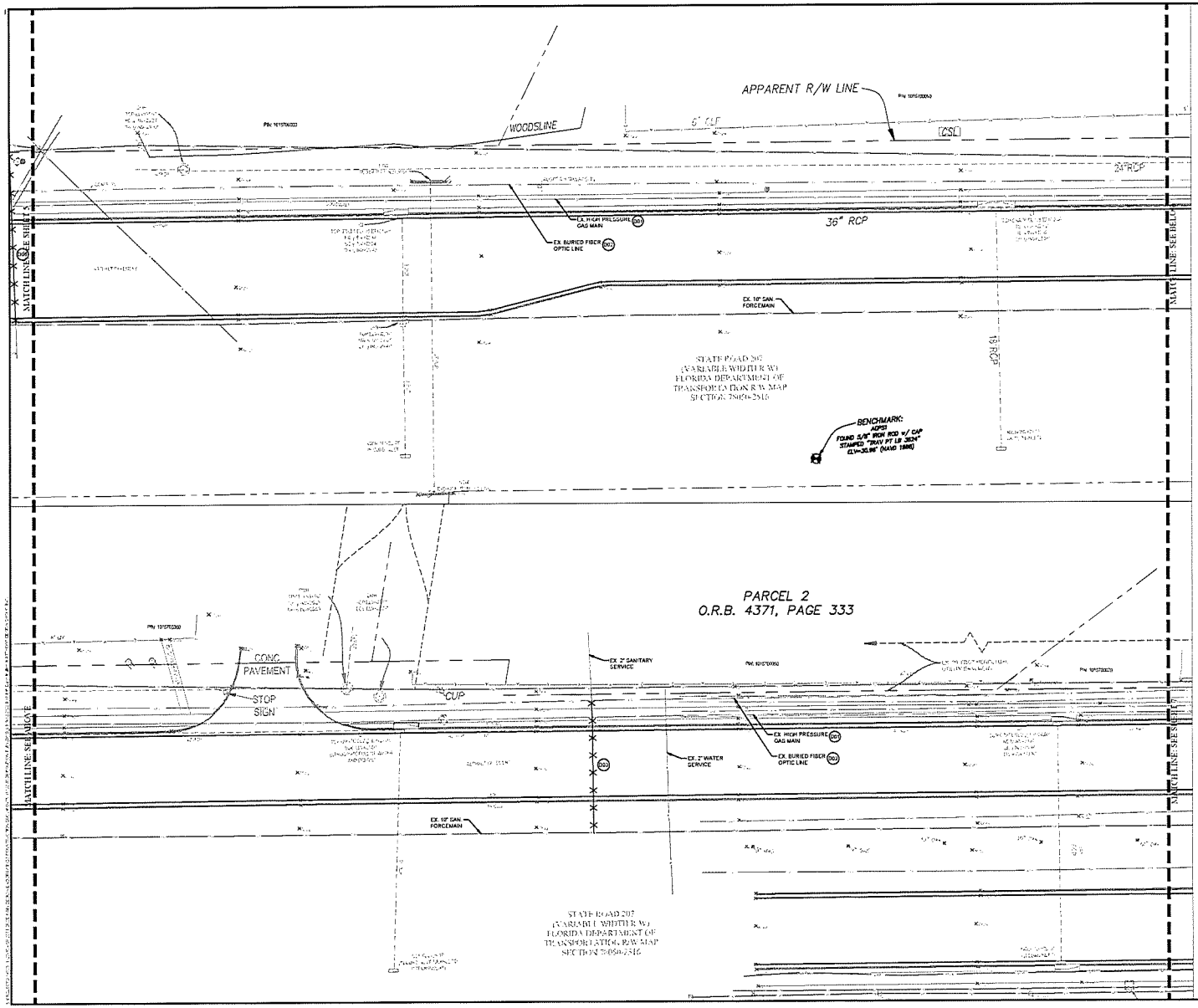
DEMOLITION PLAN

SR 207 FORCEMAIN DESIGN

ST. JOHNS COUNTY

PREPARED FOR

ST. JOHNS COUNTY BOARD OF COUNTY COMMISSIONERS



GRAPHIC SCALE

0 20' 30' 40'

1" = 20'

SURVEY UTILITY LOCATE NOTES

1	VAH 1	FOUND 10" GREEN PVC DEPTH = 4.20'
2	VAH 2A	FOUND 1" DIRECT BURY CABLE DEPTH = 4.65'
	VAH 2B	FOUND 2" DIRECT BURY CABLE DEPTH = 2.98'
	VAH 2C	FOUND 0.5" DIRECT BURY CABLE DEPTH = 4.80'
3	VAH 3	FOUND 10" FELT WRAPPED FRENCH DRAIN DEPTH = 2.90'
4		NO UTILITY FOUND CLEARED TO 8'
6	VAH 6A	FOUND 1" DIRECT BURY CABLE DEPTH = 3.04'
	VAH 6B	FOUND 2" DIRECT BURY CABLE DEPTH = 3.75'
	VAH 6C	FOUND 0.5" DIRECT BURY CABLE DEPTH = 3.90'
7	VAH 7	FOUND 10" FELT WRAPPED FRENCH DRAIN DEPTH = 3.00'
8		NO UTILITY FOUND CLEARED TO 10'
9	VAH 1B	FOUND 10" BLUE PVC TO BLACK HDPE COUPLING DEPTH = 6.25'
10	VAH 1C	NO UTILITIES FOUND (EXPLORED TO 15.20')
11	VAH 1A	FOUND 12" BLACK HDPE FM DEPTH 4.10'
12	VAH 6	FOUND EAST EDGE BOX CULVERT DEPTH = 5.40'
13	VAH 7	FOUND SOUTH EDGE BOX CULVERT DEPTH = 5.25'

DEMOLITION NOTES

D01 EXISTING HIGH PRESSURE GAS TRANSMISSION MAIN, SIZE UNKNOWN, CONCRETE ENCASED. CONTRACTOR TO USE EXTREME CAUTION WHEN NEAR THIS UNDERGROUND GAS MAIN.

D02 EXISTING BURIED FIBER OPTIC LINE, DEPTH UNKNOWN. CONTRACTOR TO USE EXTREME CAUTION WHEN WORKING NEAR THIS FIBER OPTIC.

D03 EXISTING SANITARY PRESSURE SERVICE TO BE ABANDONED IN PLACE. PRESSURE SERVICES THAT ARE 4" OR GREATER IN DIAMETER SHALL BE FILLED WITH GROUT.

NOTE:
ANY DAMAGE OR REMOVED SIGNS DUE TO CONSTRUCTION, SHALL BE REPLACED OR REINSTALLED PER CURRENT FDOT DESIGN STANDARDS INDEX NO. 700419 AND 700-101.

REGISTERED ENGINEER
FEDD A. BUSH JONES, P.E.
FLORIDA LICENSE NO. 73911

NO.	DATE	DESCRIPTION

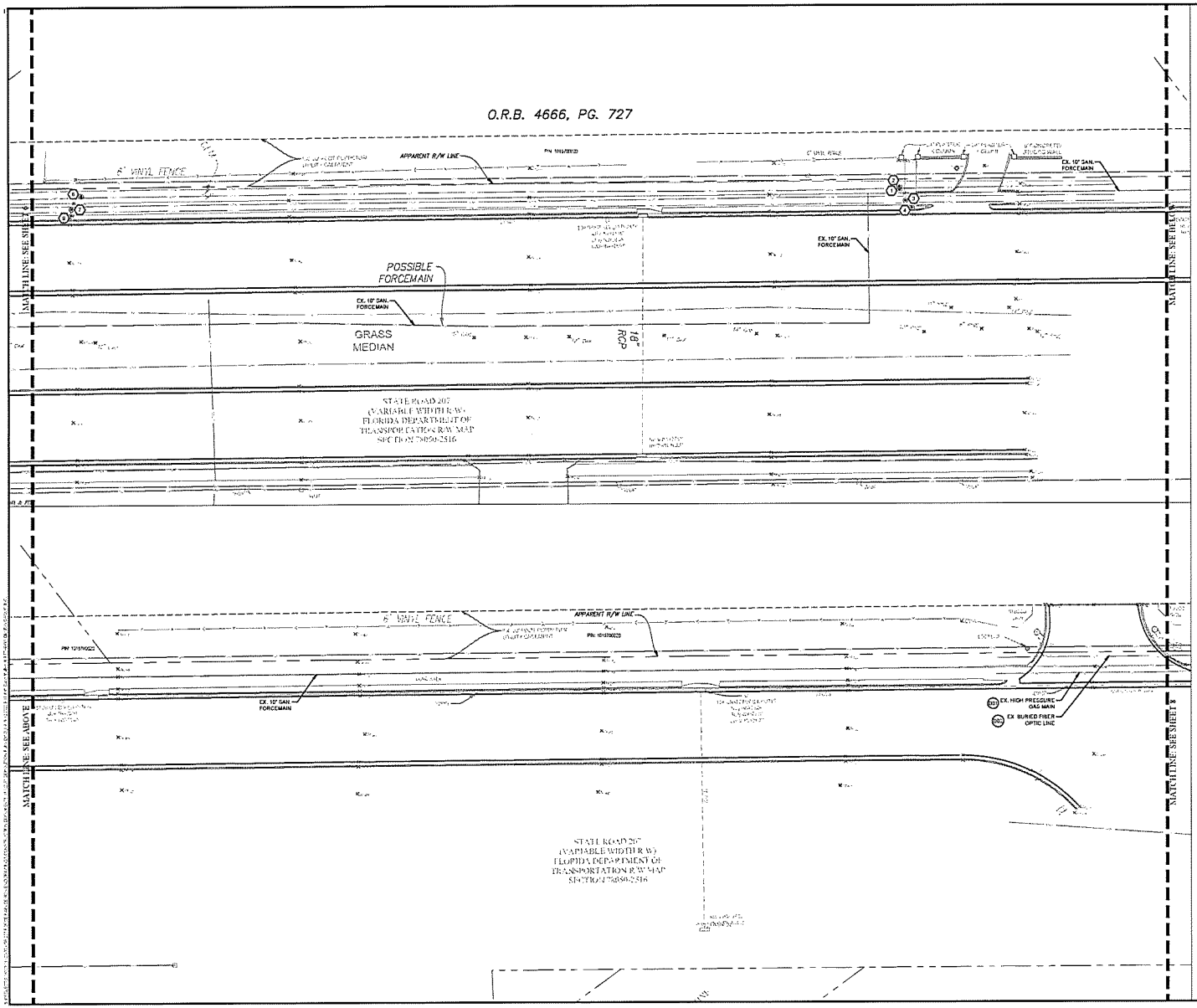
DES'D	DJM
DR'N	FDH
CH'K	SAK
DATE	05-16-22
JOB NO.	18122.30

MATTHEWS DESIGN GROUP
P.O. BOX 3126, 7 WALDO STREET
ST. AUGUSTINE, FL 32084
PHONE: 904.826.1234 FAX: 904.826.4547
INFO@MDGJAX.COM

DEMOLITION PLAN
SR 207 FORCEMAIN DESIGN
ST. JOHNS COUNTY

PREPARED FOR
ST. JOHNS COUNTY BOARD OF COUNTY COMMISSIONERS

SHEET NO. 6 OF 25



GRAPHIC SCALE

0 20 30 40

1" = 20'

SURVEY UTILITY LOCATE NOTES

1	VUH 1	FOUND 10" CMCP PVC DEPTH = 4.01
2	VUH 2A	FOUND 1" DIRECT BURY CABLE DEPTH = 4.03'
	VUH 2B	FOUND 2" DIRECT BURY CABLE DEPTH = 3.95'
	VUH 2C	FOUND 0.5" DIRECT BURY CABLE DEPTH = 4.00'
3	VUH 3	FOUND 10" FELT WRAPPED FRENCH DRAIN DEPTH = 2.90'
4		NO UTILITY FOUND CLEARED TO 6'
6	VUH 6A	FOUND 1" DIRECT BURY CABLE DEPTH = 3.94'
	VUH 6B	FOUND 2" DIRECT BURY CABLE DEPTH = 3.75'
	VUH 6C	FOUND 0.5" DIRECT BURY CABLE DEPTH = 3.90'
7	VUH 7	FOUND 10" FELT WRAPPED FRENCH DRAIN DEPTH = 3.09'
8		NO UTILITY FOUND CLEARED TO 10'
9	VUH 1B	FOUND 10" BLUE PVC TO BLACK HDPE COUPLING DEPTH = 6.85'
10	VUH 1C	NO UTILITIES FOUND (EXPLORED TO 15.80')
11	VUH 1A	FOUND 12" BLACK HDPE FM DEPTH 4.10'
12	VUH 8	FOUND EAST EDGE BOX CULVERT DEPTH = 5.40'
13	VUH 7	FOUND SOUTH EDGE BOX CULVERT DEPTH = 5.25'

DEMOLITION NOTES

D01	EXISTING HIGH PRESSURE GAS TRANSMISSION MAIN. SIZE UNKNOWN. COVER 6'±. CONTRACTOR TO USE EXTREME CAUTION WHEN NEAR THIS UNDERGROUND GAS MAIN.
D02	EXISTING BURIED FIBER OPTIC LINE. DEPTH UNKNOWN. CONTRACTOR TO USE EXTREME CAUTION WHEN WORKING NEAR THIS FIBER OPTIC.
D03	EXISTING SANITARY PRESSURE SERVICE TO BE ABANDONED IN PLACE. PRESSURE SERVICES THAT ARE 4" OR GREATER IN DIAMETER SHALL BE FILLED WITH GROUT.

NOTE:
ANY DAMAGE OR REMOVED SIGNS DUE TO CONSTRUCTION, SHALL BE REPLACED OR REINSTALLED PER CURRENT FDOT DESIGN STANDARDS INDEX NO. 700-010 AND 700-101.

REVISIONS

NO.	DATE	DESCRIPTION
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DAM
FDH
SAK
06-15-22
18122.59

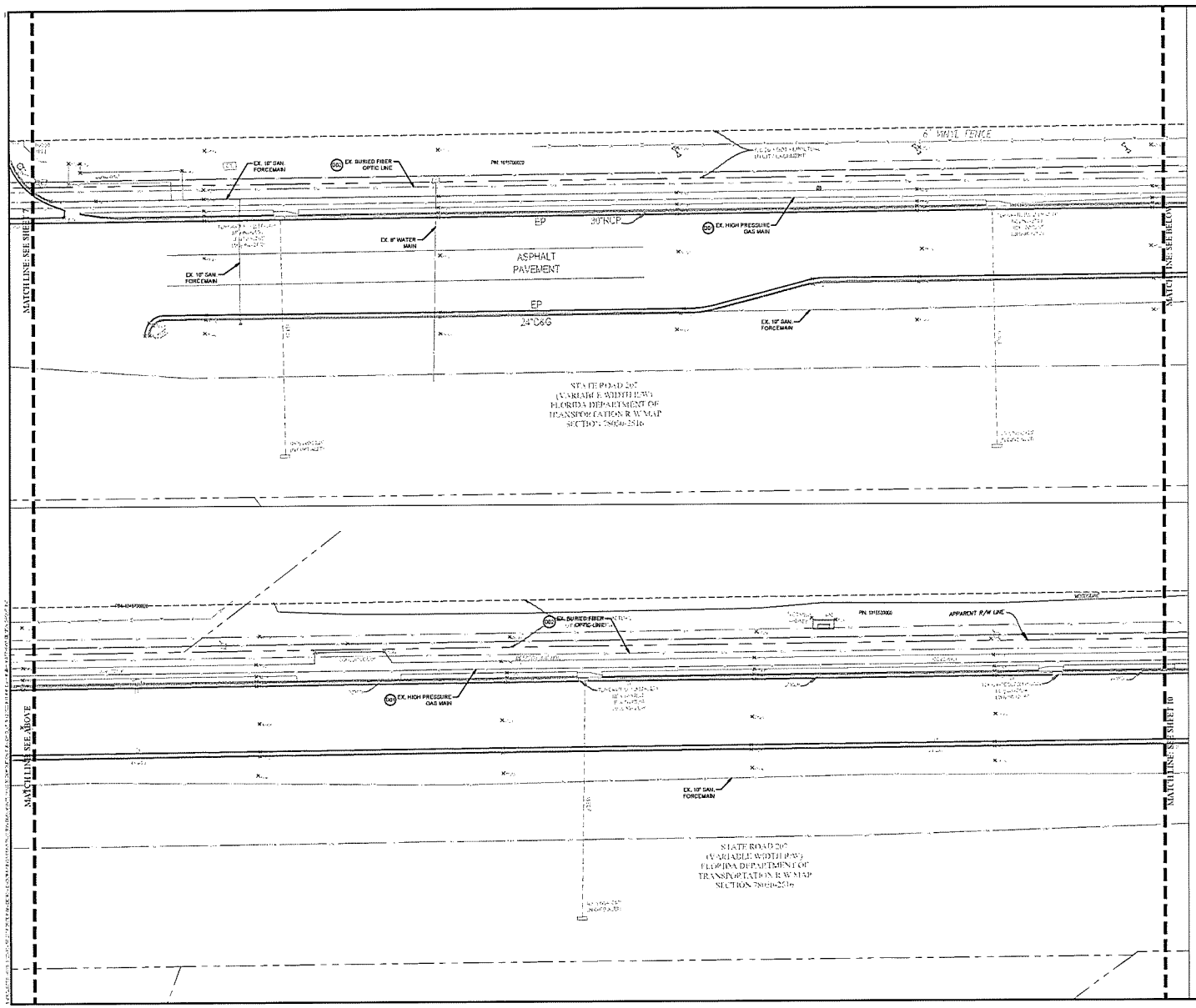
REGISTERED ENGINEER
FRED H. DUDO JOAES P.E.
CA#3535 FLA#34

MATTHEWS DESIGN GROUP
P.O. BOX 3126, 7 WALDO STREET
ST. AUGUSTINE, FL 32084
PHONE: 904 826 1334 • FAX: 904 826 4547
INFO@MDGINC.COM

DEMOLITION PLAN

SR 207 FORCEMAIN DESIGN
ST. JOHNS COUNTY
PREPARED FOR
ST. JOHNS COUNTY BOARD OF COUNTY COMMISSIONERS

7
OF 25



GRAPHIC SCALE

0 20' 30' 40'

1" = 20'

SURVEY UTILITY LOCATE NOTES

1	VAH 1	FOUND 10" GREEN PVC DEPTH = 4.01
2	VAH 2A	FOUND 1" DIRECT BURY CABLE DEPTH = 4.03'
	VAH 2B	FOUND 2" DIRECT BURY CABLE DEPTH = 3.99'
	VAH 2C	FOUND 0.5" DIRECT BURY CABLE DEPTH = 4.05'
3	VAH 3	FOUND 10" FELT WRAPPED FRENCH DRAIN DEPTH = 2.90'
4	NO UTILITY FOUND CLEARED TO 8'	
6	VAH 6A	FOUND 1" DIRECT BURY CABLE DEPTH = 3.84'
	VAH 6B	FOUND 2" DIRECT BURY CABLE DEPTH = 3.75'
	VAH 6C	FOUND 0.5" DIRECT BURY CABLE DEPTH = 3.90'
7	VAH 7	FOUND 10" FELT WRAPPED FRENCH DRAIN DEPTH = 3.00'
8	NO UTILITY FOUND CLEARED TO 10'	
9	VAH 9B	FOUND 10" BLUE PVC TO BLACK HDPE COUPLING DEPTH = 6.05'
10	VAH 10	NO UTILITIES FOUND (EXPLORED TO 15.20')
11	VAH 11A	FOUND 12" BLACK HDPE FM DEPTH 4.10'
12	VAH 6	FOUND EAST EDGE BOX CULVERT DEPTH = 5.40'
13	VAH 7	FOUND SOUTH EDGE BOX CULVERT DEPTH = 5.25'

DEMOLITION NOTES

D01 EXISTING HIGH PRESSURE GAS TRANSMISSION MAIN, SIZE UNKNOWN, COVER 6'±. CONTRACTOR TO USE EXTREME CAUTION WHEN NEAR THIS UNDERGROUND GAS MAIN.

D02 EXISTING BURIED FIBER OPTIC LINE, DEPTH UNKNOWN. CONTRACTOR TO USE EXTREME CAUTION WHEN WORKING NEAR THIS FIBER OPTIC.

D03 EXISTING SANITARY PRESSURE SERVICE TO BE ABANDONED IN PLACE. PRESSURE SERVICES THAT ARE 4" OR GREATER IN DIAMETER SHALL BE FILLED WITH GROUT.

NOTE:
ANY DAMAGE OR REMOVED SIGNS DUE TO CONSTRUCTION SHALL BE REPLACED OR REINSTALLED PER CURRENT FDOT DESIGN STANDARDS INDEX NO. 700-010 AND 700-101.

REVISIONS

NO.	DATE	DESCRIPTION
---	---	---

REGISTERED ENGINEER
FRED R. TUTTLE JONES, P.E.
FLORIDA LICENSE NO. 0000000

DRAWN: DJM
CHECKED: FDH
SCALE: SAME
DATE: 05-16-22
JOB NO.: 18122.30

MATTHEWS DESIGN GROUP
P.O. BOX 3126, 7 WALDO STREET
ST. AUGUSTINE, FL 32084
PHONE: 904.826.1234 FAX: 904.826.4547
INFO@MDGINC.COM

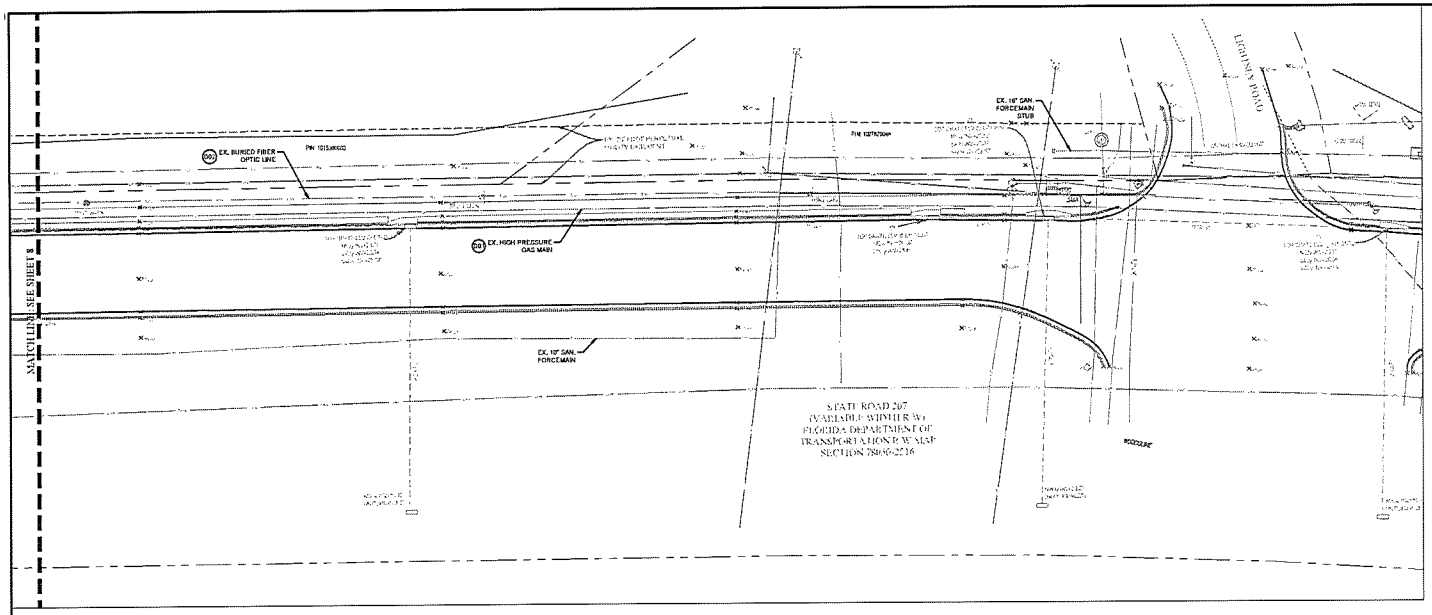
DEMOLITION PLAN

SR 207 FORCEMAIN DESIGN

ST. JOHNS COUNTY

PREPARED FOR
ST. JOHNS COUNTY BOARD OF COUNTY COMMISSIONERS

SHEET NO.
8
OF 25



GRAPHIC SCALE

0 20' 40' 80'

SURVEY UTILITY LOCATE NOTES

1 VVH 1 FOUND 18" GREEN PVC DEPTH = 4.21'
2 VVH 2A FOUND 1" DIRECT BURY CABLE DEPTH = 4.03'
VVH 2B FOUND 2" DIRECT BURY CABLE DEPTH = 3.99'
VVH 2C FOUND 0.5" DIRECT BURY CABLE DEPTH = 4.26'
3 VVH 3 FOUND 10" FELT WRAPPED FRENCH DRAIN DEPTH = 2.90'
4 NO UTILITY FOUND CLEARED TO 6'
6 VVH 6A FOUND 1" DIRECT BURY CABLE DEPTH = 3.84'
VVH 6B FOUND 2" DIRECT BURY CABLE DEPTH = 3.75'
VVH 6C FOUND 0.5" DIRECT BURY CABLE DEPTH = 3.90'
7 VVH 7 FOUND 10" FELT WRAPPED FRENCH DRAIN DEPTH = 3.00'
8 NO UTILITY FOUND CLEARED TO 10'
9 VVH 1B FOUND 10" BLUE PVC TO BLACK HDPE COUPLING DEPTH = 6.85'
10 VVH 1C NO UTILITIES FOUND (EXPLORED TO 15.00')
11 VVH 1A FOUND 12" BLACK HDPE FM DEPTH 4.18'
12 VVH 6 FOUND EAST EDGE BOX CULVERT DEPTH = 5.42'
13 VVH 7 FOUND SOUTH EDGE BOX CULVERT DEPTH = 5.25'

DEMOLITION NOTES

D01 EXISTING HIGH PRESSURE GAS TRANSMISSION MAIN. SIZE UNKNOWN. COVER 6'±. CONTRACTOR TO USE EXTREME CAUTION WHEN NEAR THIS UNDERGROUND GAS MAIN.
D02 EXISTING BURIED FIBER OPTIC LINE. DEPTH UNKNOWN. CONTRACTOR TO USE EXTREME CAUTION WHEN WORKING NEAR THIS FIBER OPTIC.
D03 EXISTING SANITARY PRESSURE SERVICE TO BE ABANDONED IN PLACE. PRESSURE SERVICES THAT ARE 4" OR GREATER IN DIAMETER SHALL BE FILLED WITH GROUT.

NOTE:
ANY DAMAGE OR REMOVED SIGNS DUE TO CONSTRUCTION SHALL BE REPLACED OR REINSTALLED PER CURRENT FDOT DESIGN STANDARDS INDEX NO. 700-010 AND 700-101.

REVISIONS

NO.	DATE	DESCRIPTION
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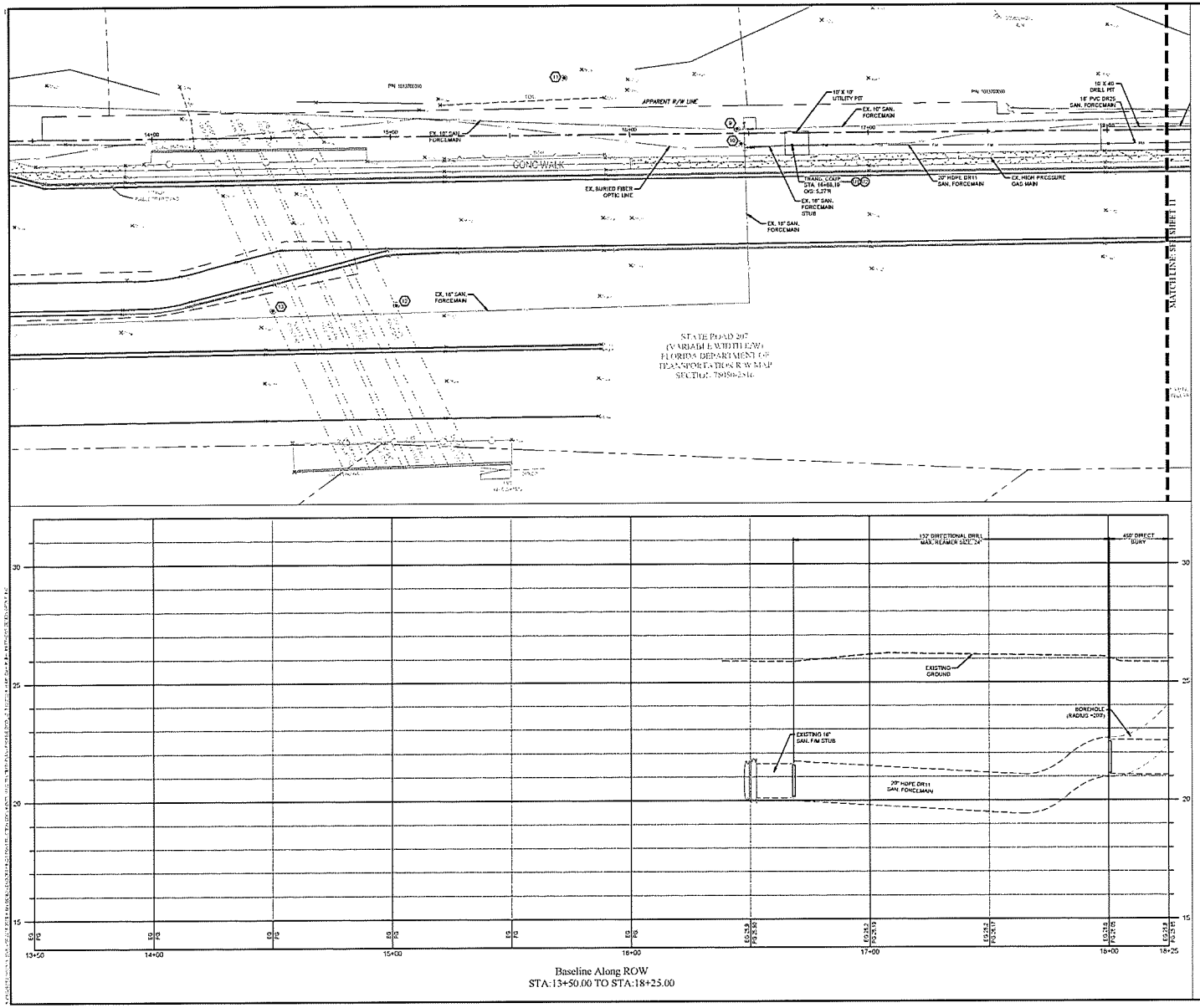
REGISTERED ENGINEER
FRED N. MATTHEWS, P.E.
FLORIDA NO. 56000

DSGN'D	DJM
DR'N	FGH
CK'D	SAK
DATE	05-15-22
JOB NO.	18122.30

MATTHEWS DESIGN GROUP
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ST. AUGUSTINE, FL 32084
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INFO@MDGINC.COM

DEMOLITION PLAN
SR 207 FORCEMAIN DESIGN
ST. JOHNS COUNTY
PREPARED FOR
ST. JOHNS COUNTY BOARD OF COUNTY COMMISSIONERS

SHEET NO.
9
OF 25



Baseline Along ROW
STA:13+50.00 TO STA:18+25.00

GRAPHIC SCALE
0 20' 30' 40'
1"=20'

SURVEY NOTES

1	WM1: FOUND 10" GREEN PVC DEPTH = 4.01
2A	WP H2A: FOUND 1" DIRECT BURY CABLE DEPTH = 4.03'
2B	WM2B: FOUND 2" DIRECT BURY CABLE DEPTH = 3.90'
2C	WM2C: FOUND 0.5" DIRECT BURY CABLE DEPTH = 4.00'
3	WM3 FOUND 10" FELT WRAPPED FRENCH DRAIN DEPTH = 2.90'
4	NO UTILITY FOUND CLEARED TO 8
6A	WM6A: FOUND 1" DIRECT BURY CABLE DEPTH = 3.94'
6B	WM6B: FOUND 2" DIRECT BURY CABLE DEPTH = 3.75'
6C	WM6C FOUND 0.5" DIRECT BURY CABLE DEPTH = 3.90'
7	WM7 FOUND 10" FELT WRAPPED FRENCH DRAIN DEPTH = 3.00'
8	NO UTILITY FOUND CLEARED TO 18'
9	WM9B FOUND 16" BLUE PVC TO BLACK HDPE COUPLING DEPTH = 6.85'
10	WM10 NO UTILITIES FOUND (EXPLORED TO 15.00')
11	WM11A FOUND 12" BLACK HDPE FM DEPTH 4.32'
12	WM12 FOUND EAST EDGE BOX CULVERT DEPTH = 5.40'
13	WM13 FOUND SOUTH EDGE BOX CULVERT DEPTH = 5.25'

UTILITY DETAILS

G10	AIR VALVE ASSEMBLY WITH MANHOLE

UTILITY NOTES

U1	POINT OF CONNECTION - REMOVE EXISTING 16" PLUG AND CONNECT PROPOSED 20" HDPE FORCEMAIN USING A 16" PVC TO 20" HDPE COUPLING.
U2	16" PVC TO 20" HDPE TRANSITION COUPLING.
U3	CONNECT EXISTING SANITARY SERVICE TO PROPOSED 16" SANITARY FORCEMAIN.
U4	16" 45° MJ. BEND
U5	POINT OF CONNECTION - REMOVE EXISTING 16" PLUG AND CONNECT PROPOSED 16" PVC FORCEMAIN USING A 16" 45° BEND.
U6	PROPOSED 2" SANITARY SERVICE TO BE DIRECTIONALLY DRILLED TO SOUTHEAST RIGHT OF WAY LIMITS AND CONNECTED TO THE PROPOSED 20" HDPE FORCEMAIN RUNNING ALONG THE NORTHWEST SIDE OF THE RIGHT OF WAY.

KEY MAP
1" = 1000'

REGISTERED ENGINEER
FRED R. TUTTLE JONES P.E.
FLORIDA LICENSE NO. 84833

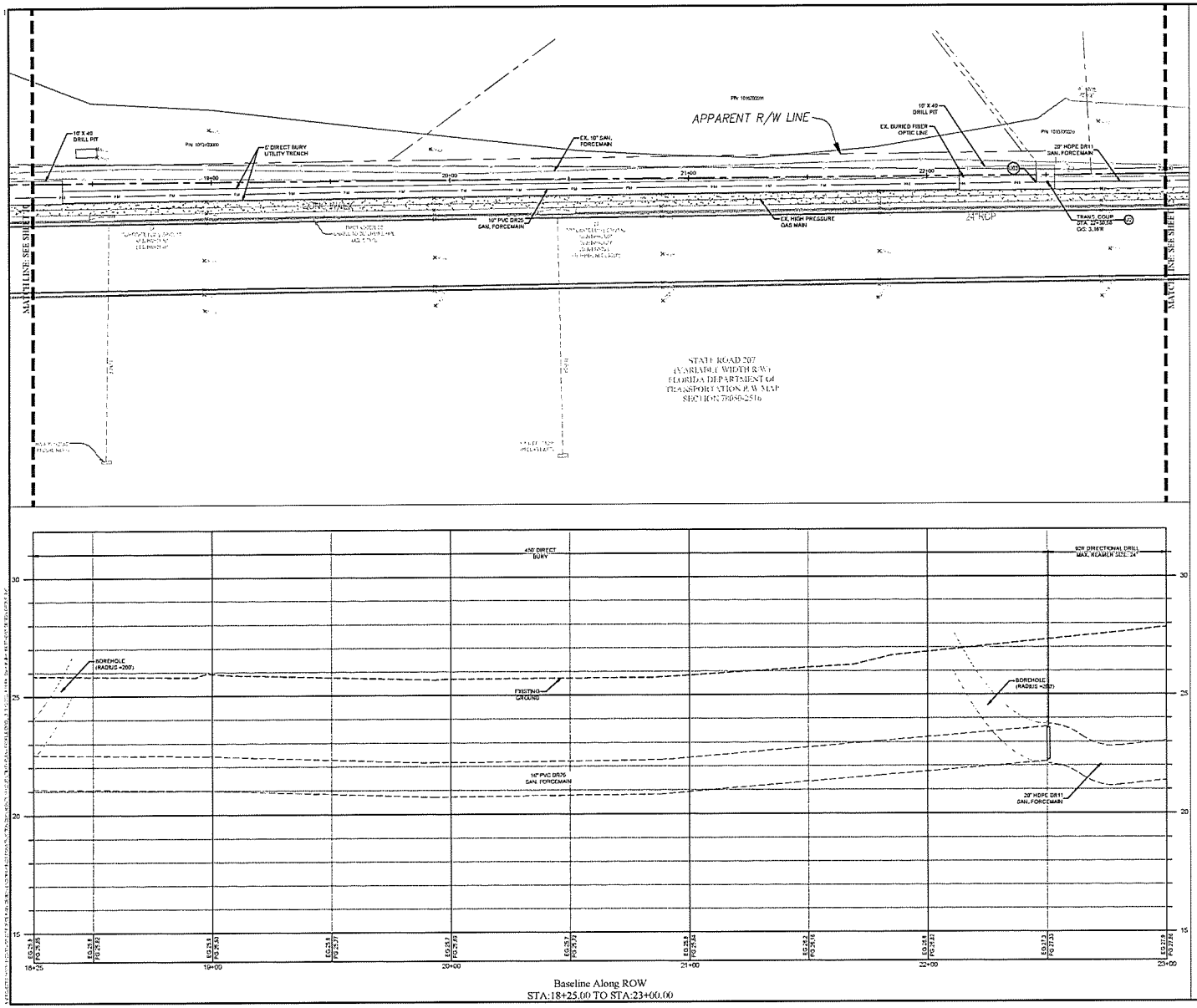
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DSN	
DWN	FGH
CHK	SXK
DATE	05-16-22
JOB #	18122.33

MATTHEWS DESIGN GROUP
P.O. BOX 3126, 7 WALDO STREET
ST. AUGUSTINE, FL 32084
PHONE: (904) 825-1317 FAX: (904) 826-4547
INFO@MDGINC.COM

UTILITY PLAN - PROFILE
SR 207 FORCEMAIN DESIGN
ST. JOHNS COUNTY
PREPARED FOR
ST. JOHNS COUNTY BOARD OF COUNTY COMMISSIONERS

10
OF 25



GRAPHIC SCALE

0 20' 30' 40'

1" = 20'

SURVEY NOTES

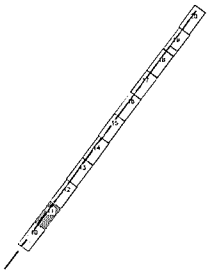
1 VM1 FOUND 10" GREEN PVC DEPTH = 4.01'
2A VM2 HOA FOUND 1" DIRECT BURY CABLE DEPTH = 4.03'
2B VM2B FOUND 2" DIRECT BURY CABLE DEPTH = 3.88'
2C VM2C FOUND 0.5" DIRECT BURY CABLE DEPTH = 4.00'
3 VM3 FOUND 10" FELT WRAPPED FRENCH DRAIN DEPTH = 2.90'
4 NO UTILITY FOUND CLEARED TO 6'
6A VM6A FOUND 1" DIRECT BURY CABLE DEPTH = 3.84'
6B VM6B FOUND 2" DIRECT BURY CABLE DEPTH = 3.75'
6C VM6C FOUND 0.5" DIRECT BURY CABLE DEPTH = 3.90'
7 VM7 FOUND 10" FELT WRAPPED FRENCH DRAIN DEPTH = 3.00'
8 NO UTILITY FOUND CLEARED TO 10'
9 VM18 FOUND 10" BLUE PVC TO BLACK HDPE COUPLING DEPTH = 6.65'
10 VM10 NO UTILITIES FOUND (EXPLORED TO 10.00')
11 VM11A FOUND 12" BLACK HDPE FM DEPTH 4.15'
12 VM4 FOUND CAST EDGE BOX CULVERT DEPTH = 5.40'
13 VM7 FOUND SOUTH EDGE BOX CULVERT DEPTH = 5.25'

UTILITY DETAILS

S10 AIR VALVE ASSEMBLY WITH MANHOLE

UTILITY NOTES

U1 POINT OF CONNECTION - REMOVE EXISTING 16" PLUG AND CONNECT PROPOSED 20" HDPE FORCEMAIN USING A 16" PVC TO 20" HDPE COUPLING.
U2 16" PVC TO 20" HDPE TRANSITION COUPLING.
U3 CONNECT EXISTING SANITARY SERVICE TO PROPOSED 10" SANITARY FORCEMAIN.
U4 16" 45° M.J. BEND
U5 POINT OF CONNECTION - REMOVE EXISTING 16" PLUG AND CONNECT PROPOSED 16" PVC FORCEMAIN USING A 16" 45° BEND.
U6 PROPOSED 2" SANITARY SERVICE TO BE DIRECTIONALLY DRILLED TO SOUTHEAST RIGHT OF WAY LIMITS AND CONNECTED TO THE PROPOSED 20" HDPE FORCEMAIN RUNNING ALONG THE NORTHWEST SIDE OF THE RIGHT OF WAY.



KEY MAP
1"= 1000'

REGISTERED ENGINEER
TODD K. POOLE JONES, P.E.
FLORIDA LICENSE NO. 84614

NO.	DATE	DESCRIPTION
---	---	---

DRAWN	DAH
DESIGNED	PDH
CHECKED	SAK
DATE	05-15-22
JOB NO.	18123-30

MATTHEWS DESIGN GROUP
P.O. BOX 3126, 7 WALDO STREET
ST. AUGUSTINE, FL 32084
PHONE: (904) 826-1234 FAX: (904) 826-1547
INFO@MDGINC.COM

UTILITY PLAN - PROFILE

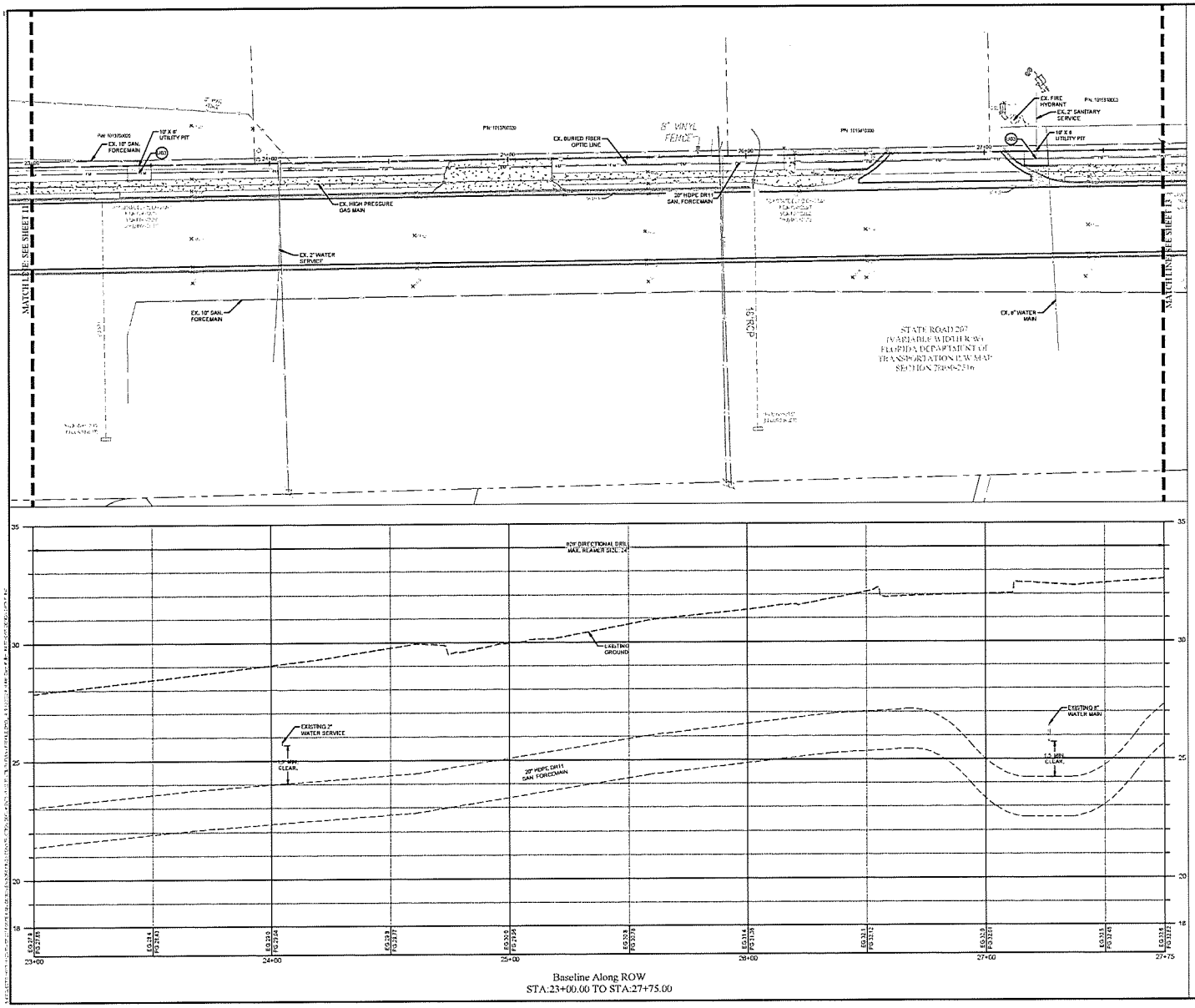
SR 207 FORCEMAIN DESIGN

ST. JOHNS COUNTY

PREPARED FOR

ST. JOHNS COUNTY BOARD OF COUNTY COMMISSIONERS

SHEET NO. 11 OF 25



Baseline Along ROW
STA:23+00.00 TO STA:27+75.00

GRAPHIC SCALE
0 20 30 40
1" = 20'

SURVEY NOTES

1	VM1: FOUND 16" GREEN PVC DEPTH = 4.01
2A	VM HOA: FOUND 1" DIRECT BURY CABLE DEPTH = 4.03'
2B	VM2B: FOUND 2" DIRECT BURY CABLE DEPTH = 3.99'
2C	VM2C: FOUND 0.5" DIRECT BURY CABLE DEPTH = 4.00'
3	VM3 FOUND 16" FELT WRAPPED FRENCH DRAIN DEPTH = 2.90'
4	NO UTILITY FOUND CLEARED TO 6'
6A	VM6A: FOUND 1" DIRECT BURY CABLE DEPTH = 3.84'
6B	VM6B: FOUND 2" DIRECT BURY CABLE DEPTH = 3.75'
6C	VM2C: FOUND 0.5" DIRECT BURY CABLE DEPTH = 3.86'
7	VM7 FOUND 16" FELT WRAPPED FRENCH DRAIN DEPTH = 3.28'
8	NO UTILITY FOUND CLEARED TO 10'
9	VM10 FOUND 16" BLUE PVC TO BLACK HDPE COUPLING DEPTH = 6.85'
10	VM12 NO UTILITIES FOUND (EXPLORED TO 15.00')
11	VM11A FOUND 12" BLACK HDPE FM DEPTH 4.10'
12	VM8 FOUND EAST EDGE BOX CULVERT DEPTH = 5.40'
13	VM7 FOUND SOUTH EDGE BOX CULVERT DEPTH = 5.25'

UTILITY DETAILS

SV2	AIR VALVE ASSEMBLY WITH MANHOLE

UTILITY NOTES

U1	POINT OF CONNECTION - REMOVE EXISTING 16" PLUG AND CONNECT PROPOSED 20" HDPE FORCEMAIN USING A 16" PVC TO 20" HDPE COUPLING.
U2	16" PVC TO 20" HDPE TRANSITION COUPLING.
U3	CONNECT EXISTING SANITARY SERVICE TO PROPOSED 18" SANITARY FORCEMAIN.
U4	16" 45° MJ. BEND
U5	POINT OF CONNECTION - REMOVE EXISTING 16" PLUG AND CONNECT PROPOSED 16" PVC FORCEMAIN USING A 16" 45° BEND.
U6	PROPOSED 2" SANITARY SERVICE TO BE DIRECTIONALLY DRILLED TO SOUTHEAST RIGHT OF WAY LIMITS AND CONNECTED TO THE PROPOSED 20" HDPE FORCEMAIN RUNNING ALONG THE NORTHWEST SIDE OF THE RIGHT OF WAY.

KEY MAP
1"= 1000'

REVISIONS

NO.	DATE	DESCRIPTION
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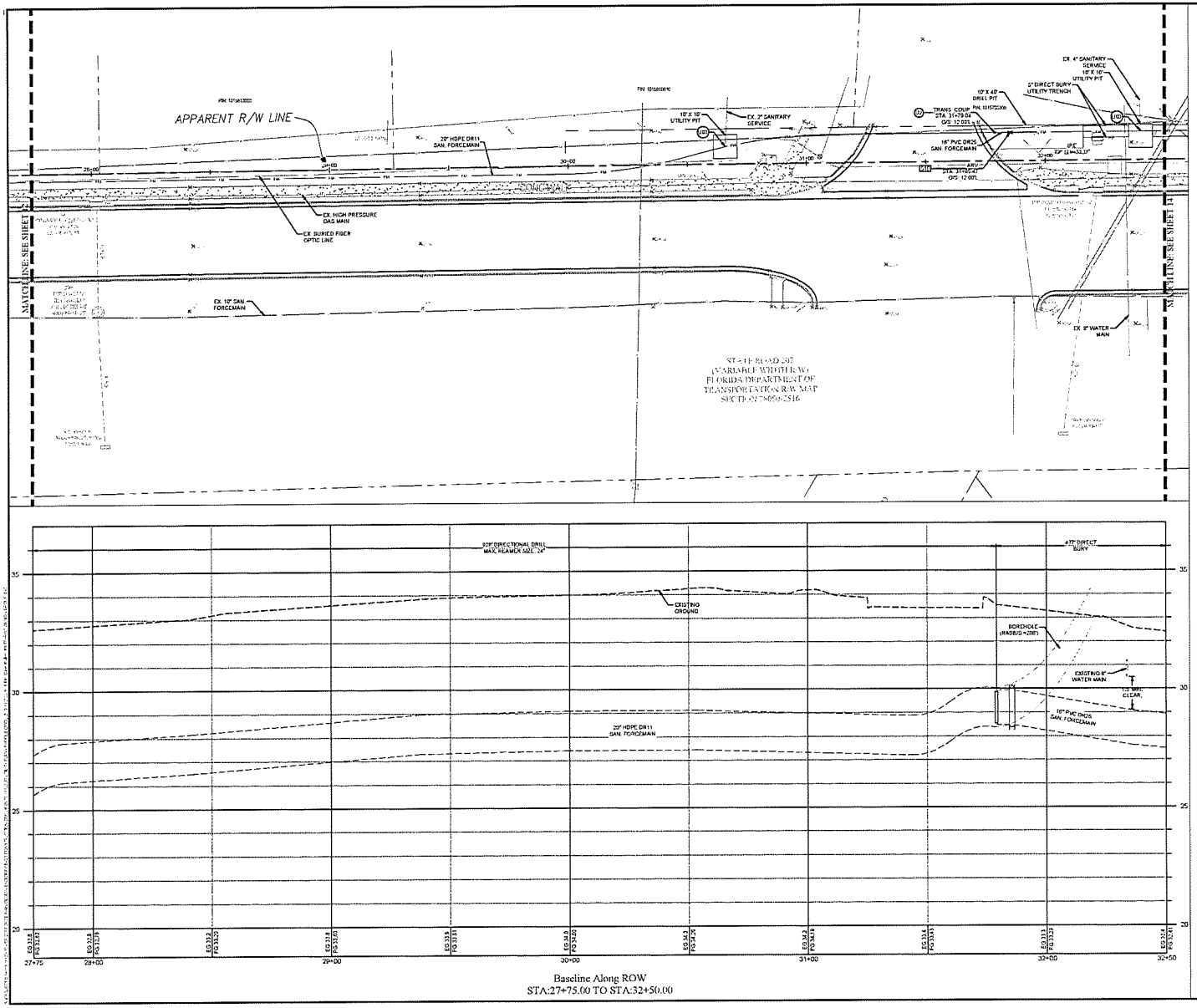
REGISTERED ENGINEER
PETER J. WOOD, JR. FLORIDA P.E.
NO. 84454

DSN	DJM
DR	FDH
CK	SAK
DATE	05-15-22
JOB #	18122.50

MATTHEWS DESIGN GROUP
P.O. BOX 3126, 7 WALDO STREET
ST. AUGUSTINE, FL 32084
PHONE: (904) 824-5141 FAX: (904) 826-1547
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UTILITY PLAN - PROFILE
SR 207 FORCEMAIN DESIGN
ST. JOHNS COUNTY
PREPARED FOR
ST. JOHNS COUNTY BOARD OF COUNTY COMMISSIONERS

12
OF 25



Baseline Along ROW
STA:27+75.00 TO STA:32+50.00

REGISTERED ENGINEER
FRED K. RUSS JONES, P.E.
FLORIDA LICENSE NUMBER 56813

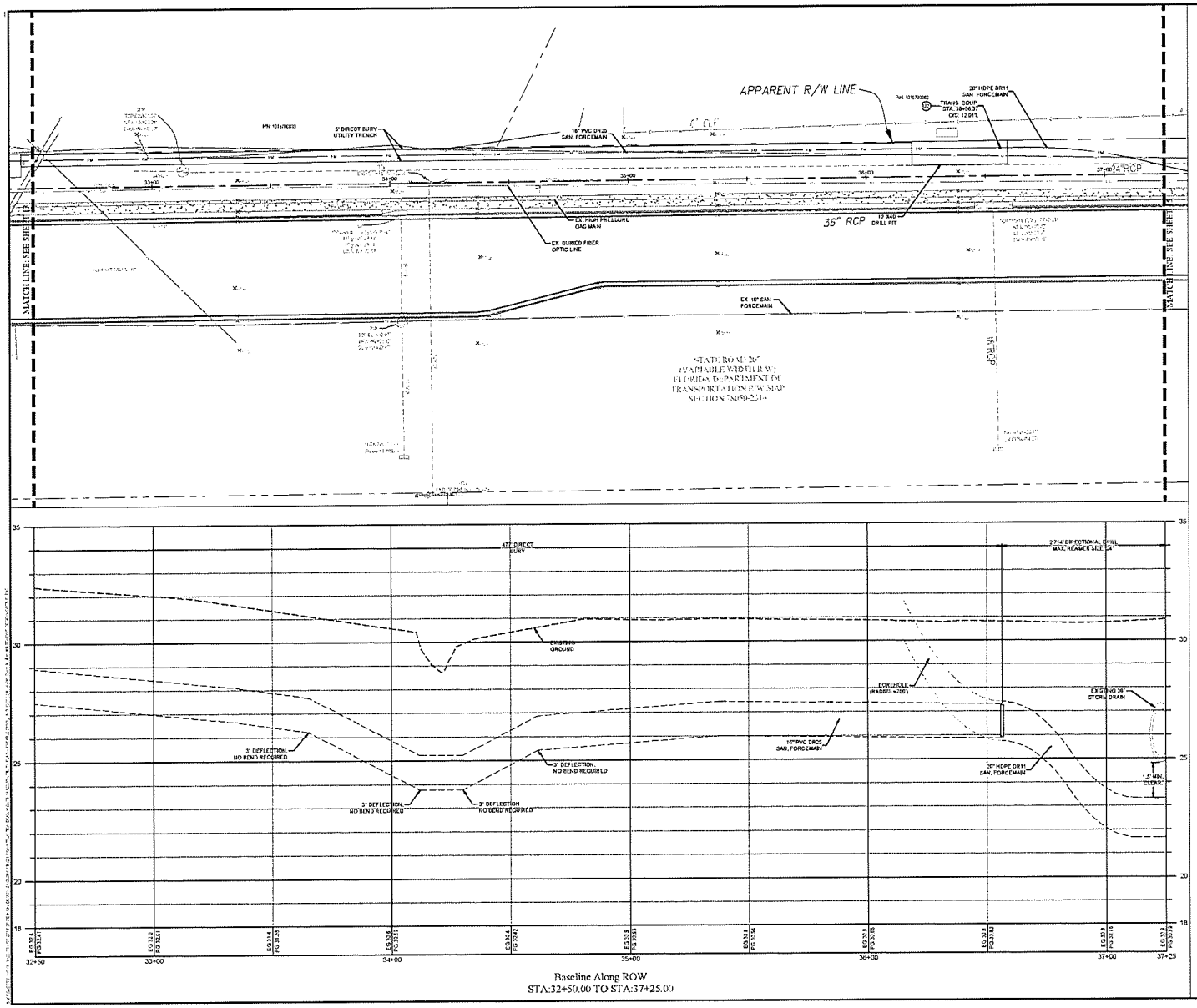
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2	---	---
3	---	---
4	---	---
5	---	---

DES.	DJH
DR.	FDH
CK.	SKK
DATE	05-16-22
JOB NO.	18122.53

MATTHEWS DESIGN GROUP
P.O. BOX 3126, 7 WALDO STREET
ST. AUGUSTINE, FL 32084
PHONE: 904.826.1234 • FAX: 904.826.4547
DSTG@MDGINC.COM

UTILITY PLAN - PROFILE
SR 207 FORCEMAIN DESIGN
ST. JOHNS COUNTY
PREPARED FOR
ST. JOHNS COUNTY BOARD OF COUNTY COMMISSIONERS

SHEET NO. 13
OF 25



Baseline Along ROW
STA:32+50.00 TO STA:37+25.00

GRAPHIC SCALE
0 20' 30' 40'
1" = 20'

SURVEY NOTES

1 VM1 FOUND 10" GREEN PVC DEPTH = 4.01'
2A VMP H2A FOUND 1" DIRECT BURY CABLE DEPTH = 4.03'
2B VMC6 FOUND 2" DIRECT BURY CABLE DEPTH = 3.66'
2C VMC6C FOUND 0.5" DIRECT BURY CABLE DEPTH = 4.20'
3 VM3 FOUND 10" FELT WRAPPED FRENCH DRAIN DEPTH = 2.90'
4 NO UTILITY FOUND CLEARED TO 8
5A VM6A FOUND 1" DIRECT BURY CABLE DEPTH = 3.84'
5B VM6B FOUND 2" DIRECT BURY CABLE DEPTH = 3.75'
5C VM6C FOUND 0.5" DIRECT BURY CABLE DEPTH = 3.94'
7 VM7 FOUND 10" FELT WRAPPED FRENCH DRAIN DEPTH = 3.00'
8 NO UTILITY FOUND CLEARED TO 10'
9 VM1B FOUND 10" BLUE PVC TO BLACK HDPE COUPLING DEPTH = 6.85'
10 VM1C NO UTILITIES FOUND (EXPLORED TO 15.00')
11 VM1A FOUND 12" BLACK HDPE FM DEPTH 4.10'
12 VM6 FOUND CAST EDGE BOX CULVERT DEPTH = 5.40'
13 VM7 FOUND SOUTH EDGE BOX CULVERT DEPTH = 5.25'

UTILITY DETAILS

S10 AIR VALVE ASSEMBLY WITH MANHOLE

UTILITY NOTES

U1 POINT OF CONNECTION - REMOVE EXISTING 16" PLUG AND CONNECT PROPOSED 20" HDPE FORCEMAIN USING A 16" PVC TO 20" HDPE COUPLING.
U2 16" PVC TO 20" HDPE TRANSITION COUPLING.
U3 CONNECT EXISTING SANITARY SERVICE TO PROPOSED 16" SANITARY FORCEMAIN.
U4 16" 45° M.J. BEND
U5 POINT OF CONNECTION - REMOVE EXISTING 16" PLUG AND CONNECT PROPOSED 16" PVC FORCEMAIN USING A 16" 45° BEND.
U6 PROPOSED 2" SANITARY SERVICE TO BE DIRECTIONALLY DRILLED TO SOUTHEAST RIGHT OF WAY LIMITS AND CONNECTED TO THE PROPOSED 20" HDPE FORCEMAIN RUNNING ALONG THE NORTHEAST SIDE OF THE RIGHT OF WAY.

KEY MAP
1"= 1000'

REGISTERED ENGINEER
FRED R. "RUSS" JONES, P.E.
FLORIDA LICENSE NO. 56615

REVISIONS

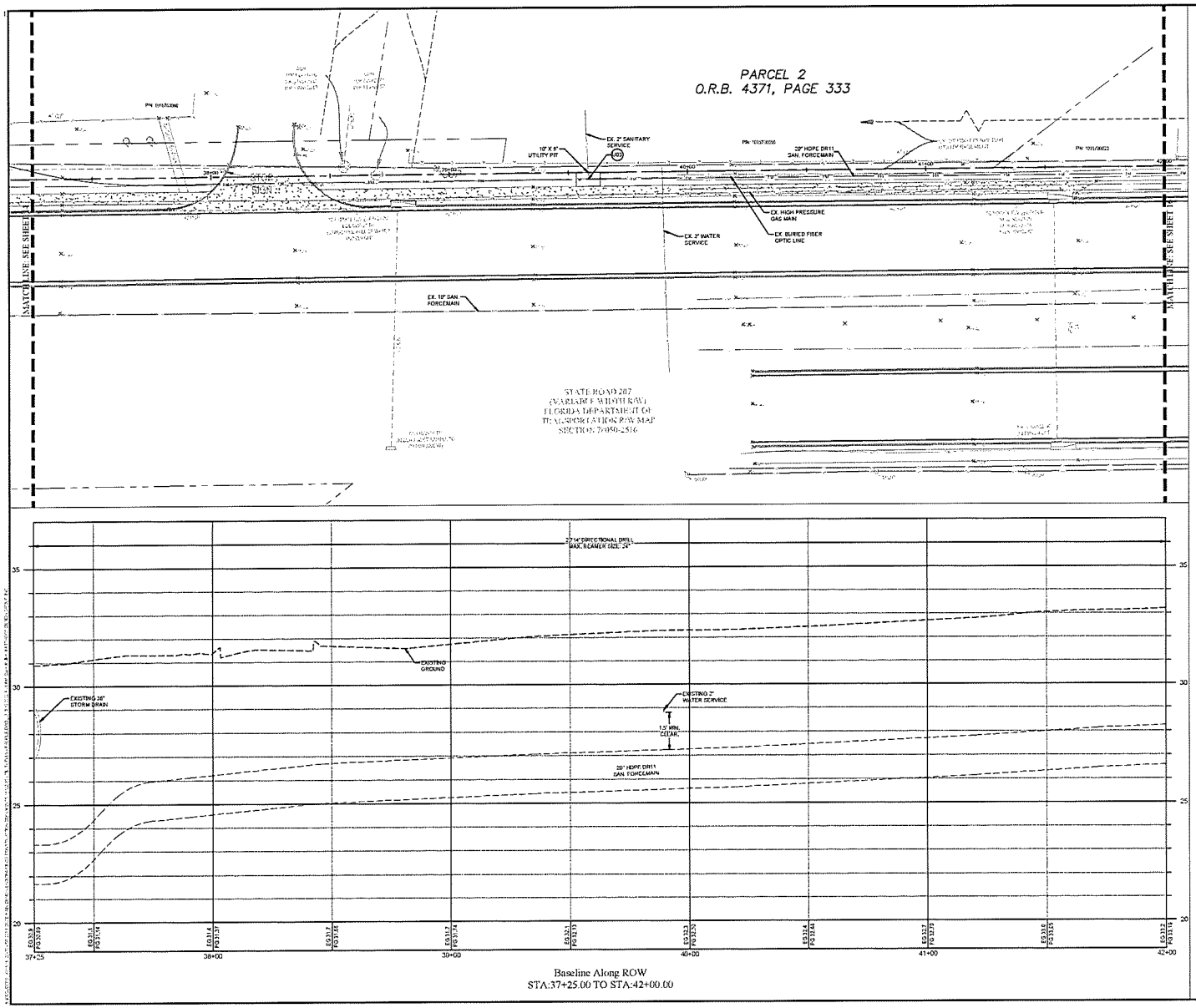
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DRAWN BY: DAH
CHECKED BY: FDH
APPROVED BY: SAK
DATE: 05-16-22
PROJECT NO.: 18122.50

MATTHEWS DESIGN GROUP
P.O. BOX 3126, 7 WALDO STREET
ST. AUGUSTINE, FL 32084
PHONE: 904.826.1335 FAX: 904.826.4547
ENTER@MDGINC.COM

UTILITY PLAN - PROFILE
SR 207 FORCEMAIN DESIGN
ST. JOHNS COUNTY
PREPARED FOR
ST. JOHNS COUNTY BOARD OF COUNTY COMMISSIONERS

SHEET NO. 14
OF 25



Baseline Along ROW
STA:37+25.00 TO STA:42+00.00

GRAPHIC SCALE
0 20' 30' 40'
1" = 20'

SURVEY NOTES

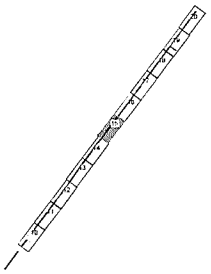
1 WVH1 FOUND 16" GREEN PVC DEPTH = 4.01'
2A WVP HCA FOUND 1" DIRECT BURY CABLE DEPTH = 4.03'
2B WVH2B FOUND 2" DIRECT BURY CABLE DEPTH = 3.99'
2C WVH2C FOUND 0.5" DIRECT BURY CABLE DEPTH = 4.00'
3 WVH3 FOUND 10" FELT WRAPPED FRENCH DRAIN DEPTH = 2.90'
4 NO UTILITY FOUND CLEARED TO 8'
6A WVH6A FOUND 1" DIRECT BURY CABLE DEPTH = 3.84'
6B WVH6B FOUND 2" DIRECT BURY CABLE DEPTH = 3.75'
6C WVH6C FOUND 0.5" DIRECT BURY CABLE DEPTH = 3.90'
7 WVH7 FOUND 10" FELT WRAPPED FRENCH DRAIN DEPTH = 3.00'
8 NO UTILITY FOUND CLEARED TO 10'
9 WVH9 FOUND 16" BLUE PVC TO BLACK HDPE COUPLING DEPTH = 6.85'
10 WVH10 NO UTILITIES FOUND (EXPLORED TO 15.00')
11 WVH11 FOUND 12" BLACK HDPE FM DEPTH = 4.10'
12 WVH12 FOUND EAST EDGE BOX CULVERT DEPTH = 5.40'
13 WVH13 FOUND SOUTH EDGE BOX CULVERT DEPTH = 5.25'

UTILITY DETAILS

G10 AIR VALVE ASSEMBLY WITH MANHOLE

UTILITY NOTES

U1 POINT OF CONNECTION - REMOVE EXISTING 16" PLUG AND CONNECT PROPOSED 20" HDPE FORCEMAIN USING A 16" PVC TO 20" HDPE COUPLING.
U2 16" PVC TO 20" HDPE TRANSITION COUPLING.
U3 CONNECT EXISTING SANITARY SERVICE TO PROPOSED 16" SANITARY FORCEMAIN.
U4 16" 45° M.J. BEND
U5 POINT OF CONNECTION - REMOVE EXISTING 16" PLUG AND CONNECT PROPOSED 16" PVC FORCEMAIN USING A 16" 45° BEND.
U6 PROPOSED 2" SANITARY SERVICE TO BE DIRECTIONALLY DRILLED TO SOUTHEAST RIGHT OF WAY LIMITS AND CONNECTED TO THE PROPOSED 20" HDPE FORCEMAIN RUNNING ALONG THE NORTHWEST SIDE OF THE RIGHT OF WAY.



KEY MAP
1"=1000'

REGISTERED ENGINEER
PETER W. MOOR JONES, P.E.
FLORIDA LICENSE NO. 73344

REVISIONS

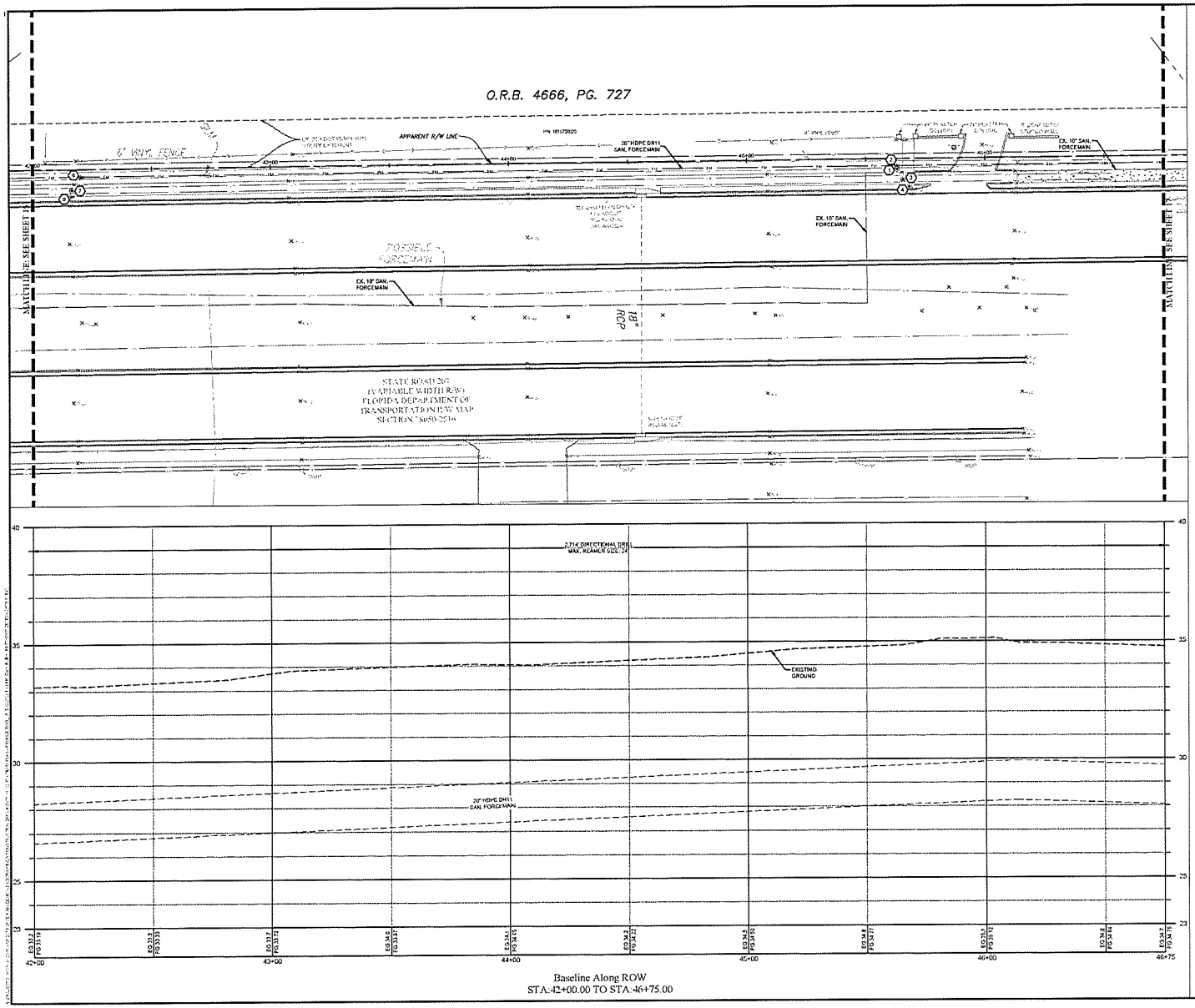
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D.M.	
PGH	
SAK	
DATE	05-16-22
JOB NO.	18122.30

MATTHEWS DESIGN GROUP
P.O. BOX 5126, 7 WALDO STREET
ST. AUGUSTINE, FL 32084
PHONE: (904) 826-0045 FAX: (904) 826-4317
INFO@MDGINC.COM

UTILITY PLAN - PROFILE
SR 207 FORCEMAIN DESIGN
ST. JOHNS COUNTY
PREPARED FOR
ST. JOHNS COUNTY BOARD OF COUNTY COMMISSIONERS

15
OF 25



Baseline Along ROW
STA: 42+00.00 TO STA: 46+75.00

GRAPHIC SCALE
0 20' 30' 40'
1" = 20'

SURVEY NOTES

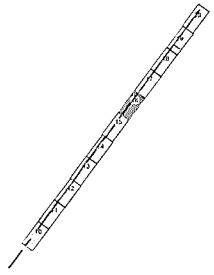
1 VM1 FOUND 10" GREEN PVC DEPTH = 4.01'
2A VM2A FOUND 1" DIRECT BURY CABLE DEPTH = 4.03'
2B VM2B FOUND 2" DIRECT BURY CABLE DEPTH = 3.99'
2C VM2C FOUND 0.5" DIRECT BURY CABLE DEPTH = 4.00'
3 VM3 FOUND 10" FELT WRAPPED FRENCH DRAIN DEPTH = 2.90'
4 NO UTILITY FOUND CLEARED TO 8'
6A VM6A FOUND 1" DIRECT BURY CABLE DEPTH = 3.84'
6B VM6B FOUND 2" DIRECT BURY CABLE DEPTH = 3.75'
6C VM6C FOUND 0.5" DIRECT BURY CABLE DEPTH = 3.95'
7 VM7 FOUND 10" FELT WRAPPED FRENCH DRAIN DEPTH = 3.00'
8 NO UTILITY FOUND CLEARED TO 10'
9 VM10 FOUND 10" BLUE PVC TO BLACK HDPE COUPLING DEPTH = 8.85'
10 VM10C NO UTILITIES FOUND (EXPLORED TO 15.00')
11 VM11A FOUND 12" BLACK HDPE FM DEPTH 4.18'
12 VM8 FOUND EAST EDGE BOX CULVERT DEPTH = 5.40'
13 VM7 FOUND SOUTH EDGE BOX CULVERT DEPTH = 5.25'

UTILITY DETAILS

S10 AIR VALVE ASSEMBLY WITH MANHOLE

UTILITY NOTES

U1 POINT OF CONNECTION - REMOVE EXISTING 18" PLUG AND CONNECT PROPOSED 20" HDPE FORCEMAIN USING A 18" PVC TO 20" HDPE COUPLING.
U2 18" PVC TO 20" HDPE TRANSITION COUPLING.
U3 CONNECT EXISTING SANITARY SERVICE TO PROPOSED 16" SANITARY FORCEMAIN.
U4 16" 45° M.J. BEND
U5 POINT OF CONNECTION - REMOVE EXISTING 16" PLUG AND CONNECT PROPOSED 16" PVC FORCEMAIN USING A 16" 45° BEND.
U9 PROPOSED 2" SANITARY SERVICE TO BE DIRECTIONALLY DRILLED TO SOUTHEAST RIGHT OF WAY LIMITS AND CONNECTED TO THE PROPOSED 20" HDPE FORCEMAIN RUNNING ALONG THE NORTHWEST SIDE OF THE RIGHT OF WAY.



KEY MAP
1"= 1000'

REVISIONS

NO.	DATE	DESCRIPTION
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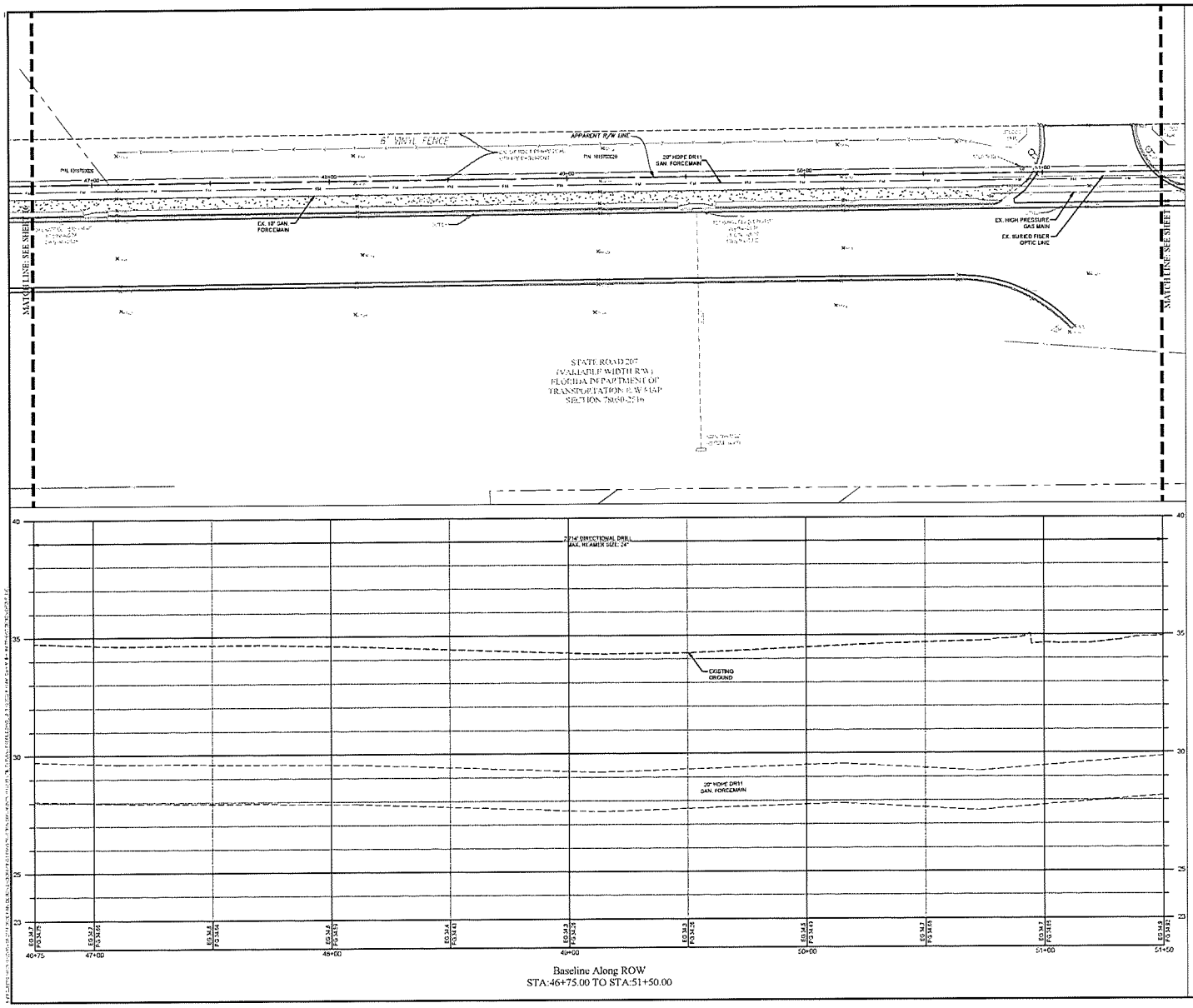
REGISTERED ENGINEER
PAUL R. TUCCIARONE P.E.
FLORIDA LICENSE NO. 84888

DES'D: DJM
DR'N: FCH
CH'K: SAK
DATE: 05-18-22
PROJ'C: 18122.30

MATTHEWS DESIGN GROUP
P.O. BOX 3126, 7 WALDO STREET
ST. AUGUSTINE, FL 32084
PHONE: 904.826.1133 FAX: 904.826.4547
INFO@MDGINC.COM

UTILITY PLAN - PROFILE
SR 207 FORCEMAIN DESIGN
ST. JOHNS COUNTY
PREPARED FOR
ST. JOHNS COUNTY BOARD OF COUNTY COMMISSIONERS

SHEET NO.
16
OF 25



Baseline Along ROW
STA:46+75.00 TO STA:51+50.00

GRAPHIC SCALE
0 20' 30' 40'
1" = 20'

SURVEY NOTES

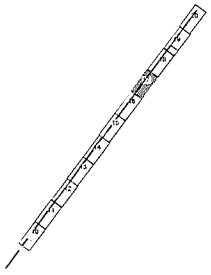
1 VM#1 FOUND 10" GREEN PVC DEPTH = 4.01'
2A VM# HCA FOUND 1" DIRECT BURY CABLE DEPTH = 4.03'
2B VM#2B FOUND 2" DIRECT BURY CABLE DEPTH = 3.91'
2C VM#2C FOUND 0.5" DIRECT BURY CABLE DEPTH = 4.05'
3 VM#3 FOUND 10" FELT WRAPPED FRENCH DRAIN DEPTH = 2.90'
4 NO UTILITY FOUND CLEARED TO 9'
6A VM#6A FOUND 1" DIRECT BURY CABLE DEPTH = 3.84'
6B VM#6B FOUND 2" DIRECT BURY CABLE DEPTH = 3.75'
6C VM#2C FOUND 0.5" DIRECT BURY CABLE DEPTH = 3.90'
7 VM#7 FOUND 10" FELT WRAPPED FRENCH DRAIN DEPTH = 3.00'
8 NO UTILITY FOUND CLEARED TO 10'
9 VM#10 FOUND 18" BLUE PVC TO BLACK HDPE COUPLING DEPTH = 6.85'
10 VM#1C NO UTILITIES FOUND (EXPLORED TO 15.00')
11 VM#1A FOUND 12" BLACK HDPE FM DEPTH 4.10'
12 VM#9 FOUND EAST EDGE BOX CULVERT DEPTH = 5.40'
13 VM#7 FOUND SOUTH EDGE BOX CULVERT DEPTH = 5.25'

UTILITY DETAILS

S10 AIR VALVE ASSEMBLY WITH MANHOLE

UTILITY NOTES

U1 POINT OF CONNECTION - REMOVE EXISTING 16" PLUG AND CONNECT PROPOSED 20" HDPE FORCEMAIN USING A 16" PVC TO 20" HDPE COUPLING.
U2 16" PVC TO 20" HDPE TRANSITION COUPLING.
U3 CONNECT EXISTING SANITARY SERVICE TO PROPOSED 18" SANITARY FORCEMAIN.
U4 16" 45° M.J. BEND
U5 POINT OF CONNECTION - REMOVE EXISTING 16" PLUG AND CONNECT PROPOSED 16" PVC FORCEMAIN USING A 16" 45° BEND.
U6 PROPOSED 2" SANITARY SERVICE TO BE DIRECTIONALLY DRILLED TO SOUTHEAST RIGHT OF WAY LIMITS AND CONNECTED TO THE PROPOSED 20" HDPE FORCEMAIN RUNNING ALONG THE NORTHWEST SIDE OF THE RIGHT OF WAY.



KEY MAP
1" = 1000'

REVISIONS

NO.	DATE	DESCRIPTION
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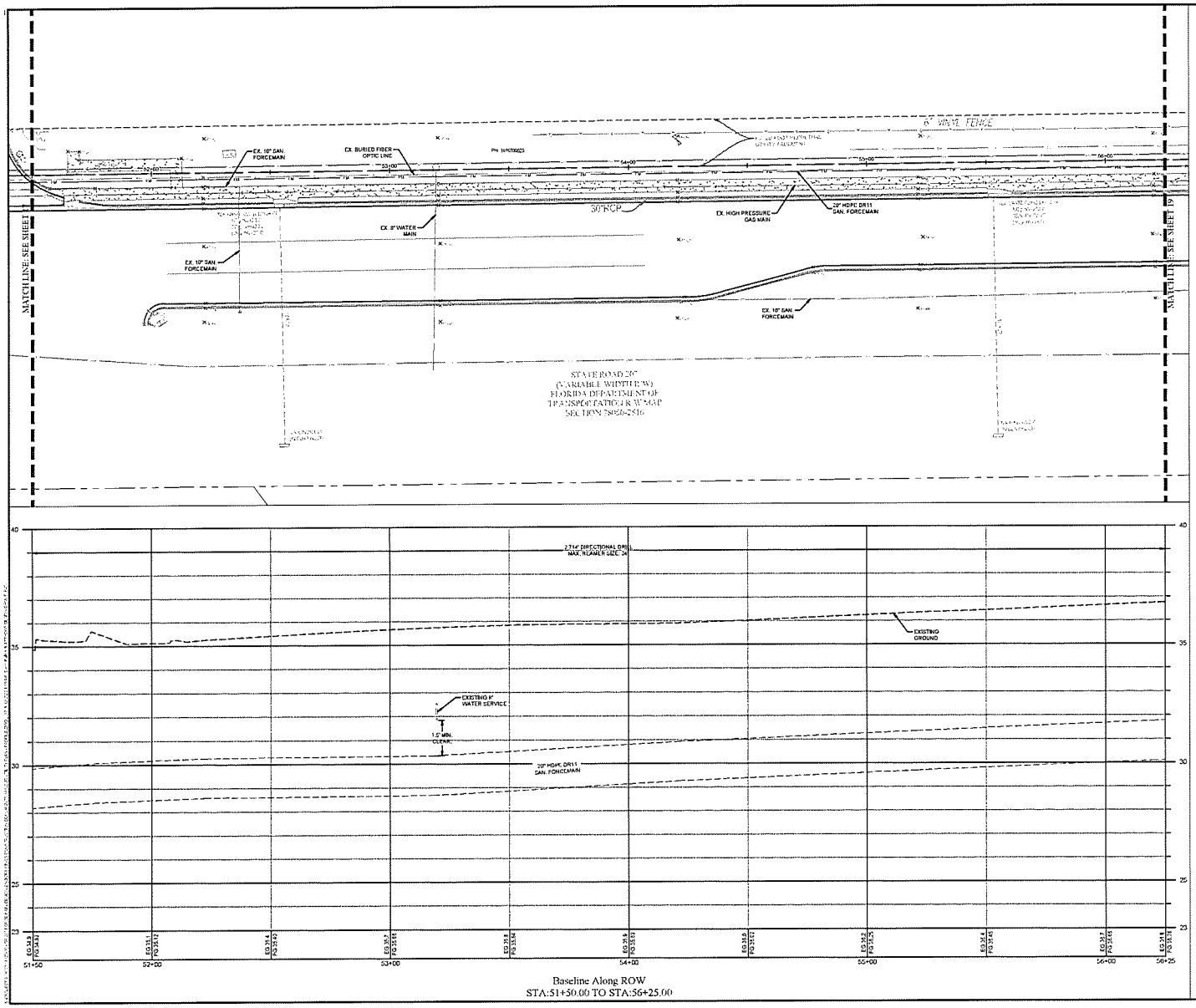
REGISTERED ENGINEER
TODD K. POND #70455 P.E.
CERTIFICATE OF AUTHORIZATION #28484

DSN'D	CJM
DR'N	PDM
CH'K'D	SAK
DATE	05-16-22
JOB #	18122.30

MATTHEWS DESIGN GROUP
P.O. BOX 3126, 7 WALDO STREET
ST. AUGUSTINE, FL 32084
PHONE: 904.825.1111 FAX: 904.826.4547
INFO@MDGINC.COM

UTILITY PLAN - PROFILE
SR 207 FORCEMAIN DESIGN
ST. JOHNS COUNTY
PREPARED FOR
ST. JOHNS COUNTY BOARD OF COUNTY COMMISSIONERS

SHEET NO.
17
OF 25



Baseline Along ROW
STA:51+50.00 TO STA:56+25.00

GRAPHIC SCALE
0 20 30 40
1" = 20'

SURVEY NOTES

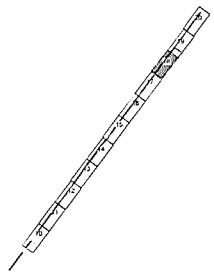
1	WM1 FOUND 10" GREEN PVC DEPTH = 4.01'
2A	WP H2A FOUND 1" DIRECT BURY CABLE DEPTH = 4.03'
2B	WM2B FOUND 2" DIRECT BURY CABLE DEPTH = 3.98'
2C	WM2C FOUND 0.5" DIRECT BURY CABLE DEPTH = 4.00'
3	WM3 FOUND 18" FELT WRAPPED FRENCH DRAIN DEPTH = 2.90'
4	NO UTILITY FOUND CLEARED TO 8'
6A	WM6A FOUND 1" DIRECT BURY CABLE DEPTH = 3.84'
6B	WM6B FOUND 2" DIRECT BURY CABLE DEPTH = 3.70'
6C	WM6BC FOUND 0.5" DIRECT BURY CABLE DEPTH = 3.96'
7	WM7 FOUND 18" FELT WRAPPED FRENCH DRAIN DEPTH = 3.00'
8	NO UTILITY FOUND CLEARED TO 15'
9	WM10 FOUND 10" BLUE PVC TO BLACK HDPE COUPLING DEPTH = 6.9'
10	WM1C NO UTILITIES FOUND (EXPLORED TO 15.00')
11	WM1A FOUND 12" BLACK HDPE FM DEPTH 4.10'
12	WM8 FOUND EAST CDOC BOX CULVERT DEPTH = 5.42'
13	WM7 FOUND SOUTH EDGE BOX CULVERT DEPTH = 5.29'

UTILITY DETAILS

S10	AIR VALVE ASSEMBLY WITH MANHOLE

UTILITY NOTES

U1	POINT OF CONNECTION - REMOVE EXISTING 16" PLUG AND CONNECT PROPOSED 20" HDPE FORCEMAIN USING A 16" PVC TO 20" HDPE COUPLING.
U2	16" PVC TO 20" HDPE TRANSITION COUPLING.
U3	CONNECT EXISTING SANITARY SERVICE TO PROPOSED 18" SANITARY FORCEMAIN.
U4	16" 45° M.J. BEND
U5	POINT OF CONNECTION - REMOVE EXISTING 16" PLUG AND CONNECT PROPOSED 16" PVC FORCEMAIN USING A 16" 45° BEND.
U6	PROPOSED 2" SANITARY SEWER TO BE DIRECTIONALLY DRILLED TO SOUTHEAST RIGHT OF WAY LIMITS AND CONNECTED TO THE PROPOSED 20" HDPE FORCEMAIN RUNNING ALONG THE NORTHWEST SIDE OF THE RIGHT OF WAY.



KEY MAP
1" = 1000'

REVISIONS

NO.	DATE	DESCRIPTION
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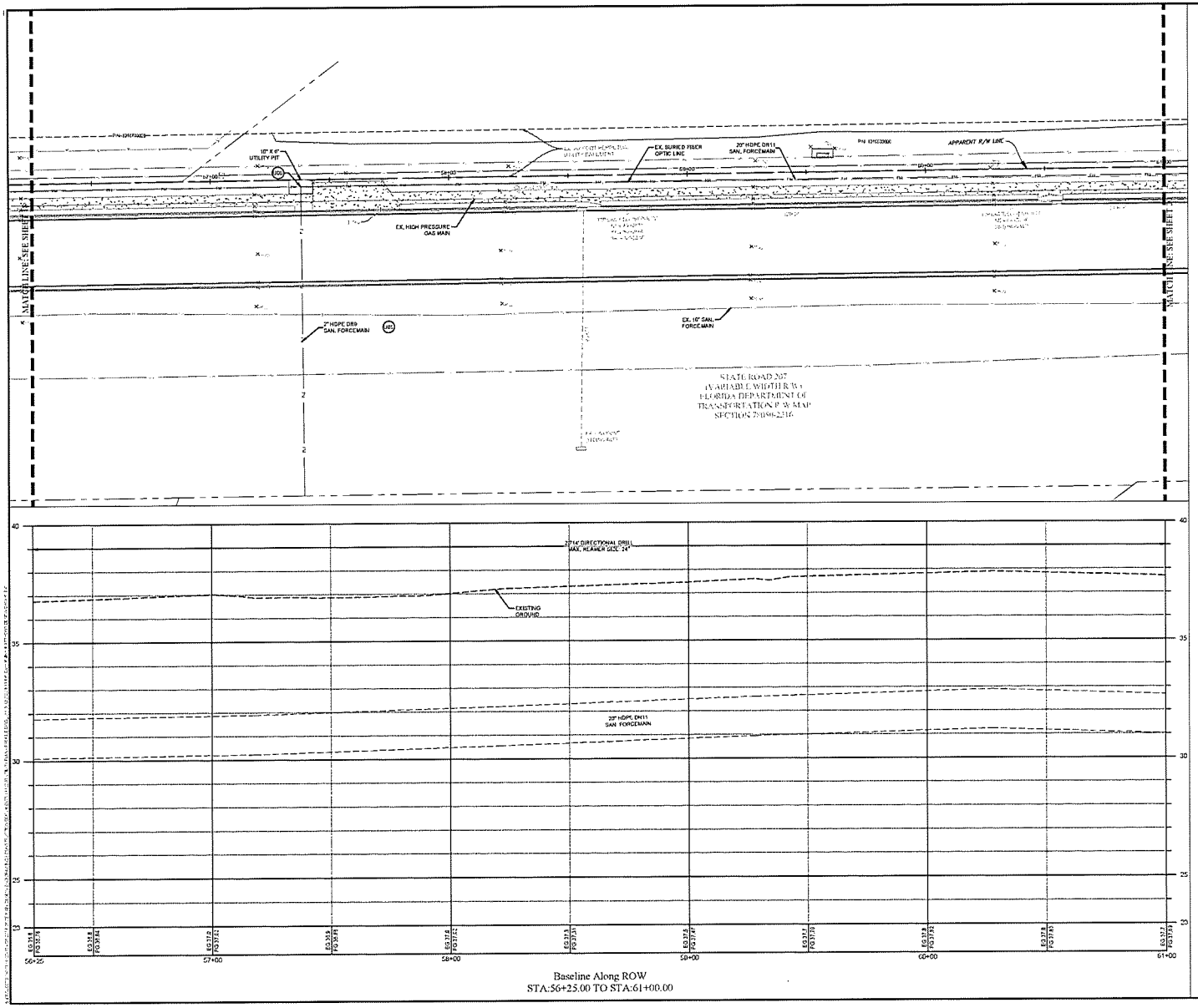
REGISTERED ENGINEER
FRED A. "BUDD" DAVIS, P.E.
CA# 26331 FL# 84214

D.A.I.
FDH
SAK
05-15-22
1812.20

MATTHEWS DESIGN GROUP
P.O. BOX 3126, 7 WALDO STREET
ST. AUGUSTINE, FL 32084
PHONE: 904.826.1334 • FAX: 904.826.4547
INFO@MDGINC.COM

UTILITY PLAN - PROFILE
SR 207 FORCEMAIN DESIGN
ST. JOHNS COUNTY
PREPARED FOR
ST. JOHNS COUNTY BOARD OF COUNTY COMMISSIONERS

18
OF 25



Baseline Along ROW
STA:56+25.00 TO STA:61+00.00

GRAPHIC SCALE
0 20 30 40
1" = 20'

SURVEY NOTES

1	WM1 FOUND 10" GREEN PVC DEPTH = 4.01
2A	WM1-DA FOUND 1" DIRECT BURY CABLE DEPTH = 4.03'
2B	WM2B FOUND 2" DIRECT BURY CABLE DEPTH = 3.96'
2C	WM2C FOUND 0.5" DIRECT BURY CABLE DEPTH = 4.00'
3	WM3 FOUND 10" FELT WRAPPED FRENCH DRAIN DEPTH = 2.90'
4	NO UTILITY FOUND CLEARED TO 8'
6A	WM6A FOUND 1" DIRECT BURY CABLE DEPTH = 3.94'
6B	WM6B FOUND 2" DIRECT BURY CABLE DEPTH = 3.75'
6C	WM6C FOUND 0.5" DIRECT BURY CABLE DEPTH = 3.88'
7	WM7 FOUND 10" FELT WRAPPED FRENCH DRAIN DEPTH = 3.00'
8	NO UTILITY FOUND CLEARED TO 10'
9	WM9 FOUND 10" BLUE PVC TO BLACK HDPE COUPLING DEPTH = 8.85'
10	WM10 NO UTILITIES FOUND (EXPLORED TO 15.00')
11	WM11A FOUND 12" BLACK HDPE FM DEPTH 4.10'
12	WM12 FOUND EAST EDGE BOX CULVERT DEPTH = 5.40'
13	WM13 FOUND SOUTH EDGE BOX CULVERT DEPTH = 5.25'

UTILITY DETAILS

SV2	AIR VALVE ASSEMBLY WITH MANHOLE

UTILITY NOTES

U1	POINT OF CONNECTION - REMOVE EXISTING 16" PLUG AND CONNECT PROPOSED 20" HDPE FORCEMAIN USING A 16" PVC TO 20" HDPE COUPLING.
U2	16" PVC TO 20" HDPE TRANSITION COUPLING.
U3	CONNECT EXISTING SANITARY SERVICE TO PROPOSED 16" SANITARY FORCEMAIN.
U4	16" 45° M.J. BEND
U5	POINT OF CONNECTION - REMOVE EXISTING 16" PLUG AND CONNECT PROPOSED 16" PVC FORCEMAIN USING A 16" 45° BEND.
U6	PROPOSED 2" SANITARY SERVICE TO BE DIRECTIONALLY DRILLED TO SOUTHEAST RIGHT OF WAY LIMITS AND CONNECTED TO THE PROPOSED 20" HDPE FORCEMAIN RUNNING ALONG THE NORTHWEST SIDE OF THE RIGHT OF WAY.

KEY MAP
1"= 1000'

REVISIONS

NO.	DATE	DESCRIPTION

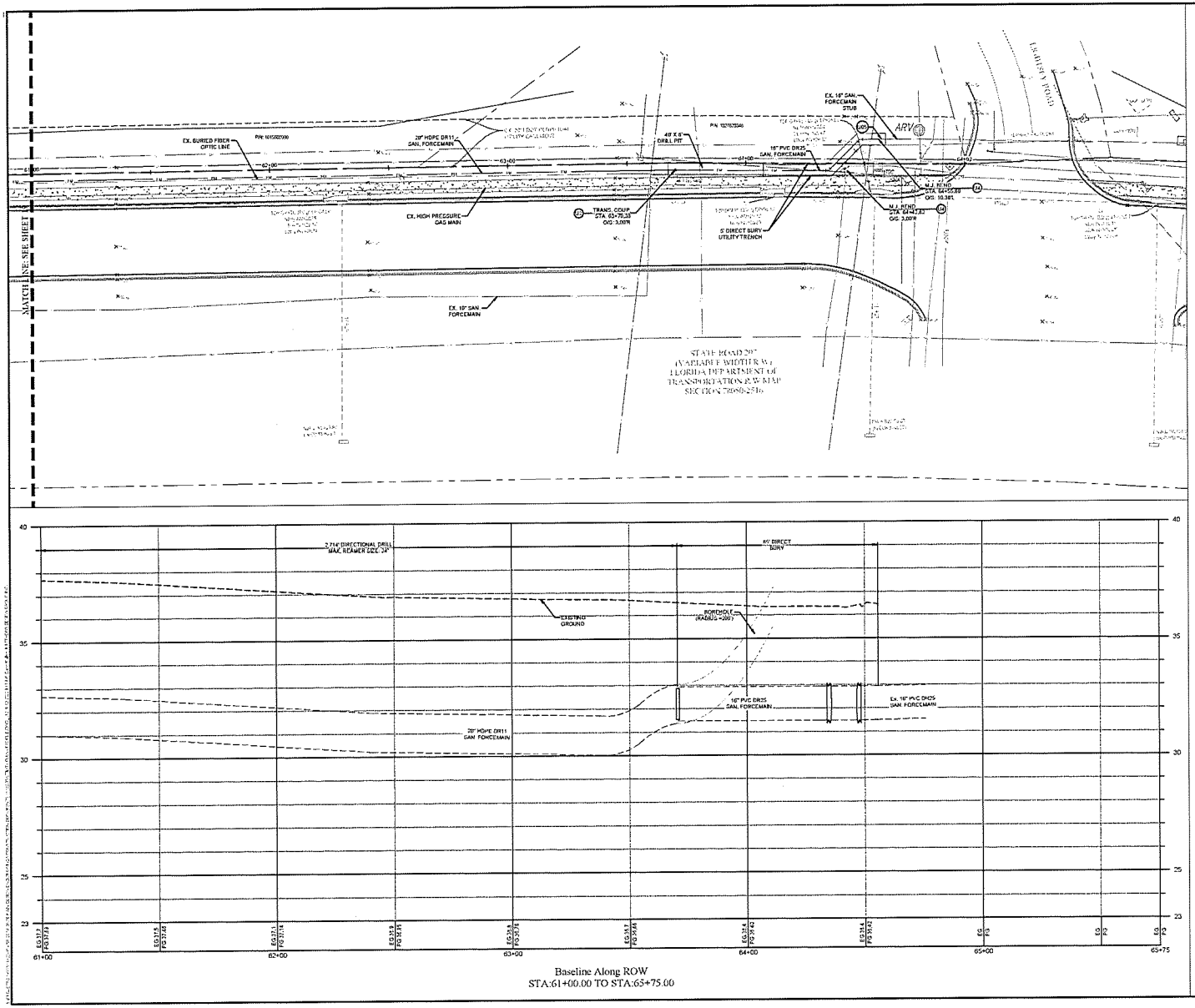
DES'D	D.M.
DFT'D	FDH
CHK'D	SAK
DATE	05-16-22
JOB #	16122.30

REGISTERED ENGINEER
DAVID M. MATTHEWS, P.E.
CA# 26315 FL# 82514

MATTHEWS DESIGN GROUP
P.O. BOX 3126, 7 WALDO STREET
ST. AUGUSTINE, FL 32084
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UTILITY PLAN - PROFILE
SR 207 FORCEMAIN DESIGN
ST. JOHNS COUNTY
PREPARED FOR
ST. JOHNS COUNTY BOARD OF COUNTY COMMISSIONERS

19
OF 25



Baseline Along ROW
STA:61+00.00 TO STA:65+75.00

GRAPHIC SCALE
0 20' 30' 40'
1" = 20'

SURVEY NOTES

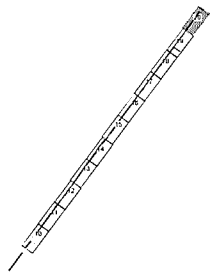
1 WM1 FOUND 10" GREEN PVC DEPTH = 4.01'
2A WP HDA FOUND 1" DIRECT BURY CABLE DEPTH = 4.83'
2B WMDB FOUND 2" DIRECT BURY CABLE DEPTH = 3.80'
2C WMDC FOUND 0.5" DIRECT BURY CABLE DEPTH = 4.00'
3 WM3 FOUND 10" FELT WRAPPED FRENCH DRAIN DEPTH = 2.90'
4 NO UTILITY FOUND CLEARED TO 8'
6A WMBA FOUND 1" DIRECT BURY CABLE DEPTH = 3.84'
6B WMBB FOUND 2" DIRECT BURY CABLE DEPTH = 3.75'
6C WMBC FOUND 0.5" DIRECT BURY CABLE DEPTH = 3.98'
7 WM7 FOUND 10" FELT WRAPPED FRENCH DRAIN DEPTH = 3.00'
8 NO UTILITY FOUND CLEARED TO 10'
9 WM1B FOUND 16" BLUE PVC TO BLACK HDPE COUPLING DEPTH = 6.85'
10 WM1C NO UTILITIES FOUND (EXPLORED TO 15.00')
11 WM1A FOUND 12" BLACK HDPE FM DEPTH 4.10'
12 WM8 FOUND EAST EDGE BOX CULVERT DEPTH = 5.49'
13 WM7 FOUND SOUTH EDGE BOX CULVERT DEPTH = 5.25'

UTILITY DETAILS

S10 AIR VALVE ASSEMBLY WITH MANHOLE

UTILITY NOTES

U1 POINT OF CONNECTION - REMOVE EXISTING 16" PLUG AND CONNECT PROPOSED 20" HDPE FORCEMAIN USING A 16" PVC TO 20" HDPE COUPLING.
U2 16" PVC TO 20" HDPE TRANSITION COUPLING.
U3 CONNECT EXISTING SANITARY SERVICE TO PROPOSED 16" SANITARY FORCEMAIN.
U4 16" 45° M.J. BEND
U5 POINT OF CONNECTION - REMOVE EXISTING 16" PLUG AND CONNECT PROPOSED 16" PVC FORCEMAIN USING A 16" 45° BEND.
U6 PROPOSED 2" SANITARY SERVICE TO BE DIRECTIONALLY DRILLED TO SOUTHEAST RIGHT OF WAY LIMITS AND CONNECTED TO THE PROPOSED 20" HDPE FORCEMAIN RUNNING ALONG THE NORTHWEST SIDE OF THE RIGHT OF WAY.



KEY MAP
1" = 1000'

REGISTERED ENGINEER
FRED H. KNOWLES, P.E.
FL LICENSE NO. 56514

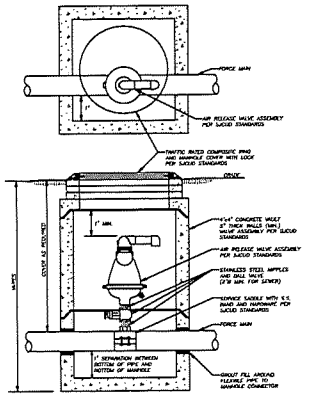
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DESIGNED: DJM
DRAWN: FDH
CHECKED: SAK
DATE: 05-18-22
JOB #: 16122.39

MATTHEWS DESIGN GROUP
P.O. BOX 3126, 7 WALDO STREET
ST. AUGUSTINE, FL 32084
PHONE: 904.826.1334 • FAX: 904.826.4537
INFO@MDGINC.COM

UTILITY PLAN - PROFILE
SR 207 FORCEMAIN DESIGN
ST. JOHNS COUNTY
PREPARED FOR
ST. JOHNS COUNTY BOARD OF COUNTY COMMISSIONERS

20
OF 25



NOTE:
1. VALVE ASSEMBLIES TO BE LOCATED OUTSIDE OF ROADWAY PAVING.
2. PIPE PENETRATIONS SHALL BE WITH A FLEXIBLE MANHOLE SLEEVE.
3. PIPE PENETRATIONS SHALL BE LOCATED OFF CENTER TO EDGE OF PIPE IS 1 FOOT FROM INSIDE WALL.
4. THE INTERIOR AND EXTERIOR OF MANHOLE AND THE INTERIOR OF ADJUSTMENT RINGS SHALL BE GIVEN TWO COATS OF BITUMINOUS WATERPROOFING MATERIAL. DO NOT COAT JOINT OR PIPE OPENING SURFACES.
5. USE SHALL SPECIFY "SAN" AND "TW".

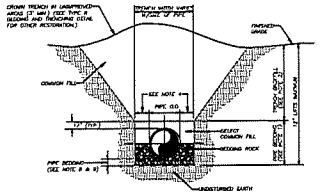
REVISIONS	
Date	Comments
2018	REVISION 2
6/08	REVISION 1

ST. JOHNS COUNTY UTILITY DEPARTMENT

AIR VALVE ASSEMBLY WITH MANHOLE

SCALE: N.T.S.

PLATE S-10



NOTE:
1. PIPE BEDDING: SELECT COMMON FILL COMPACTED TO 95% OF THE MAXIMUM DENSITY AS PER AASHTO T-180.
2. TRENCH BACKFILL: COMMON FILL COMPACTED TO 95% OF THE MAXIMUM DENSITY AS PER AASHTO T-180.
3. USE TYPE A BEDDING TO BE DETERMINED IN THE FIELD AS DIRECTED BY THE COUNTY.
4. 12" MINIMAL, 15" MAXIMUM FOR PIPE DIAMETER LESS THAN 24", AND 24" MAXIMUM FOR PIPE DIAMETER 24" AND LARGER.
5. WATER SHALL NOT BE PERMITTED IN THE TRENCH DURING CONSTRUCTION.
6. ALL PIPE TO BE INSTALLED WITH BELL FACING UPSTREAM TO THE DIRECTION OF THE FLOW.
7. REFER TO SECTION 3.3 OF THE MANUAL FOR SHEETING AND BRACING IN EXCAVATIONS.
8. GRAVITY SEWERS SHALL UTILIZE TYPE A BEDDING, AS REQUIRED BY THE COUNTY. BEDDING DEPTH SHALL BE MINIMUM FOR PIPE DIAMETER LESS THAN 15", AND 6" MINIMUM FOR 15" AND LARGER. SEE DETAIL FOR BEDDING.
9. WITHIN THE ROCK, COMMON OR UNSUITABLE MATERIAL SHALL REMOVE DEPTH OF BEDDING ROCK AS SHOWN ON DETAIL. COUNTY SHALL DETERMINE IN THE FIELD REQUIRED REMOVAL OF UNSUITABLE MATERIAL TO REACH SUITABLE FOUNDATION.
10. ALL TRENCHING SHALL BE IN ACCORDANCE WITH FLORIDA TRENCH SAFETY ACT.

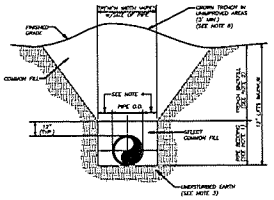
REVISIONS	
Date	Comments
2018	REVISION 2
6/08	REVISION 1

ST. JOHNS COUNTY UTILITY DEPARTMENT

TYPE A BEDDING & TRENCHING

SCALE: N.T.S.

PLATE W-13



NOTE:
1. PIPE BEDDING: SELECT COMMON FILL COMPACTED TO 95% OF THE MAXIMUM DENSITY AS PER AASHTO T-180.
2. TRENCH BACKFILL: COMMON FILL COMPACTED TO 95% OF THE MAXIMUM DENSITY AS PER AASHTO T-180.
3. PIPE BEDDING UTILIZING SELECT COMMON FILL OR BEDDING ROCK IN ACCORDANCE WITH TYPE A BEDDING AND TRENCHING DETAIL MAY BE REQUIRED AS DIRECTED BY THE COUNTY.
4. 12" MINIMAL, 15" MAXIMUM FOR PIPE DIAMETER LESS THAN 24", AND 24" MAXIMUM FOR PIPE DIAMETER 24" AND LARGER.
5. WATER SHALL NOT BE PERMITTED IN THE TRENCH DURING CONSTRUCTION.
6. ALL PIPE TO BE INSTALLED WITH BELL FACING UPSTREAM TO THE DIRECTION OF THE FLOW.
7. REFER TO SECTION 3.3 OF THE MANUAL FOR SHEETING AND BRACING IN EXCAVATIONS.
8. FINAL RESTORATION IN APPROVED AREAS SHALL BE IN COMPLIANCE WITH ALL APPLICABLE REGULATIONS OF CONSTRUCTION AND SHALL INCLUDE, BUT NOT BE LIMITED TO, RESURFACING WITH MILLING AND ASPHALT PER FDOT STANDARDS AND MOST CURRENT FDOT SPECIFICATIONS AND MOST CONSTRUCTION SPECIFICATIONS.
9. ALL TRENCHING SHALL BE IN ACCORDANCE WITH FLORIDA TRENCH SAFETY ACT.

REVISIONS	
Date	Comments
2018	REVISION 2
6/08	REVISION 1

ST. JOHNS COUNTY UTILITY DEPARTMENT

TYPE B BEDDING & TRENCHING

SCALE: N.T.S.

PLATE W-14

NO.	DATE	REVISIONS DESCRIPTION
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REGISTERED ENGINEER
PAUL C. HOOGLAND, P.E.
CERTIFICATE NO. 68314
STATE OF FLORIDA

DJM
PCH
SAK
05-18-22
1612.03

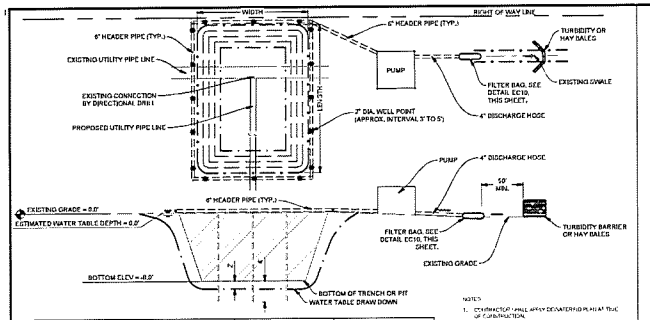
MATTHEWS DESIGN GROUP
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ST. AUGUSTINE, FL 32084
PHONE: 904.826.1334 • FAX: 904.826.4547
INFO@MDGINC.COM

CONSTRUCTION DETAILS

SR 207 FORCEMAIN DESIGN
ST. JOHNS COUNTY
PREPARED FOR
ST. JOHNS COUNTY BOARD OF COUNTY COMMISSIONERS

SHEET NO.
21
OF 25

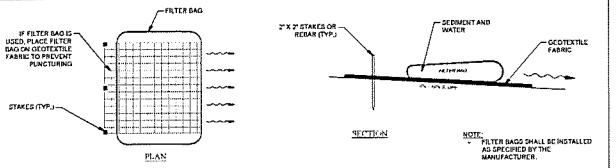
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DEWATERING METHOD	SAND CYLINDER WELL	SHALLOW WELL	WELLPOINT SYSTEM
TYPICAL DEWATERING DEPTH	20'+/-	10'+/-	2-20'
RECOMMENDED DEWATERING DEPTH	40'+/-	10'+/-	2-20'
DEWATERING AREA	50' RADIUS	50' RADIUS	100' MAX.
DEWATERING DURATION	LONG TERM (MORE THAN 6 MONTHS)	SHORT TERM (1 TO 6 MONTHS)	SHORT TERM (1 TO 6 MONTHS)
PUMPS	TRASH PUMP OF SUFFICIENT SIZE TO DISCHARGE 150% OF ESTIMATED FLOW	TRASH PUMP OF SUFFICIENT SIZE TO DISCHARGE 150% OF ESTIMATED FLOW	TRASH PUMP OF SUFFICIENT SIZE TO DISCHARGE 150% OF ESTIMATED FLOW
DISCHARGE LOCATION	PUMP TO SEDIMENT TRAP OR FILTER BAG, SEE DETAIL THIS SHEET	PUMP TO SEDIMENT TRAP OR FILTER BAG, SEE DETAIL THIS SHEET	PUMP TO SEDIMENT TRAP OR FILTER BAG, SEE DETAIL THIS SHEET
TYPICAL NUMBER OF WELLS	4 (MINIMUM)	MAXIMUM OF 5 WELLS PER PUMP	SINGLE STAGE SYSTEM UP TO 100 WELLS PER PUMP
EROSION CONTROL	FILTERING OF EFFLUENT & TURBIDITY BARRIER	FILTERING OF EFFLUENT & TURBIDITY BARRIER	FILTERING OF EFFLUENT & TURBIDITY BARRIER
NORMAL DRAINAGE CONDITIONS	USED WHERE THERE IS NO DRAINAGE	USED WHERE THERE IS NO DRAINAGE	USED WHERE THERE IS NO DRAINAGE
EASEMENT REQUIREMENTS	FREE SANDS	FREE SANDS	FREE SANDS

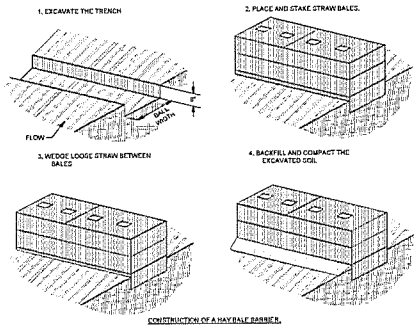
NOTES:
1. CONTRACTOR SHALL APPLY DEWATERING PLAN AT TIME OF CONSTRUCTION.
2. IF DEWATERING METHOD WITH DEWATERING PLAN IS INSUFFICIENT, THE CONTRACTOR SHALL PROVIDE ADDITIONAL DEWATERING METHODS AS NECESSARY TO COMPLETE THE CONSTRUCTION AT NO EXTRA COST TO THE OWNER.
3. THE DISCHARGE PIPE LENGTH SHALL BE APPROXIMATELY 25 FEET TO ALLOW FOR MOVEMENT OF THE PUMP AS NEEDED.
4. TURBIDITY BARRIER OR HAY BALES TO BE INSTALLED DOWNSTREAM OF FILTER BAG.
5. PROVIDE A FILTER BAG AT THE END OF DISCHARGE HOSE AND AS SHOWN ON DRAWINGS OR AS DIRECTED BY CONTROL METHODS.

TRENCH OR PIT DEWATERING PLAN & PROFILE [ED]

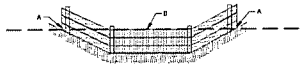


NOTE:
- FILTER BAGS SHALL BE INSTALLED AS SPECIFIED BY THE MANUFACTURER.

DEWATERING FILTER BAG [ED]



CONSTRUCTION OF A HAY BALE BARRIER.



POINTS A SHOULD BE HIGHER THAN POINT B

PROPER PLACEMENT OF HAY BALE BARRIER IN DRAINAGE WAY

HAY BALE BARRIER CONSTRUCTION DETAILS [HC]

REVISIONS

NO.	DATE	DESCRIPTION

REGISTERED ENGINEER
PAUL H. MATTHEWS, P.E.
FLA. NO. 43213

DWN: DJM
CHK'D: PCM
APP'D: SAM
DATE: 06-16-22
JOB NO: 18122.30

MATTHEWS DESIGN GROUP
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DEWATERING DETAILS

SR 207 FORCEMAIN DESIGN
ST. JOHNS COUNTY
PREPARED FOR
ST. JOHNS COUNTY BOARD OF COUNTY COMMISSIONERS

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OF 35

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STORM WATER POLLUTION PREVENTION PLAN

OWNER'S REQUIREMENTS

SITE DESCRIPTION

PROJECT NAME: SR 207 FORCEMAIN DESIGN

LOCATION: NORTHEAST SIDE OF THE NB LEFT TURN LANE AT THE INTERSECTION WITH STATE ROAD 16 TO THE INTERSECTION WITH HIGHWAY VIEW ROAD.

EASTPORT: START - 29° 12' 48" N, END - 29° 11' 39" N

LONGITUDE: START - 81° 21' 42" W, END - 81° 21' 39" W.

OWNER NAME AND ADDRESS: ST. JOHNS COUNTY BOARD OF COUNTY COMMISSIONERS
500 SAN SEBASTIAN VIEW, ST. AUGUSTINE, FL 32084

DESCRIPTION: CONSTRUCT A 24" DIP AT WITH 2 LATERAL MANIFOLD FORCEMAIN ALONG THE OUTSIDE EDGE OF THE SW 207 RIGHT OF WAY. THERE WILL BE DIRECTIONAL DRILL PORTIONS OF THE FORCEMAIN AT CROSS DRAINAGE DRILL PORTIONS OF THE FORCEMAIN AT CROSS DRAINAGE, ROADWAY, AND ALL SUBMITTED TO THE EXISTING LIFT STATION. FUNCTIONAL DESIGN ALTERATION OF THE EXISTING FORCEMAIN AND CONNECTED TO THE PROPOSED FORCEMAIN.

SOIL DISTURBING ACTIVITIES WILL INCLUDE:
MILLING OF EXISTING ASPHALT STREET PAVEMENTS FOR THE INSTALLATION OF FORCEMAIN, MANHOLE INSTALLATION, FORCEMAIN TESTING, TESTING AND CONNECTION TO EXISTING FORCEMAIN AND CONNECTED TO THE PROPOSED FORCEMAIN.

RUNOFF COEFFICIENTS:

1.	PRE-CONSTRUCTION = N/A	(THIS PROJECT SHALL CONSIST OF DIRECTIONAL DRILLED AND OPEN CUT TRENCH AND UTILITY TRENCHING. NO NEW IMPERVIOUS AREAS ARE PROPOSED)
2.	DURING CONSTRUCTION = N/A	
3.	POST-CONSTRUCTION = N/A	

EXISTING SOILS TYPE:
ST JOHNS FINE SAND (0 TO 5 PERCENT SLOPES) - POORLY DRAINED SOILS THAT HAVE A HIGH WATER TABLE. FLOW PATTERNS ARE SLOW. THE SURFACE LAYER IS USUALLY DARK GRAY FINE SAND (OR LOAMY FINE SAND) ABOUT 10 INCHES THICK. THE NEXT LAYER IS ALSO GRAY FINE SAND (OR LOAMY FINE SAND) ABOUT 20 INCHES THICK. THE NEXT LAYER IS DARK GRAY FINE SAND (OR LOAMY FINE SAND) ABOUT 10 INCHES THICK. THE NEXT LAYER IS GRAY FINE SAND (OR LOAMY FINE SAND) MORE THAN 60 INCHES THICK.

ESTIMATED TIMING:
ON SUNSHINE LINE WILL START FROM THE EXISTING GROUND SOUTH OF JOHNS FIRE LANE, TO TAP INTO THE EXISTING FORCEMAIN NEAR CR 16 A STATE ROAD 16.

SITE MAPS:
- SEE ATTACHED GRADING PLAN FOR PIPE & POST DEVELOPMENT GRADES, AREAS OF SOIL DISTURBANCE, LOCATION OF RUNOFF DIRECTION, WETLANDS, EXISTING DRAINAGE, TEMPORARY STRUCTURAL AND NON-STRUCTURAL CONTROLS AND EXISTING WATER DISCHARGE POINTS.
- SEE ATTACHED EROSION & TURBIDITY CONTROL PLAN FOR LOCATION OF TEMPORARY STABILIZATION PRACTICES, AND TURBIDITY BARRIERS
- SEE GENERAL NOTES FROM REGULATIONS FOR TEMPORARY AND PERMANENT STABILIZATION.

SITE AREA
1. TOTAL AREA OF SITE = 1.10 ACRES
2. TOTAL AREA TO BE DISTURBED = 1.10 ACRES

AREA OF PROPOSED IMPERVIOUS SURFACE (SF) ANY OF A POST STORMWATER POND:

OUTFALL = POST STORM COLLECTION SYSTEM
DRAINAGE AREA: UNKNOWN
LATITUDE: 29° 12' 01" N
LONGITUDE: 81° 21' 27" W
OUTFALL 2: N/A
DRAINAGE AREA:
LATITUDE:
LONGITUDE:

CONTROLS

THIS PLAN UTILIZES BEST MANAGEMENT PRACTICES TO CONTROL EROSION AND TURBIDITY CAUSED BY STORM WATER RUN OFF, AN EROSION AND TURBIDITY PLAN HAS BEEN PREPARED TO INSTRUCT THE CONTRACTOR ON PLACEMENT OF THESE CONTROLS. IT IS THE CONTRACTORS RESPONSIBILITY TO INSTALL AND MAINTAIN THE CONTROLS HER PLANS AS WELL AS ENSURING THE PLAN IS PROVIDING THE PROPER PROTECTION AS REQUIRED BY FEDERAL, STATE AND LOCAL LAWS. REFER TO "CONTRACTORS RESPONSIBILITY" FOR A DESCRIPTION OF THE CONTROLS THAT MAY BE EMPLEMENTED.

STORM WATER EMPHASIS

STORM WATER EMPHASIS WILL BE CREATED BY SILT FENCING AND GRANULATING CONTROLS.

AREAS WHICH ARE NOT TO BE CONSTRUCTED ON BUT WILL BE PROPERTIES SHALL BE STABILIZED IMMEDIATELY AFTER GRADING IS COMPLETE. WHEN CONSTRUCTION IS COMPLETE, A TOTAL OF 1.10 ACRES SHALL HAVE BEEN DISTURBED AND 0.00 ACRES LEFT UNDISTURBED. THE SITE DRAINAGES TO A POINT OF WATER ENTERING WATERS PRACTICAL. TEMPORARY SEDIMENT BASINS SHALL BE USED TO INTERCEPT SEDIMENT BEFORE ENTERING THE PERMANENT RETENTION BASIN. THIS IS IN ACCORDANCE WITH THE REQUIREMENTS SET FORTH BY THE WATER MANAGEMENT DISTRICT FOR THIS TYPE OF DEVELOPMENT AT THE TIME OF PERMITTING

BMPS TO BE IMPLEMENTED
BMP - SILT FENCE
LOCATION AND DESCRIPTION: AT THE PERIMETER OF THE WORK AREA(S).
BMP - DEWATERING SYSTEM
LOCATION AND DESCRIPTION: WHERE NEEDED AND THE UTILITY EXCAVATING / DRILLING TAKES PLACE.

CERTIFICATION OF COMPLIANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS

IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL LAWS RELATED TO STORM WATER MANAGEMENT AND EROSION AND TURBIDITY CONTROLS, THE FOLLOWING PERMITS HAVE BEEN OBTAINED:

C.U.P., CERTIFICATE OF PERMIT # _____
W.M.D. ENVIRONMENTAL RESOURCE PERMIT #_____

POLLUTION PREVENTION PLAN CERTIFICATION

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ANY ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHERED AND EVALUATED THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

SIGNED: _____

DATED: _____

CONTRACTOR'S REQUIREMENTS

GENERAL

THE CONTRACTOR SHALL AT A MINIMUM IMPLEMENT THE CONTRACTOR'S RESPONSIBILITIES OUTLINED BELOW AND THOSE MEASURES SHOWN ON THE EROSION AND TURBIDITY CONTROL PLAN. IN ADDITION THE CONTRACTOR SHALL UNDERTAKE ADDITIONAL MEASURES AS REQUIRED TO ENSURE COMPLIANCE WITH APPLICABLE PERMIT CONDITIONS AND STATE WATER QUALITY STANDARDS, DEPENDENT ON THE NATURE OF MATERIALS AND METHODS OF CONSTRUCTION THE CONTRACTOR MAY BE REQUIRED TO ADD FUNCTIONALITY TO THE RETENTION SYSTEM PRIOR TO IT "GOING THE STATE'S APPROVAL".

SEQUENCE OF MAJOR ACTIVITIES

THE ORDER OF ACTIVITIES WILL BE AS FOLLOWS:

1. INSTALL STABILIZED CONSTRUCTION ENTRANCE.
2. INSTALL SILT FENCES AND TURBIDITY BARRIERS AS REQUIRED
3. CLEAR AND GRUB EXISTING VEGETATION AND DISPOSE OF DEBRIS AND SEDIMENT BASIN
4. CONSTRUCT SEDIMENT TRAP BASIN
5. CONTINUE CLEARING AND GRUBBING
6. STOCKPILE TOP SOIL IF REQUIRED
7. PERFORM PRELIMINARY GRADING ON REFLAS REQUIRED
8. INSTALL DEWATERING HOSES AND BOOSTER PUMPS AS NECESSARY AS PRACTICABLE.
9. INSTALL STORM SEWER, AND STRUCTURES.
10. COMPLETE GRADING AND INSTALL PERMANENT SEEDING/SOD AND PLANTING.
11. MONITOR ACCUMULATED SEDIMENT FROM RAISING
12. WHEN ALL CONSTRUCTION ACTIVITY IS COMPLETE AND THE SITE IS STABILIZED, REMOVE ANY TEMPORARY DIVERSION SWALES DITCH AND RELEASED BOOSTER AS REQUIRED

TIMING OF CONTROLS/MEASURES

AS INDICATED IN THE SEQUENCE OF MAJOR ACTIVITIES, THE SILT FENCES AND HAY BALES, STABILIZED CONSTRUCTION ENTRANCE, AND SEDIMENT BASIN WILL BE CONSTRUCTED PRIOR TO CLEARING OR GRADING OF ANY OTHER AREAS OF THE SITE. STABILIZATION MEASURES SHALL BE IMPLEMENTED AS SOON AS PRACTICAL IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED. ONCE CONSTRUCTION ACTIVITY OF AREA PERMANENTLY PLANNED AREA, THAT AREA WILL BE STABILIZED PERMANENTLY IN ACCORDANCE WITH THE PLANS, AFTER THE ENTIRE SITE IS STABILIZED, THE ACCUMULATED SEDIMENT WILL BE REMOVED FROM THE ECOSYSTEM TRAPS AND THE EARTH DIKE DRAINS WILL BE REGRADED/REMOVED AND STABILIZED IN ACCORDANCE WITH THE EROSION & TURBIDITY CONTROL PLAN.

CONTROLS

IT IS THE CONTRACTOR'S RESPONSIBILITIES TO IMPLEMENT THE EROSION AND TURBIDITY CONTROLS AS SHOWN ON THE EROSION AND TURBIDITY CONTROL PLAN. IT IS ALSO THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN THESE CONTROLS AND PROPERLY INSTALLED, MAINTAINED AND/OR REMOVED PROPERLY TO PREVENT TURBIDITY OR POLLUTED WATER FROM LEAVING THE PROJECT SITE. THE CONTRACTOR WILL ADJUST THE LOCATION AND TURBIDITY CONTROLS SHOWN ON THE EROSION AND TURBIDITY CONTROL PLAN AND ADD ADDITIONAL CONTROL MEASURES AS IS DEEMED NECESSARY. THE SITE MEETS ALL FEDERAL, STATE AND LOCAL EROSION AND TURBIDITY CONTROL REGULATIONS. THE FOLLOWING BEST MANAGEMENT PRACTICES WILL BE IMPLEMENTED BY THE CONTRACTOR AS REQUIRED BY THE EROSION AND TURBIDITY CONTROL PLAN AND AS REQUIRED TO FULLY THE EROSION AND TURBIDITY REQUIREMENTS IMPOSED ON THIS PROJECT BOTH BY THE REGULATORY AGENCIES.

EROSION AND SEDIMENT CONTROLS
STABILIZATION PRACTICES

1. SYNTHETIC BALE BARRIER: SYNTHETIC BALE BARRIERS CAN BE USED BELOW DISTURBED AREAS SUBJECT TO SHEET AND RILL EROSION WITH THE FOLLOWING LIMITATIONS:
   A. WHERE THE DRAINAGE SLOPE BEHIND THE BARRIER IS 20 PERCENT,
   B. IN NARROW SWALES OR DITCH BACK WHERE THE MAXIMUM CONTRIBUTING DRAINAGE AREA IS NO GREATER THAN 2 ACRES,
   C. WHERE LIFE EXPECTANCY IS NO LONGER THAN 3 MONTHS,
   D. CLEAN EXPERT SPREAD BELOW, TO LIMIT THE USE OF SYNTHETIC BALE BARRIERS CONSTRUCTED IN SWALES, DITCHES OR IN SWALES WHERE THERE IS THE POSSIBILITY OF A WASHOUT IF MUCH EXPERT, BOARDS SHALL BE THREE TO PROPERLY ANCHOR BALES TO PREVENT AGAINST WASHOUT.
   REFER TO THE DETAILS FOR CONSTRUCTING THE WATTLE BARRIERS. ALSO REFER TO THE DETAILS FOR PROPER LOCATION, WATCHING AND USAGE.
2. HAY BALE BARRIER: FILTER FABRIC BARRIERS CAN BE USED ON DISTURBED AREAS SUBJECT TO SHEET AND RILL EROSION WITH THE FOLLOWING LIMITATIONS
   A. WHERE THE MAXIMUM SLOPE BEHIND THE BARRIER IS 20 PERCENT,
   B. IN NARROW SWALES OR DITCH LINES WHERE THE MAXIMUM CONTRIBUTING DRAINAGE AREA IS NO GREATER THAN 2 ACRES, AS DETAILED ON THE PLANS OR AS DIRECTED BY THE ENGINEER OR THE FIELD INSPECTOR.
   C. WHERE LIFE EXPECTANCY IS NO LONGER THAN 3 MONTHS.
   D. CLEAN EXPERT SPREAD BELOW, TO LIMIT THE USE OF SYNTHETIC BALE BARRIERS CONSTRUCTED IN SWALES, DITCHES OR IN SWALES WHERE THERE IS THE POSSIBILITY OF A WASHOUT IF MUCH EXPERT, BOARDS SHALL BE THREE TO PROPERLY ANCHOR BALES TO PREVENT AGAINST WASHOUT.
   REFER TO THE DETAILS FOR CONSTRUCTING THE HAY BALE BARRIERS. ALSO REFER TO THE DETAILS FOR PROPER LOCATION, WATCHING AND USAGE.
3. BRUSH BARRIER: BRUSH BARRIERS MAY BE USED BELOW DISTURBED AREAS SUBJECT TO SHEET AND RILL EROSION WHERE ENOUGH BRUSH MATERIAL IS AVAILABLE ON SITE.
4. LEVEL SPREADER: A LEVEL SPREADER MAY BE USED WHERE SEDIMENT-FREE STORM RUNOFF IS INTERCEPTED AND DIVERTED AWAY FROM THE GRADED AREAS ONTO UNDISTURBED STABILIZED AREAS. THIS PRACTICE APPLIES ONLY IN THOSE SITUATIONS WHERE THE SPREADER CAN BE CONSTRUCTED ON UNDISTURBED SOIL AND THE AREA BELOW THE LEVEL LIP IS STABILIZED. THE WATER SHOULD NOT BE ALLOWED TO RECONCENTRATE AFTER IT HAS FLOWED OVER THE LEVEL SPREADER SHALL BE CONSTRUCTED IN ACCORDANCE TO THE DETAILS.
5. STOCKPILING MATERIAL AND EXCAVATED MATERIAL SHALL BE STOCKPILED IN SUCH A MANNER AS TO REDUCT RUNOFF DIRECTLY OFF THE PROJECT SITE INTO ANY ADJACENT WATER BODY OR STORM WATER COLLECTION FACILITY.
6. EXPOSED AREA LIMITATION: THE SURFACE AREA OF OPEN, NON-ENCLOSED SOIL CAUSED BY CLEARING AND GRUBBING OR LIMITED ON EXCAVATION AND FILLING OPERATIONS SHALL NOT EXCEED 30 ACRES. THIS REQUIREMENT MAY BE WAIVED FOR LARGE PROJECTS WITHIN EROSION CONTROL PLAN WHERE ENGINEER STATES THAT EXPOSING OF ADDITIONAL AREAS WILL NOT SIGNIFICANTLY AFFECT OPPORTUNITY OF SEDIMENTS.
7. INLET PROTECTION: INLETS AND CATCH BASINS WHICH DISCHARGE DIRECTLY OR INDIRECTLY INTO RIVERS AND WATER BODIES MUST HAVE STORM RUNOFF INLETS. THE COMPLETION OF ALL CONSTRUCTION OPERATIONS THAT MAY CONTRIBUTE SEDIMENT TO THE INLET.
8. TEMPORARY SEEDING: AREAS OPENED BY CONSTRUCTION OPERATIONS AND THAT ARE NOT INTENDED TO BE FINISHED GRADED OR DISTURBED AGAIN FINAL GRADING TREATMENT WITHIN 30 DAYS SHALL BE SEEDED WITH A QUICK GROWING SPECIES OF GRASS WHICH WILL PROVIDE AN EARLY COVER DURING THE SEASON IN WHICH IT IS PLANTED AND WILL NOT ATTEMPT COMPETE WITH THE PERMANENT GRASSING.
9. TEMPORARY SEEDING AND MULCHING: SLOPES STEEPER THAN 4:1 THAT FALL WITHIN THE CATEGORIES LISTED IN PARAGRAPH 8 ABOVE, SHALL ADDITIONALLY RECEIVE MULCHING OR APPROPRIATELY ANCHORED LOOSE MULCH OF RICE OR STRAW. CUT BACK THE SIDE OF THE SLOPES ARE A MINIMUM OF SEED AND MULCH.
10. TEMPORARY GRASSING: THE SEEDED OR SEEDED AND MULCHED AREAS SHALL BE ROLLED AND WATERED OR HYDRO MULCHED OR OTHER SUITABLE METHODS IF REQUIRED TO ASSURE FAVORABLE GROWING CONDITIONS FOR THE ESTABLISHMENT OF A GOOD GRASS COVER. TEMPORARY GRASSING SHALL BE THE SAME MIX & AMOUNT REQUIRED FOR PERMANENT GRASSING IN THE CONTRACT SPECIFICATIONS.
11. TEMPORARY HYDRASEEDING: IF AFTER 14 DAYS FROM SEEDING, THE TEMPORARY GRASSED AREAS HAVE NOT ATTAINED A MINIMUM OF A PARTIAL GOOD GRASS COVER, THE AREA WILL BE REWORKED AND ADDITIONAL SEED APPLIED SUFFICIENT TO ESTABLISH THE DESIRED VEGETATIVE COVER.
12. MAINTENANCE: ALL FEATURES OF THE PROJECT DESIGNED AND CONSTRUCTED TO PREVENT EROSION AND SEDIMENT DAMAGE MAINTAINED DURING THE LIFE OF THE CONSTRUCTION SO AS TO FUNCTION AS THEY WERE ORIGINALLY DESIGNED AND CONSTRUCTED.
13. PERMANENT EROSION CONTROL: THE EROSION CONTROL FACILITIES OF THE PROJECT SHOULD BE DESIGNED TO MINIMIZE THE IMPACT ON THE OPERATE FACILITIES.
14. PERMANENT SEEDING: ALL AREAS WHICH HAVE BEEN DISTURBED BY CONSTRUCTION WILL BE A MINIMUM BE SEEDED. THE SEEDING MIX MUST PROVIDE BOTH LONG-TERM VEGETATION AND HARD GROWTH SEASONAL VEGETATION. SLOPE STEEPER THAN 4:1 SHALL BE SEEDED WITH MULCH OR SODDED.
15. TEMPORARY FLOATING TURBIDITY BARRIER = SILTING TURBIDITY BARRIER MAY BE USED IN ALL PERMANENT BODIES OF WATER REGARDLESS OF WATER DEPTH. FILTER CURTAIN SHALL REACH THE BOTTOM UP TO DEPTH OF 18" FLAT.

STRUCTURAL PRACTICES

1. TEMPORARY DIVERSION DIKE: TEMPORARY DIVERSION DIKES MAY BE USED TO DIVERT RUNOFF THROUGH A SEDIMENT-TRAPPING FACILITY, AND IT SHALL BE CONSTRUCTED IN ACCORDANCE TO WITH THE DETAILS.
2. TEMPORARY SEDIMENT TRAP: A SEDIMENT TRAP SHALL BE INSTALLED IN ANY DRAINAGE WAY AT A STORM DRAIN INLET OR AT OTHER POINTS OF DISCHARGE FROM A DISTURBED AREA.
   THE FOLLOWING SEDIMENT TRAPS MAY BE CONSTRUCTED EITHER INDEPENDENTLY OR IN CONJUNCTION WITH A TEMPORARY DIVERSION DIKE:
   A. FILTER & GRAVEL SEDIMENT FILTER – THIS PROTECTION IS APPLICABLE WHERE HEAVY FLOWS AND/OR WHERE AN OVERFLOW CAPACITY IS NECESSARY TO PREVENT FLOOD DAMAGE FOLLOWING THE STRUCTURE, REFER TO THE DETAIL SHEET FOR CONSTRUCTION OF A CURB INLET SEDIMENT TRAP AND FOR CONSTRUCTION OF A CHOP INLET SEDIMENT FILTER.
   AREA AS REFER TO THE DETAILS FOR CONSTRUCTION OF CURB INLET & CHOP & GRAVEL SEDIMENT TRAP – THIS PROTECTION IS APPLICABLE WHERE HEAVY CONCENTRATED FLOWS ARE EXPECTED, BUT NOT WHERE PONDING AROUND THE STRUCTURE MIGHT CAUSE EXCESSIVE INCONVENIENCE OR DAMAGE TO ADJACENT STRUCTURES & UNPROTECTED SLOPES AT RISK.
   C. CHOP INLET SEDIMENT TRAP – THIS PROTECTION IS APPLICABLE WHERE THE FLOW DEPTH IS NOT GREATER THAN 18 INCHES AT AREA OF ENCROACHMENT, SAFE FOR FLOW AND FLOW VELOCITY IS NOT GREATER THAN 2 FEET PER SECOND. THIS METHOD SHALL NOT APPLY TO INLETS IN CLEANING CONCRETE LINED DITCHES SUCH AS FIELD TYPE OF INLET REQUIRING INLETS TO THE DETAILS FOR CONSTRUCTION OF HAY BALE & FABRIC SEDIMENT FILTER.
3. OUTLET PROTECTION: APPLICABLE TO THE OUTLETS OF ALL PIPES AND PAVED CHANNELS, INJECTIONS MAY BE THE FLOW COULD CAUSE EROSION & SEDIMENT FROM UP TO THE RIDGE AWAY WATER BODY. SET FENCES & HAY BALE SHALL TO BE INSTALLED BAHIND THEY DOWNSTREAM OF THE DISCHARGING STRUCTURE, AS SHOWN ON THE OUTLET PROTECTION DETAIL.
4. SEDIMENT BASIN: WILL BE CONSTRUCTED AT THE CONVEYANCE DRAINAGE LOCATIONS THAT SERVE AN AREA WITH 10 OR MORE DISTURBED ACRES AT ONE TIME. THIS PROTECTION MAY BE POWERED FOR TEMPORARY PONDS WILL BE CONSTRUCTED FOR USE AS SEDIMENT BASINS. THESE SEDIMENT BASINS MUST PROVIDE A MINIMUM OF 1800 CUBIC FEET OF STORAGE PER ACRE DRAINED UNTIL FINAL STABILIZATION OF THE SITE.

THE 3,600 CUBIC FEET OF STORAGE AREA PER ACRE DRAINED DOES NOT APPLY TO FLOWS FROM OFFSITE AREAS AND FLOWS FROM OFFSITE AREAS THAT ARE EITHER UNDISTURBED OR HAVE UNDERGONE FINAL STABILIZATION WHERE SUCH FLOWS ARE DIVERTED AROUND BOTH THE DISTURBED AREA AND THE SEDIMENT BASIN, AND TEMPORARY SEDIMENT BASINS CONSTRUCTED MUST BE MADE FREE AND COMPACTION IN ACCORDANCE WITH THE SPECIFICATIONS FOR STRUCTURAL FILL. ALL SEDIMENT COLLECTED IN TEMPORARY OR PERMANENT SEDIMENT TRAPS MUST BE REMOVED UPON FINAL STABILIZATION.

DITCH CONTROLS

WASTE DISPOSAL

WASTE MATERIALS

ALL WASTE MATERIALS EXCEPT LAND CLEARING DEBRIS SHALL BE COLLECTED AND STORED IN A SECURELY LIDDED METAL DUMPSTER. THE DUMPSTER WILL MEET ALL LOCAL AND STATE SOLID WASTE MANAGEMENT REGULATIONS. THE DUMPSTER WILL BE EMPTIED AS NEEDED AND THE TRASH WILL BE HAULED TO A STATE APPROVED LANDFILL. ALL PERSONNEL WILL BE INSTRUCTED REGARDING THE CORRECT PROCEDURE FOR WASTE DISPOSAL. NOTICES STATING THESE PRACTICES WILL BE POSTED AT THE CONSTRUCTION SITE BY THE CONSTRUCTION SUPERINTENDENT. THE INDIVIDUAL WHO MANAGES THE DAY-TO-DAY SITE OPERATIONS WILL BE RESPONSIBLE FOR SEEING THAT THESE PROCEDURES ARE FOLLOWED

HAZARDOUS WASTE

ALL HAZARDOUS WASTE MATERIALS WILL BE DISPOSED OF IN THE MANNER SPECIFIED BY LOCAL OR STATE REGULATIONS OR BY THE MANUFACTURER. SITE PERSONNEL WILL BE INSTRUCTED IN THESE PRACTICES AND THE SITE SUPERINTENDENT, THE INDIVIDUAL WHO MANAGES DAY-TO-DAY SITE OPERATIONS WILL BE RESPONSIBLE FOR SEEING THAT THESE PRACTICES ARE FOLLOWED.

SANITARY WASTE

ALL SANITARY WASTE WILL BE COLLECTED FROM THE PORTABLE UNITS AS NEEDED TO PREVENT POSSIBLE SPILLAGE. THE UNITS WILL BE COLLECTED AND HAULED BY A CONTRACTOR WITH STATE AND LOCAL WASTE DISPOSAL REGULATIONS FOR SANITARY SEWER OR SEPTIC SYSTEMS.

OFFSITE VEHICLE TRACKING

A STABILIZED CONSTRUCTION ENTRANCE WILL BE PROVIDED TO HELP REDUCE VEHICLE TRACKING OF SEDIMENTS. THE PAVED STREET ADJACENT TO THIS SITE ENTRANCE WILL BE SWEPT DAILY TO BE MORE AMPLY LOCAL MUD, DIRT OR ROCK TRACKED FROM THE SITE. DUMP TRUCKS HAULING MATERIAL FROM THE CONSTRUCTION SITE WILL BE COVERED WITH A TARPAULIN.

INVENTORY FOR POLLUTION PREVENTION PLAN

THE MATERIALS OR SUBSTANCES LISTED BELOW ARE EXPECTED TO BE PRESENT ONSITE DURING CONSTRUCTION

☐ Concrete	☐ Fertilizers	☐ Wood
☐ Asphalt	☐ Petroleum Based Products	☐ Masonry Blocks
☐ Tar	☐ Cleaning Solvents	☐ Roofing Materials
☐ Detergents	☐ Paints	☐ Metal Studs
☐ _____	☐ _____	☐ _____

SPILL PREVENTION

MATERIAL MANAGEMENT PRACTICES

THE FOLLOWING ARE THE MATERIAL MANAGEMENT PRACTICES THAT WILL BE USED TO REDUCE THE RISK OF SPILLS OR OTHER ACCIDENTAL EXPOSURE OF MATERIALS AND SUBSTANCES TO STORM WATER RUNOFF.

GOOD HOUSEKEEPING

THE FOLLOWING GOOD HOUSEKEEPING PRACTICES WILL BE FOLLOWED ONSITE DURING THE CONSTRUCTION PROJECT.

* AN EFFORT WILL BE MADE TO STORE ONLY ENOUGH PRODUCT REQUIRED TO DO THE JOB.
* ALL MATERIALS STORED ONSITE WILL BE STORED IN A NEAT, ORDERLY MANNER IN THEIR APPROPRIATE CONTAINERS AND, IF POSSIBLE, UNDER A ROOF OR OTHER ENCLOSURE.
* PRODUCTS WILL BE KEPT IN THEIR ORIGINAL CONTAINERS WITH THE ORIGINAL MANUFACTURER'S LABEL.
* SUBSTANCES WILL NOT BE MIXED WITH ONE ANOTHER UNLESS RECOMMENDED BY THE MANUFACTURER.
* WHENEVER POSSIBLE, ALL OF A PRODUCT WILL BE USED UP BEFORE DISPOSING OF THE CONTAINER.
* MANUFACTURER'S RECOMMENDATIONS FOR PROPER USE AND DISPOSAL WILL BE FOLLOWED.
* THE SITE SUPERINTENDENT WILL INSPECT DAILY TO ENSURE MATERIALS ARE BEING HANDLED AND DISPOSED PROPERLY.

HAZARDOUS PRODUCTS

THESE PRACTICES ARE USED TO REDUCE THE RISKS ASSOCIATED WITH HAZARDOUS MATERIALS.

* PRODUCTS WILL BE KEPT IN ORIGINAL CONTAINERS UNLESS THEY ARE NOT RESEALABLE.
* ORIGINAL LABELS AND MATERIAL SAFETY DATA WILL BE RETAINED. THEY CONTAIN IMPORTANT PRODUCT INFORMATION.
* IF SURPLUS PRODUCT MUST BE DISPOSED OF, MANUFACTURER'S OR LOCAL AND STATE RECOMMENDED METHODS FOR PROPER DISPOSAL WILL BE FOLLOWED.

PRODUCT SPECIFIC PRACTICES

THE FOLLOWING PRODUCT SPECIFIC PRACTICES SHALL BE FOLLOWED ONSITE

PETROLEUM PRODUCTS

ALL ONSITE VEHICLES WILL BE MONITORED FOR LEAKS AND WORKING REGULAR PREVENTATIVE MAINTENANCE TO REDUCE THE CHANCE OF LEAKAGE. PETROLEUM PRODUCTS WILL BE STORED IN TIGHTLY SEALED CONTAINERS WHICH ARE CLEARLY LABELED. ANY ASPHALT SUBSTANCES USED ONSITE WILL BE APPLIED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.

FERTILIZERS

FERTILIZERS USED WILL BE APPLIED ONLY IN THE MINIMUM AMOUNTS RECOMMENDED BY THE MANUFACTURER. ONCE APPLIED, ANY NEWLY EXPOSED BARE WORKED INTO THE SOIL TO LIMIT EXPOSURE TO STORM WATER. STORAGE WILL BE IN A COVERED AREA. THE CONTENTS OF ANY PARTIALLY USED BAGS OF FERTILIZER WILL BE TRANSFERRED TO A SEALABLE PLASTIC BIN TO AVOID SPILLS.

PAINTS

ALL CONTAINERS WILL BE TIGHTLY SEALED AND STORED WHEN NOT REQUIRED FOR USE. EXCESS PAINT WILL NOT BE DISCHARGED TO THE STORM SEWER SYSTEM BUT WILL BE PROPERLY DISPOSED OF ACCORDING TO MANUFACTURERS INSTRUCTIONS OR STATE AND LOCAL REGULATIONS.

CONCRETE TRUCKS

CONCRETE TRUCKS SHALL BE ALLOWED TO WASH OUT OR DISCHARGE SURPLUS CONCRETE OR DRUM AT ANY ONE ONLY AT DESIGNATED POINT PROVIDED, NO OFFSITE DESIGNATED WILL BE PERMITTED.

SPILL CONTROL PRACTICES

IN ADDITION TO THE GOOD HOUSEKEEPING AND MATERIAL MANAGEMENT PRACTICES DISCUSSED IN THE PREVIOUS SECTIONS OF THIS PLAN, THE FOLLOWING PRACTICES WILL BE FOLLOWED FOR SPILL PREVENTION AND CLEANUP.

MANUFACTURERS RECOMMENDED CLEANUP METHODS FOR SPILL CLEANUP WILL BE CLEARLY POSTED AT THE SITE AND SITE PERSONNEL WILL BE MADE AWARE OF THE PROCEDURES AND THE LOCATION OF THE INFORMATION AND CLEANUP SUPPLIES.

MATERIALS AND EQUIPMENT NECESSARY FOR SPILL CLEANUP WILL BE KEPT IN THE MATERIAL MANAGEMENT AREA (UNIT). EQUIPMENT AND MATERIALS WILL INCLUDE BUT NOT BE LIMITED TO: BROOMS, DUST PANS, MOPS, RAGS, GLOVES, GOGGLES, LIQUID ABSORBENT MATERIAL (KITTY OR EQUAL) SAND, SAWDUST AND PLASTIC AND METAL TRASH CONTAINERS SPECIFICALLY FOR THIS PURPOSE.

ALL SPILLS WILL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY.

THE SPILL AREA WILL BE KEPT WELL VENTILATED AND PERSONNEL WILL WEAR APPROPRIATE PROTECTIVE CLOTHING TO PREVENT INJURY FROM CONTACT WITH A HAZARDOUS SUBSTANCE.

SPILLS OF TEN OR MORE GALLONS OF MATERIAL WILL BE REPORTED TO THE APPROPRIATE STATE OR LOCAL GOVERNMENT AGENCY REGARDLESS OF THE SIZE OF THE SPILL.

THE SPILL PREVENTION PLAN WILL BE ADJUSTED TO INCLUDE MEASURES TO PREVENT THIS TYPE OF SPILL FROM RECURRING AND HOW TO CLEAN UP THE SPILL IF THERE IS ANOTHER ONE. A DESCRIPTION OF THE SPILL, WHAT CAUSED IT, AND THE CLEANUP MEASURES WILL ALSO BE INCLUDED.

THE SITE SUPERINTENDENT IS RESPONSIBLE FOR THE DAY-TO-DAY SITE OPERATIONS AND WILL BE THE SPILL PREVENTION AND CLEANUP COORDINATOR. HE/SHE WILL DESIGNATE AT LEAST ONE OTHER SITE PERSONNEL WHO WILL RECEIVE SPILL PREVENTION AND CLEANUP TRAINING. THESE INDIVIDUALS WILL EACH BE GIVEN RESPONSIBILITY FOR A PARTICULAR PHASE OF PREVENTION AND CLEANUP. THE NAMES OF RESPONSIBLE SPILL PERSONNEL WILL BE POSTED IN THE MATERIAL STORAGE AREA AND IF APPLICABLE, IN THE ONSITE TRAILER OR CABIN.

RESPONSIBLE PARTIES	
GENERAL CONTRACTOR	
SUBCONTRACTOR A	
SUBCONTRACTOR B	
SUBCONTRACTOR C	
SUBCONTRACTOR D	

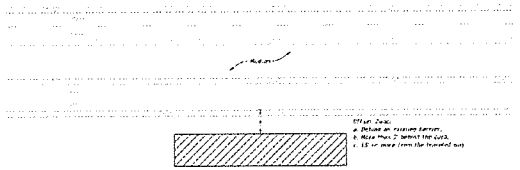
BUILDINGS AND AREAS OF CONSTRUCTION	
SEWER LINE EXTS	

MAINTENANCE/INSPECTION PROCEDURES

EROSION AND SEDIMENT CONTROL INSPECTION AND MAINTENANCE PRACTICES

THE FOLLOWING SAW INSPECTION AND MAINTENANCE PRACTICES THAT WILL BE USED TO MAINTAIN EROSION AND SEDIMENT CONTROLS:

* NO MORE THAN THE AREA OF THE SITE WILL BE DISABLED AT ONE TIME WITHOUT WRITTEN PERMISSION FROM THE ENGINEER.
* ALL DISTURBED AREAS SHALL BE MAINTAINED IN PROPER CONDITION. THE PERSON RESPONSIBLE FOR THE DAY TO DAY SITE OPERATION OR QUALIFIED EMPLOYEE OF THE SUPERINTENDENT, AT LEAST ONCE A WEEK AND FOLLOWING ANY STORM EVENT OF 1.00 INCHES OR GREATER.
* ALL TURBIDITY CONTROL MEASURES WILL BE MAINTAINED IN GOOD WORKING ORDER. IF A PROBLEM IS NOTICED, IT WILL BE REPAIRED WITHIN 24 HOURS OF REPORT.
* SILT UP SEDIMENT WILL BE REMOVED FROM SILT FENCE WHEN IT HAS REACHED ONE-THIRD THE HEIGHT OF THE FENCE.
* SILT FENCE WILL BE INSPECTED FOR DEPTH OF SEDIMENT, TEARS, TO SEE IF THE FABRIC IS SECURELY ATTACHED TO THE FENCE POSTS, AND TO SEE THAT THE FILTER EDGES ARE FIRMLY IN THE GROUND.
* THE SEDIMENT BASIN WILL BE INSPECTED FOR THE DEPTH OF SEDIMENT AND SILT UP SEDIMENT WILL BE REMOVED WHEN IT REACHES 10 PERCENT OF THE DESIGN CAPACITY OR AT THE END OF THE JOB ANNOWEVER COMES FIR



MULTILANE ROADWAY SHOWN, TWO-LANE ROADWAY SIMILAR

NOTES:

1. This Index applies to Two-Lane, Two-Way, and Multilane Roadways, including Roadways of any one classification with more than one shoulder.
2. Use Index 102-602 when the work operations including positioning and commencing the work areas required that one or more work activities cross the Offset Zone or any lane for any period.
3. Use Index 102-660 when work areas encroaches a sidewalk.

SYMBOLS

- Work Area
- Lane Identification + Direction of Traffic

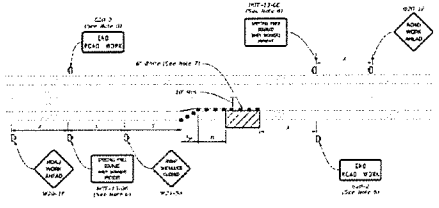
LAST REVISION	DESCRIPTION	FDOT	FY 2021-22 STANDARD PLANS	TWO-LANE AND MULTILANE ROADWAY, WORK BEYOND THE SHOULDER	INDEX	SHEET
11/01/20	REVISIONS				102-601	1 of 1

NOTES:

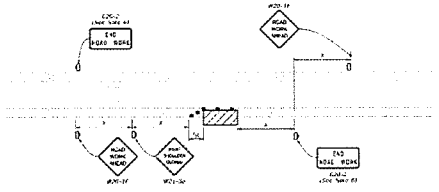
1. This Index applies to Two-Lane, Two-Way and Multilane Roadways, including Roadways of any one classification with more than one shoulder, with work within the shoulder.
2. L = Taper Length
   S = Work Zone Sign Spacing
   B = Buffer Length
   See Index 102-600 for "L", "S", "B", and channelizing device spacing values.
3. For any lateral work using mowing or other removal only the Road Work Ahead sign is required.
4. When four or more work vehicles enter the driving traffic lanes at a rate slow enough that flagging and controlling the work areas, use a flagger at lane closure to accommodate auto-specific hazards and egress.
5. For work less than two feet from the traveled way and with 25 MPH or greater than 45 MPH, use a Lane Closure.
6. The "Shoulder Drop Grades When Workers Present" sign (W8-11-48) and "End Road Work" sign (G20-2) along with the associated work zone sign spacing and taper may be omitted when the temporary condition is in place for 24 hours or less.
7. Temporary pavement markings (Fig. 711-2) are required when the work zone is in place for 7 days or less.
8. If the work encroaches on a paved bicycle lane or bicycle shoulder, close the lane or section in accordance with the Plans.
9. Omit "Shoulder Closed" signs (R21-5a) along with associated work zone sign spacing distances for work on the median.

SYMBOLS:

- Work Area
- Channelizing Device (See Index 102-600)
- Work Zone Sign
- Lane Identification and Direction of Traffic



TWO-LANE ROADWAY
SHOULDER WORK LESS THAN 2' FROM THE TRAVELED WAY
WITH WORK ZONE SPEED OF 45 MPH OR LESS

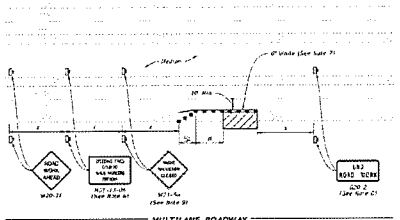


TWO-LANE ROADWAY
SHOULDER WORK BETWEEN 2' AND 15' FROM THE TRAVELED WAY

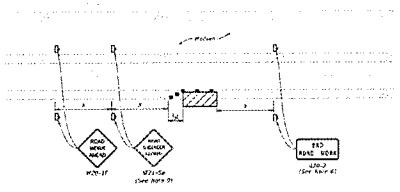
LAST REVISION	DESCRIPTION	FDOT	FY 2021-22 STANDARD PLANS	TWO-LANE AND MULTILANE, WORK ON SHOULDER	INDEX	SHEET
11/01/20	REVISIONS				102-602	1 of 2

SYMBOLS:

- Work Area
- Channelizing Device (See Index 102-600)
- Work Zone Sign
- Lane Identification and Direction of Traffic



MULTILANE ROADWAY
SHOULDER WORK LESS THAN 2' FROM THE TRAVELED WAY
WITH WORK ZONE SPEED OF 45 MPH OR LESS



MULTILANE ROADWAY
SHOULDER WORK BETWEEN 2' AND 15' FROM THE TRAVELED WAY

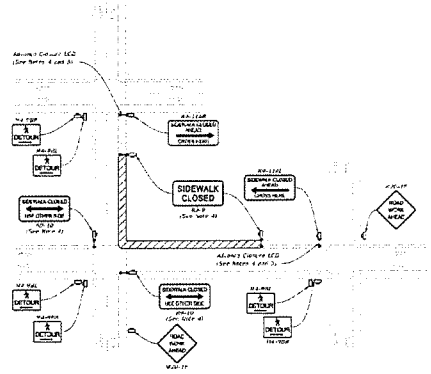
LAST REVISION	DESCRIPTION	FDOT	FY 2021-22 STANDARD PLANS	TWO-LANE AND MULTILANE, WORK ON SHOULDER	INDEX	SHEET
11/01/20	REVISIONS				102-602	2 of 2

NOTES:

1. Cones or sandbags channelize traffic around roadway construction, if used, consecutively.
2. Place pedestrian traffic across the full width of the closed sidewalk.
3. For post mounted work located near or adjacent to a sidewalk, maintain a minimum 7' clearance from the bottom of the sign panel to the surface of the sidewalk.
4. "Sidewalk Closed" signs (R9-11) may be mounted on pedestrian CCDs in accordance with the manufacturer's instructions.
5. Omit the Advance Closure CCD if it blocks access to other pedestrian facilities (e.g. transit stops, crosswalks, or sidewalks not closed).

SYMBOLS:

- Work Area
- Work Zone Sign
- Lane Identification and Direction of Traffic
- Portable or Longitudinal Channelizing Device (CCD)



PEDESTRIAN DETOUR

LAST REVISION	DESCRIPTION	FDOT	FY 2021-22 STANDARD PLANS	SIDEWALK CLOSURE	INDEX	SHEET
11/01/20	REVISIONS				102-660	1 of 2

REVISIONS

NO.	DATE	DESCRIPTION

DATE	BY
05-16-22	SAK

18122.30

MATTHEWS DESIGN GROUP
P.O. BOX 3126, TWALEPO STREET
ST. AUGUSTINE, FL 32085
PHONE: 904.826.1334 • FAX: 904.826.4547
INFO@MDGINC.COM

MOT PLAN

SR 207 FORCEMAIN DESIGN

ST. JOHNS COUNTY

PREPARED FOR

ST. JOHNS COUNTY BOARD OF COUNTY COMMISSIONERS

24
OF 25

FLORIDA REGISTERED ENGINEER
KEVIN S. MATTHEWS, P.E.
CERTIFICATE NO. 65511

NOTES:

1. Distance Length
   Buffer Length
   Taper Zone Sign Distance
   See Table 102-630 for "D", "B", "T", channelizing device spacing values.

2. Provide a 5' wide temporary pedestrian way with a minimum headroom of 7'-0", as in this sketch, where construction activity is adjacent to the walk. Provide a 4' x 5' passing area for the use of pedestrians every less than 5' in width or distances not to exceed 200'.

3. When temporary pedestrian ways require curb ramps, meet the requirements of Index 522-003. Detectable warnings are not required for curb ramps diverting pedestrians to exit into a closed lane.

4. The "Flagging Fines Doubled When Workers Present" signs (R10-1, R10-1a) and "One Lane Ahead" signs (G20-2, G20-2a) may be omitted when the work zone will be in place for 24 hours or less.

SYMBOLS:

- Work Area
- Temporary Pedestrian Way
- Channelizing Devices (See Index 102-600)
- Work Zone Sign
- Lane Identification and Direction of Traffic
- Pedestrian Ex-Jurisdictional Channelizing Device (PEDD)
- Arrow Board
- Sound Direction

TEMPORARY PEDESTRIAN WAY

TEMPORARY PEDESTRIAN WAY DIVERTING TRAFFIC INTO THE TRAVELED WAY
(Temporary Barrier Shown, Low Profile Barrier Similar)

LAST REVISION	DESCRIPTION			INDEX	SHEET
11/01/20		FDOT FY 2021-22 STANDARD PLANS	SIDEWALK CLOSURE	102-660	2 of 2

GENERAL NOTES:

1. Use only signs and devices shown in the Plans.
2. Use Taper Lengths
   D = Coffer Lengths
   T = Work Zone Sign Distance
   See Index 102-600 for "D", "B", "T", Channelizing device spacing values.
3. Maintain a minimum 5' width when closing path.
4. The "Flagging Fines Doubled When Workers Present" signs (R10-1, R10-1a) and "One Lane Ahead" signs (G20-2, G20-2a) may be omitted when the work zone will be in place for 24 hours or less.
5. Signage activated signage at intersections as required by the Engineer or shown on the Plans.

SYMBOLS:

- Work Area
- Channelizing Devices (See Index 102-600)
- Work Zone Sign
- Temporary Barrier
- Lane Identification and Direction of Traffic

BICYCLE DETOUR

LAST REVISION	DESCRIPTION			INDEX	SHEET
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TEMPORARY BICYCLE DIVERSION

TEMPORARY BICYCLE WAY DIVERTING TRAFFIC INTO THE TRAVELED WAY

SYMBOLS:

- Work Area
- Channelizing Devices (See Index 102-600)
- Work Zone Sign
- Lane Identification and Direction of Traffic
- Arrow Board
- Temporary Barrier Wall

LAST REVISION	DESCRIPTION			INDEX	SHEET
11/01/20		FDOT FY 2021-22 STANDARD PLANS	BICYCLE LANE CLOSURES	102-661	2 of 2

REVISIONS

NO.	DATE	DESCRIPTION
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PROJECT	SR 207 FORCEMAIN DESIGN
DSN	FDH
DWN	SAK
CHK	
DATE	05-16-22
JOB NO.	18122.30

REGISTERED ENGINEER
FEDERICK H. DOYLE P.E.
FLORIDA NO. 73004

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MOT PLAN

SR 207 FORCEMAIN DESIGN

ST. JOHNS COUNTY
FEDERAL AID NO.

ST. JOHNS COUNTY BOARD OF COUNTY COMMISSIONERS

SHEET NO.
25
OF 26

FLORIDA DEPARTMENT OF TRANSPORTATION

UTILITY WORK SCHEDULE

December 14, 2016

Pursuant to Section 337.403 F.S., the UAO and FDOT agree to the UAO's need for relocation or adjustment to its utilities and FDOT's need for a schedule for the UAO to effect the relocation or adjustment. This utility work schedule is based on FDOT plans dated in the project information box below. Any deviation by FDOT or its contractor from these plans, may void this utility work schedule. Upon notification by FDOT of a change to these plans, the UAO may negotiate a new utility work schedule. The UAO agrees to notify FDOT and the contractor in writing prior to starting, stopping, resuming, and completing work in accordance with this utility work schedule. The UAO shall obtain a utility permit and comply with requirements of the 2017 Utility Accommodation Manual (UAM) for all work done under this utility work schedule. The UAO is not responsible for events beyond the control of the UAO that could not be reasonably anticipated by the UAO and which could not be avoided by the UAO with exercise of due diligence at the time of the occurrence.

FDOT PROJECT INFORMATION

Financial Project ID: 445546-1-52-01	Federal Project ID: D222-077-B
State Road Number: 207	County: St Johns
FDOT Plans Dated: Phase III/IV Dated 05/24/22	District Document No.: 01

UTILITY AGENCY/OWNER (UAO)

Utility Company: St. Johns County Utilities		
UAO Project Rep: Samuel Schllesinger, P.E.	Phone: 904-209-2643	E-mail: sschllesinger@sjcfl.us
UAO Field Rep:	Phone:	E-mail:

UTILITY SIGNATURE

I have reviewed the FDOT plans referenced above and submit this utility work schedule in compliance with UAM Section 5 and agree to be bound by the terms of this utility work schedule.

UAO Rep. _____ Date 9 / 1 / 2022

Name Colin Groff, P.E.

Title Utilities Director

ENGINEER OF RECORD SIGNATURE

I attest this utility work schedule is compatible with the FDOT plans referenced above.

FRED R. JONES JR. P.E. LICENSE No. 42614 STATE OF FLORIDA PROFESSIONAL ENGINEER

FOR _____ Date 9/13/2022

Name FRED R. JONES, Jr., P.E.

Title SENIOR PROJECT MANAGER

APPROVAL BY DISTRICT UTILITIES

This utility work schedule is complete and acceptable to FDOT.

FDOT Rep. _____ Date __/__/____

Name _____

Title _____

SECTION A: SUMMARY OF UTILITY WORK

The below days are the total numbers of days shown for all activities in Section C of this utility work schedule. The breakdown of how these days are to be incorporated into the FDOT project and the dependence of these days upon the completion of other activities by the UAO or others is shown in Section C.

Days prior to FDOT project construction: 0

Days during FDOT project construction: 0

Approved
2022-H-297-00198
Nathan Gottschalk
9/22/2022

FLORIDA DEPARTMENT OF TRANSPORTATION
UTILITY WORK SCHEDULE

December 14, 2016

Financial Project ID: 445546-1-52-01
Utility Company: St. Johns County Utilities

FDOT Plans Dated: Phase III/IV Dated 05/24/22

SECTION B: UAO SPECIAL CONDITIONS/CONSTRAINTS

Definitions:
Locating: The use of test holes by vacuum excavation or comparable non-destructive equipment at critical point along a subsurface utility facility's path thus exposing the underground facility and allowing the precise measurements of the depth and horizontal position to be made.

Designating: Utilizing electromagnetic, magnetic, sonic, and other energy fields for determining the existence and approximate horizontal location of underground utility facilities. Underground facilities will be marked by stakes, flags, paint or other suitable materials in varying combinations dependent upon surface conditions using American Public Works Association Utility Location Coordination Council Color Codes.

Protect: Shall include, but not be limited to, permittee's use of an onsite representative during active construction operations. During excavation operations, Representative may be required to physically expose underground facilities, provide any necessary support to the Facilities, and/or cover aerial facilities as deemed necessary to aid construction.

FLORIDA DEPARTMENT OF TRANSPORTATION
UTILITY WORK SCHEDULE

December 14, 2016

Financial Project ID: 445546-1-52-01
Utility Company: St. Johns County Utilities
FDOT Plans Dated: Phase III/IV Dated 05/24/22

SECTION C: UAO's WORK ACTIVITIES

Act. No.	Utility Facility (type, size, material, status)	From Station/ Offset	To Station/ Offset	Utility Work Activity Description	Dependent Activity	TCP Phase	Consecutive Calendar Days Prior to Const.	Consecutive Calendar Days During Const.
1				ENGINEERING (DESIGN)			0	0
2				PERMITTING			0	0
3				MATERIAL PROCUREMENT			0	60
4		1171+00	1225+00	New 20" Forcemain Installation	Installation to be made for SJCUD contractor		0	365
				End of schedule				

FLORIDA DEPARTMENT OF Environmental Protection

Northeast District
8800 Baymeadows Way West, Suite 100
Jacksonville, Florida 32256

Ron DeSantis
Governor

Jeanette Nuñez
Lt. Governor

Shawn Hamilton
Secretary

September 15, 2022

In the Matter of an
Application for Permit by:

Mr. Alan Flood, P.E., Senior Engineer
St. Johns County Utility Department
1205 State Road 16
St. Augustine, Florida 32084
aflood@sjcfl.us

Permit Number: 0017096-498-DWC
Project Name: SR 207 Force Main Design
County: St. Johns
Connected To: Anastasia Island WWTF

NOTICE OF PERMIT ISSUANCE

Enclosed is Permit Number 0017096-498-DWC to construct a domestic wastewater collection/transmission system, issued pursuant to 403.087(1), Florida Statutes.

The Department's proposed agency action shall become final unless a timely petition for an administrative hearing is filed under Sections 120.569 and 120.57, Florida Statutes, within fourteen days of receipt of notice. The procedures for petitioning for a hearing are set forth below.

A person whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative proceeding (hearing) under Sections 120.569 and 120.57, Florida Statutes. The petition must contain the information set forth below and must be filed (received by the clerk) in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000.

Petitions by the applicant or any of the persons listed below must be filed within fourteen days of receipt of this written notice. Petitions filed by any persons other than those entitled to written notice under Section 120.60(3), Florida Statutes, must be filed within fourteen days of publication of the notice or within fourteen days of receipt of the written notice, whichever occurs first. Under Section 120.60(3), Florida Statutes, however, any person who has asked the Department for notice of agency action may file a petition within fourteen days of receipt of such notice, regardless of the date of publication.

The petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. The failure of any person to file a petition within fourteen days of receipt of notice shall constitute a waiver of that person's right to request an administrative determination (hearing) under Sections 120.569 and 120.57, Florida Statutes. Any subsequent intervention (in a proceeding initiated by another party) will be only at the discretion of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205, Florida Administrative Code.

A petition that disputes the material facts on which the Department's action is based must contain the following information:

(a) The name, address, and telephone number of each petitioner; the name, address, and telephone number of the petitioner's representative, if any; the Department permit identification number and the county in which the subject matter or activity is located;
(b) A statement of how and when each petitioner received notice of the Department action;
(c) A statement of how each petitioner's substantial interests are affected by the Department action;
(d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate;
(e) A statement of facts that the petitioner contends warrant reversal or modification of the Department action;
(f) A concise statement of the ultimate facts alleged, as well as the rules and statutes which entitle the petitioner to relief; and
(g) A statement of the relief sought by the petitioner, stating precisely the action that the petitioner wants the Department to take.

Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the Department's final action may be different from the position taken by it in this notice. Persons whose substantial interests will be affected by any such final decision of the Department have the right to petition to become a party to the proceeding, in accordance with the requirements set forth above.

Mediation under Section 120.573, Florida Statutes, is not available for this proceeding.

This permit action is final and effective on the date filed with the clerk of the Department unless a petition is filed in accordance with the above. Upon the timely filing of a petition this permit will not be effective until further order of the Department.

Any party to the permit has the right to seek judicial review of the permit action under Section 120.68, Florida Statutes, by the filing of a notice of appeal under Rules 9.110 and 9.190, Florida Rules of Appellate Procedure, with the clerk of the Department in the Office of General Counsel, Mail Station 35, 3900 Commonwealth Boulevard, Tallahassee, Florida, 32399-3000; and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate district court of appeal. The notice of appeal must be filed within 30 days from the date when this permit action is filed with the clerk of the Department.

Executed in Jacksonville, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

Michelle Neeley
Environmental Manager
Permitting Program

CERTIFICATE OF SERVICE
The undersigned duly designated deputy clerk hereby certifies that this permit and all copies were sent on the filing date below to the following listed persons:

Fred R. Jones, Jr., PE, rudd@mdginc.com
Gordon Smith, PE, cdold@sjcfl.us
Rodney Christensen, DEP
Jennifer Lyles, DEP
Michelle Neeley, DEP

FILING AND ACKNOWLEDGMENT
FILED, on September 15, 2022, pursuant to Section 120.52, F.S., with the designated Department Clerk, receipt of which is hereby acknowledged.

Clerk

September 15, 2022
Date

FLORIDA DEPARTMENT OF Environmental Protection

Northeast District
8800 Baymeadows Way West, Suite 100
Jacksonville, Florida 32256

Ron DeSantis
Governor

Jeanette Nuñez
Lt. Governor

Shawn Hamilton
Secretary

STATE OF FLORIDA
DOMESTIC WASTEWATER COLLECTION/TRANSMISSION INDIVIDUAL PERMIT

PERMITTEE:
Mr. Alan Flood, P.E., Senior Engineer
St. Johns County Utility Department
1205 State Road 16
St. Augustine, Florida 32084
aflood@sjcfl.us

PERMIT NUMBER: 0017096-498-DWC
PROJECT NAME: SR 207 Force Main Design
COUNTY: St. Johns
EFFECTIVE DATE: September 15, 2022
EXPIRATION DATE: September 14, 2027
CONNECTED TO: Anastasia Island WWTF

This permit is issued under the provisions of Chapter 403, Florida Statutes (F.S.), and Chapters 62-4 and 62-604, Florida Administrative Code (F.A.C.). The above named permittee is hereby authorized to construct the facilities shown on the application and other documents on file with the Department and made a part hereof and specifically described as follows:

DESCRIPTION OF PROJECT: A collection/transmission system consisting of 3774 LF of 20" HDPE forcemain, 1013 LF of 16" PVC forcemain, and the required appurtenances to serve future increases in wastewater flow along the SR 207 corridor. The proposed average daily flow associated with this project is 0 gpd.

LOCATION OF PROJECT: This project will be located along SR 207 from San Juan Road to Lightsey Road, in St. Johns County.

IN ACCORDANCE WITH: The limitations, requirements and other conditions set forth in pages 1 through 2 of this permit.

PERMIT CONDITIONS:

1. This permit is subject to the general conditions of Rule 62-4.160, F.A.C., as applicable. This rule is available at the Department's Internet site at: http://www.dep.state.fl.us/water/wastewater/rules.htm#domestic *[62-4.160, 5-1-03]*

2. Upon completion of construction of the collection/transmission system, and before placing the facilities into operation for any purpose other than testing for leaks or testing equipment operation, the permittee shall electronically submit using the Department's Business Portal at http://www.fldepportal.com/go/, Form 62-604.300(3)(b), Notification of Completion of Construction for a Domestic Wastewater Collection/Transmission System, http://www.flrules.org/Gateway/reference.asp?Noo=Ref-13560). If construction of the collection/transmission system was permitted by a delegated local program, the permittee shall submit Form 62-604.300(3)(b) to the delegated local program instead, and follow the requirements of the delegated local program *[62-604.700(2), 10-4-21]*

3. New or modified collection/transmission facilities can be placed into operation 3 days after Form 62-604.300(3)(b), is submitted and received by the Department or delegated local program, provided no substantial deviations are noted on Form 62-604.300(3)(b) and the Department or delegated local program does not notify the permittee of public health or environmental concerns regarding placing the facilities into operation. *[62-604.700(3), 10-4-21]*

4. When substantial deviations are noted on Form 62-604.300(3)(b), new or modified collection/transmission facilities can be placed into operation 10 days after Form 62-604.300(3)(b) is submitted unless the Department or delegated local program notifies the permittee of public health or environmental concerns regarding placing the facilities into operation. *[62-604.700(4), 10-4-21]*

5. Permit revisions shall only be made in accordance with paragraph 62-4.050(4)(s), F.A.C. Request for revisions shall be made to the Department in writing and shall include the appropriate fee. Revisions not covered under paragraph 62-4.050(4)(s), F.A.C., shall require a new permit. *[62-604.600(8), 10-4-21]*

6. Abnormal events shall be reported to the Department's Northeast District Office in accordance with Rule 62-604.550, F.A.C. For unauthorized releases or spills in excess of 1,000 gallons per incident, or other abnormal events where information indicates that public health or the environment will be endangered, oral reports shall be provided to the Department by calling the STATE WATCH OFFICE TOLL FREE NUMBER (800) 320-0519 as soon as practicable, but no later than 24 hours from the time that the owner/operator becomes aware of the discharge. Oral reports, not otherwise required to be provided pursuant to 62-604.550(2)(a) (i.e. unauthorized releases or spills of 1,000 gallons per incident or less and where information indicates that public health or the environment will not be endangered), shall be provided to the Department within 24 hours from the time the owner/operator of the collection/transmission system becomes aware of the circumstances. *[62-604.550, 10-4-21]*

Executed in Jacksonville, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

Michelle Neeley
Environmental Manager
Permitting Program

Date: September 15, 2022

This item has been digitally signed and sealed by Fred R. Jones, Jr. on the date adjacent to the seal.

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

CONSTRUCTION PLANS FOR

SR 207 FORCEMAIN DESIGN

ST. JOHNS COUNTY

GENERAL NOTES:

A. TOPOGRAPHIC BOUNDARY SURVEY, INCLUDING PROPERTY LINES, LEGAL DESCRIPTION EXISTING UTILITIES, SITE TOPOGRAPHY WITH SPOT ELEVATIONS, OUTSTANDING PHYSICAL FEATURES AND EXISTING STRUCTURE LOCATIONS WAS PROVIDED BY THE FOLLOWING COMPANY, AS CONTRACTORS TO THE OWNER:

ENGLAND, THIMS AND MILLER, INC.
14775 OLD SAINT AUGUSTINE ROAD
JACKSONVILLE FL. 32258
CONTACT: DAMON KELLY
PHONE: (904) 265-3107

MATTHEWS DESIGN GROUP, LLC AND ITS ASSOCIATES WILL NOT BE HELD RESPONSIBLE FOR THE ACCURACY OF THE SURVEY OR FOR DESIGN ERRORS OR OMISSIONS RESULTING FROM SURVEY INACCURACIES.

B. THE GENERAL CONTRACTOR SHALL NOTIFY THE OWNER/ENGINEER OF ANY DISCREPANCIES BETWEEN THE SURVEY AND FIELD VERIFICATION OF INFORMATION ABOVE OR BELOW GROUND THAT MAY BE CRITICAL TO THE DESIGN OF THIS PROJECT. THE GENERAL CONTRACTOR WILL BE HELD SOLELY RESPONSIBLE FOR AND SHALL TAKE ALL PRECAUTIONS NECESSARY TO AVOID PROPERTY DAMAGE TO ADJACENT PROPERTIES DURING THE CONSTRUCTION OF THIS PROJECT.

C. WARRANTY / DISCLAIMER:

THE DESIGNS REPRESENTED IN THESE PLANS ARE IN ACCORDANCE WITH ESTABLISHED PRACTICES OF CIVIL ENGINEERING FOR THE DESIGN FUNCTIONS AND USES INTENDED BY THE OWNER AT THIS TIME. HOWEVER, NEITHER THE ENGINEER NOR ITS PERSONNEL CAN OR DO WARRANT THESE DESIGNS OR PLANS AS CONSTRUCTED EXCEPT IN THE SPECIFIC CASES WHERE THE ENGINEER IS INVOLVED WITH THE PHYSICAL CONSTRUCTION ON AN ONGOING BASIS AT THE SITE.

MATTHEWS DESIGN GROUP (MDG) IS THE PROJECT'S ENGINEER OF RECORD (EOR). MDG IS NOT A GENERAL CONTRACTOR, UTILITY CONTRACTOR, SITE CONTRACTOR, OR ANY OTHER TYPE OF CONTRACTOR.

D. SAFETY NOTICE TO CONTRACTOR:

IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. ANY CONSTRUCTION OBSERVATION BY THE ENGINEER OF THE CONTRACTOR'S PERFORMANCE IS NOT INTENDED TO INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES IN, ON OR NEAR THE CONSTRUCTION SITE.

E. CONSTRUCTION TESTING:

CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COORDINATION, TESTING, LABORATORY ANALYSES, REPORTS, COSTS, ETC., CONCERNING SOILS AND PAVEMENT RELATED DESIGN REQUIREMENTS AND SPECIFICATIONS AS SET FORTH IN THESE PLANS.

F. AS-BUILT SURVEY NOTE:

UPON COMPLETION OF CONSTRUCTION, CONTRACTOR IS REQUIRED TO PROVIDE OWNER / ENGINEER WITH A SIGNED AND SEALED AS-BUILT SURVEY AND ANY OTHER RELATED CONSTRUCTION DOCUMENTS, IN ACCORDANCE WITH APPLICABLE PERMITTING AGENCY REQUIREMENTS, AS THE BASIS FOR PROJECT CERTIFICATIONS AND CLOSE-OUT.

G. RIGHT-OF-WAY:

ANY AND ALL WORK CONDUCTED WITHIN THE ST. JOHNS COUNTY RIGHT-OF-WAYS MUST BE IN ACCORDANCE WITH THE APPLICABLE LAND DEVELOPMENT CODES.

H. PRE-CONSTRUCTION MEETING:

IT IS THE RESPONSIBILITY OF THE APPLICANT TO SCHEDULE A PRE-CONSTRUCTION / PRE PERMIT ISSUANCE MEETING WITH ST. JOHNS COUNTY STAFF AFTER PLANS HAVE BEEN RELEASED FOR CONSTRUCTION BY THE COUNTY AND PRIOR TO STARTING ANY SITE ACTIVITIES. THE PRE-CONSTRUCTION MEETING WILL BE HELD IN CONJUNCTION WITH THE ST. JOHNS COUNTY MANDATORY PRE-CONSTRUCTION MEETING.

I. ALL ELEVATIONS SHOWN HEREIN ARE REFERENCED TO *NAVD88*

J. FIRE SEVICES

WHEN VERTICAL CONSTRUCTION BEGINS, FIRE DEPT. ACCESS IS REQUIRED

*FIRE DEPT ACCESS ROADS SHALL BE PROVIDED AT THE START OF THE PROJECT AND SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION. (NFPA 1, CHP 18)

*FIRE DEPT ACCESS ROAD SHALL BE UNOBSTRUCTED 20 FEET WIDE, STABILIZED SURFACE TO SUPPORT 80,000 LBS AND PROVIDE TURNAROUND FOR A 50 FOOT FIRE APPARATUS. (NFPA 1, CHP 18)



VICINITY MAP
N.T.S.

OWNER:
ST. JOHNS COUNTY BOARD OF COUNTY COMMISSIONERS
500 SAN SEBASTIAN VIEW
ST. AUGUSTINE, FL 32084
PHONE: (904) 209-0150
CONTACT: DAVID E. PYLE, CPPB

PREPARED BY:
MATTHEWS DESIGN GROUP
P.O. BOX 3126, 7 WALDO STREET
ST. AUGUSTINE, FL 32084
PHONE: 904.826.1334 • FAX: 904.826.4547
INFO@MDGINC.COM

Sheet List Table	
Sheet Number	Sheet Title
1	COVER SHEET
2	GENERAL NOTES
3	SJCUD UTILITY NOTES
4 - 9	DEMOLITION PLAN
10 - 20	UTILITY PLAN - PROFILE
21	CONSTRUCTION DETAILS
22	DEWATERING DETAILS
23	SWPPP
24 - 25	MOT PLAN

PERMITS / APPROVALS	SUBMITTED	RECEIVED
ST. JOHNS COUNTY UTILITY DEPARTMENT		
ST JOHNS RIVER WATER MANAGEMENT DISTRICT		
FDEP - WATER		
FDEP - SEWER		
FDOT		

RESOURCE LIST

ST. JOHNS COUNTY UTILITY DEPARTMENT
1205 STATE ROAD 16
ST. AUGUSTINE, FLORIDA 32084
(904) 209-2700

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT
7775 BAYMEADOWS WAY, SUITE 102
JACKSONVILLE, FLORIDA 32256
(904) 730-6270

FDEP - WATER & SEWER
8800 BAYMEADOWS WAY, SUITE 100
JACKSONVILLE, FLORIDA 32256
(904) 256-1700

FDOT
3600 DOT ROAD
ST. AUGUSTINE, FLORIDA 32084
(904) 825-5026
CONTACT: NATHAN D. GOTTSCHALK

811
Know what's below.
Call before you dig.

REGISTERED ENGINEER
FRED R. "RUDY" JONES, P.E.
FLORIDA REG. NO. 67519

NO	DATE	REVISIONS DESCRIPTION
1	---	---
2	---	---
3	---	---
4	---	---
5	---	---

DSN'D: DJM
DR'N: FDH
CK'D: SAK
DATE: 05-16-22
JOB NO: 18122.30

MATTHEWS DESIGN GROUP
P.O. BOX 3126, 7 WALDO STREET
ST. AUGUSTINE, FL 32084
PHONE: 904.826.1334 • FAX: 904.826.4547
INFO@MDGINC.COM

COVER SHEET
SR 207 FORCEMAIN DESIGN
ST. JOHNS COUNTY
PREPARED FOR
ST. JOHNS COUNTY BOARD OF COUNTY COMMISSIONERS

SHEET NO.
1
OF 25

GENERAL SITE NOTES:

1. MATTHEWS DESIGN GROUP (MDG) IS THE PROJECTS ENGINEER OF RECORD (EOR). MDG IS NOT A GENERAL CONTRACTOR, UTILITY CONTRACTOR, SITE CONTRACTOR, OR ANY OTHER TYPE OF CONTRACTOR.
2. ALL WORK AND MATERIALS SHALL BE IN COMPLETE ACCORDANCE WITH ALL RELATIVE SECTIONS OF ST. JOHNS COUNTY LAND DEVELOPMENT CODE, (LATEST REVISION) AND ALL COUNTY STANDARD DETAILS.
3. ALL WORK SHALL BE PERFORMED IN A SAFE MANNER. ALL SAFETY RULES AND GUIDELINES OF OSHA SHALL BE FOLLOWED. THE CONTRACTOR SHALL BE WHOLLY RESPONSIBLE FOR ANY INJURIES OF THEIR EMPLOYEES, AND FOR ANY DAMAGE TO PRIVATE PROPERTY OR PERSONS DURING THE COURSE OF THIS PROJECT. ALL COSTS ASSOCIATED WITH COMPLYING WITH OSHA REGULATIONS AND THE FLORIDA TRENCH SAFETY ACT MUST BE INCLUDED IN THE CONTRACTORS BID.
4. PRIOR TO CONSTRUCTION, THE SITE CONTRACTOR SHALL VERIFY ALL SURVEY CONTROL POINTS AS PROVIDED IN THE BOUNDARY SURVEY. THE CONTRACTOR SHALL NOTIFY THE OWNER AND ENGINEER OF ANY DISCREPANCIES.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VISITING THE JOB SITE PRIOR TO PREPARING THE BID FOR THE PURPOSE OF FAMILIARIZING THEMSELVES WITH THE NATURE AND THE EXTENT OF THE WORK AND LOCAL CONDITIONS, EITHER SURFACE OR SUB-SURFACE, WHICH MAY AFFECT THE WORK TO BE PERFORMED, AND THE EQUIPMENT, LABOR AND MATERIALS REQUIRED. FAILURE TO DO SO WILL NOT RELIEVE THE CONTRACTOR OF COMPLETE PERFORMANCE UNDER THE CONSTRUCTION CONTRACT. THE CONTRACTOR IS ALSO URGED TO TAKE COLOR PHOTOGRAPHS ALONG THE ROUTE OF OR WITHIN THE PROJECT TO RECORD EXISTING CONDITIONS PRIOR TO CONSTRUCTION, AND TO AID IN RESOLVING POSSIBLE FUTURE ISSUES THAT MAY OCCUR DUE TO THE CONSTRUCTION OF THE PROJECT.
6. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO EITHER CONDUCT ANY FIELD EXPLORATION OR ACQUIRE ANY GEOTECHNICAL ASSISTANCE REQUIRED TO ESTIMATE THE AMOUNT OF UNSUITABLE MATERIAL THAT WILL REQUIRE REMOVAL AND/OR TO ESTIMATE THE AMOUNT OF OFF SITE BORROW THAT WILL BE REQUIRED. FAILURE OF THE CONTRACTOR TO IDENTIFY/QUANTIFY THE AMOUNT OF UNSUITABLE MATERIAL TO BE REMOVED AND REPLACED DURING THE BID PROCESS WILL NOT RELIEVE THE CONTRACTOR OF COMPLETE PERFORMANCE UNDER THE CONSTRUCTION CONTRACT.
7. ALL IMPROVEMENTS SHOWN ARE TO BE WARRANTED BY THE CONTRACTOR TO THE DEVELOPER AND ST. JOHNS COUNTY FOR A PERIOD OF ONE YEAR FROM DATE OF ACCEPTANCE BY THE OWNER AND ST. JOHNS COUNTY.
8. FOR BOUNDARY, ROADWAY, AND BUILDING GEOMETRY INFORMATION SEE ENGINEERING SITE PLAN. IT IS THE CONTRACTORS RESPONSIBILITY TO VERIFY THAT THE BUILDING DIMENSIONS SHOWN ON THE ENGINEERING PLAN AGREES WITH THE DIMENSIONS SHOWN ON THE ARCHITECTURAL PLAN. IF ANY DIMENSIONS DO NOT AGREE, THE ARCHITECT, ENGINEER, AND OWNER SHALL BE NOTIFIED AND THE DIMENSIONS ADJUSTED PRIOR TO COMMENCING WITH CONSTRUCTION.
9. UNLESS DIRECTED OTHERWISE BY THE OWNER OR THE ENGINEER, THE CONTRACTOR WILL CONTRACT WITH AN INDEPENDENT TESTING LABORATORY TO PERFORM MATERIAL TESTING AND SOIL TESTING IN ACCORDANCE WITH COUNTY REQUIREMENTS. THIS SHALL INCLUDE DENSITY TESTS IN ALL PAVEMENT AREAS AND IN ALL UTILITY TRENCHES LOCATED IN PAVEMENT AREAS, CONCRETE TESTING AND ALL OTHER MATERIAL TESTING. PRIOR TO LIMEROCK PLACEMENT, THE PROJECT GEOTECHNICAL ENGINEER SHALL MAKE RECOMMENDATION FOR UNDERDRAIN PLACEMENT.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND INSURANCE REQUIRED FOR THE PROJECT INCLUDING ST. JOHNS COUNTY RIGHT-OF-WAY PERMITS FOR WORK IN THE COUNTY RIGHT-OF-WAY OR EASEMENT.
11. THE CONTRACTOR SHALL COORDINATE THEIR CONSTRUCTION WITH ALL OTHER CONTRACTORS. IN THE EVENT OF ANY CONFLICT WHATSOEVER, THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND OWNER PRIOR TO PROCEEDING WITH CONSTRUCTION.
12. THE LOCATION OF ALL EXISTING UTILITIES, STRUCTURES AND IMPROVEMENTS SHOWN ON THE DRAWINGS IS BASED ON LIMITED INFORMATION AND MAY NOT HAVE BEEN FIELD VERIFIED. THE LOCATIONS ARE APPROXIMATE. THE CONTRACTOR SHALL NOTIFY RESPECTIVE UTILITY OWNERS AND FIELD VERIFY LOCATIONS OF EXISTING UTILITIES AND OTHER IMPROVEMENTS PRIOR TO COMMENCING ANY CONSTRUCTION. IF THE LOCATIONS SHOWN ARE CONTRARY TO THE ACTUAL LOCATIONS, THE CONTRACTOR SHALL NOTIFY THE OWNER AND ENGINEER OF THE DISCREPANCY. THIS DISCREPANCY SHOULD BE RESOLVED PRIOR TO COMMENCING CONSTRUCTION. THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION WHEN WORKING IN AREAS NEAR EXISTING UTILITIES AND IMPROVEMENTS AND SHALL BE RESPONSIBLE FOR ANY SHALL REPAIR OR PAY FOR ALL DAMAGE MADE TO EXISTING UTILITIES OR OTHER IMPROVEMENTS. PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION, THE CONTRACTOR SHALL VERIFY ALL GRADES, INVERTS AND TYPE OF MATERIAL OF EXISTING UTILITIES TO WHICH THEY SHALL CONNECT, AND NOTIFY THE OWNER AND ENGINEER OF ANY DISCREPANCIES.
13. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE CIVIL ENGINEER TO DETERMINE IF THIS PROJECT IS WITHIN THE COUNTY'S JURISDICTION FOR INSPECTION. IF SO, THEN IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE COUNTY FOR A PRE-CON MEETING FOR INSPECTIONS.
14. DUE TO THE PROXIMITY TO EXISTING RESIDENTIAL HOMES THE APPLICANT SHOULD LIMIT HOURS OF OPERATION TO DAYTIME HOURS AND PROVIDE MITIGATION TO NOISE FROM PUMPS IF 24 HOUR DEWATERING ACTIVITIES ARE REQUIRED.

PAVING & DRAINAGE NOTES:

1. CONTRACTOR IS RESPONSIBLE FOR PROTECTION OF ALL SURVEY AND PROPERTY MONUMENTS. IF A MONUMENT IS DISTURBED, THE CONTRACTOR SHALL CONTRACT WITH THE SURVEYOR OF RECORD FOR REINSTALLATION OF THE MONUMENT.
2. ALL DEBRIS RESULTING FROM ALL ACTIVITIES SHALL BE DISPOSED OF OFF-SITE BY CONTRACTOR.
3. ALL EXCESS SUITABLE AND UNSUITABLE MATERIAL SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR AT HIS EXPENSE UNLESS DIRECTED OTHERWISE BY ENGINEER OR OWNER.
4. ALL EXISTING TREES TO REMAIN SHALL BE PRESERVED AND PROTECTED.
5. BURNING OF TREES, BRUSH, AND OTHER MATERIAL SHALL BE APPROVED, PERMITTED, AND COORDINATED WITH ST. JOHNS COUNTY FIRE MARSHAL.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING A PERMANENT STAND OF SOD AND/OR GRASS PER ST. JOHNS COUNTY STANDARDS AND MEETING THE NPDES FINAL STABILIZATION REQUIREMENTS.
7. UNSUITABLE MATERIALS UNDER WATER PIPE, SEWER PIPE, STORM PIPE, OR STRUCTURES SHALL BE REMOVED AND REPLACED WITH SELECTED BACKFILL, PROPERLY COMPACTED AT CONTRACTOR'S EXPENSE.
8. THE CONTRACTOR SHALL COORDINATE THE WORK WITHIN COUNTY OR STATE RIGHT-OF-WAY WITH THE PROPER AGENCIES FOR MAINTENANCE OF TRAFFIC AND METHOD OF CONSTRUCTION AND REPAIR.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING A DEWATERING PERMIT FROM THE SJRWMD.
10. PRIOR TO ANY DISCHARGE OF GROUND WATER (DEWATERING) FROM CONSTRUCTION ACTIVITIES ASSOCIATED WITH THIS PROJECT TO WATERS OF THE STATE (INCLUDING, BUT NOT LIMITED TO, WETLANDS, CREEKS, SWALES AND MUNICIPAL STORM SEWERS), THE CONTRACTOR SHALL TEST THE EFFLUENT (WATER TO BE DISCHARGED) IN ACCORDANCE WITH RULE 62-621.300(2), F.A.C. IF THE TEST RESULTS ON THE EFFLUENT ARE BELOW THE SCREENING VALUES OF RULE 62-621.300(2), F.A.C., THE CONTRACTOR SHALL SUBMIT A SUMMARY OF THE PROPOSED CONSTRUCTION ACTIVITY AND THE TEST RESULTS TO THE DEPARTMENT OF ENVIRONMENTAL PROTECTION DISTRICT OFFICE, WITHIN ONE (1) WEEK AFTER DISCHARGE BEGINS. THE CONTRACTOR SHALL CONTINUE TO SAMPLE THE EFFLUENT AS REQUIRED THROUGHOUT THE PROJECT AND COMPLY WITH ALL CONDITIONS OF RULE 62-621.300(2), F.A.C. IF THE GROUND WATER EXCEEDS THE SCREENING VALUES OF RULE 62-621.300(2), F.A.C., THE CONTRACTOR SHALL COMPLY WITH OTHER APPLICABLE RULES AND REGULATIONS PRIOR TO DISCHARGE OF THE EFFLUENT (GROUND WATER) TO SURFACE WATERS OF THE STATE.
11. IF DEWATERING CAPACITY REQUIRES A CONSUMPTIVE USE PERMIT (C.U.P.), IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN THE PERMIT THROUGH THE ST. JOHNS RIVER WATER MANAGEMENT DISTRICT.
12. PRIOR TO INSTALLATION OF SANITARY SEWER, THE CONTRACTOR SHALL EXCAVATE, VERIFY AND CALCULATE ALL CROSSINGS AND INFORM THE ENGINEER OF ANY CONFLICTS PRIOR TO CONSTRUCTION. THE ENGINEER WILL BE HELD HARMLESS IN THE EVENT THE HE/SHE IS NOT NOTIFIED OF DESIGN CONFLICTS.
15. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF VARIOUS UTILITY COMPANIES AND MEASUREMENTS TAKEN IN THE FIELD WHEN POSSIBLE. THE INFORMATION SHOWN HEREON, IS NOT BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 48 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATIONS OF THE UTILITIES.

GENERAL SIGNING & MARKING NOTES:

1. ALL STRIPING SHALL CONFORM TO ST. JOHNS COUNTY AND/OR FDOT SPECIFICATIONS.
2. MATCH EXISTING PAVEMENT MARKINGS AT THE BEGINNING AND ENDING OF PROJECT AND ALL SIDE STREETS.
3. SIGNS SHALL BE PLACED IN ACCORDANCE WITH INDEX NO. 700-010, AND 700-101.
4. SIGN ASSEMBLY LOCATIONS SHOWN ON PLANS WHICH ARE IN CONFLICT WITH LIGHTING, UTILITIES, DRIVEWAYS, CURB CUTS, ETC, SHALL BE ADJUSTED AS DIRECTED BY ENGINEER.
5. EXISTING SIGNS TO BE REMOVED SHALL BE DELIVERED AND STOCKPILED ON SITE IN THE MATERIALS STORAGE AREA AND RETURNED TO THE OWNER.
6. COST FOR SIGNING AND MARKING, IF ANY, SHALL BE INCLUDED IN THE COSTS FOR PAVEMENT.

GENERAL DEMOLITION NOTES:

1. ALL UTILITIES SHALL REMAIN IN PLACE AND UNHARMED UNLESS SPECIFICALLY INDICATED OTHERWISE BY THE DEMOLITION PLANS (SHEETS 4 - 8).
2. THE CONTRACTOR IS RESPONSIBLE FOR PROPERLY ABANDONING WELLS OR SEPTIC SYSTEMS FOUND DURING CONSTRUCTION. ABANDONMENT SHALL BE IN ACCORDANCE WITH ALL COUNTY, STATE REGULATIONS, PER THE REQUIREMENTS SET FORTH IN THE F.A.C.

WATER AND SEWER NOTES:

1. REFER TO WATER & SEWER NOTES ON 3.

EROSION CONTROL NOTES:

1. NO CONSTRUCTION ACTIVITY INVOLVING EXCAVATION, DENUDING OR DEMOLITION OF ANY SITE SURFACE OR STOCKPILING OF ANY EARTHEN OR AUDIBLE MATERIALS SHALL BEGIN WITHOUT AN APPROVED PLAN AND/OR WRITTEN CONSENT BY THE ST. JOHNS COUNTY PUBLIC WORKS.
2. THE CONTRACTOR SHALL ESTABLISH ALL EROSION CONTROL MEASURES PRIOR TO EXCAVATION, DENUDING OR DEMOLITION OF ANY SITE SURFACE OR STOCKPILING OF ANY EARTHEN OR ERODIBLE MATERIALS.
3. THE CONTRACTOR SHALL MAINTAIN ALL EROSION CONTROL MEASURES THROUGHOUT THE DEVELOPMENT OF THE PROJECT AND SHALL NOT REMOVE ANY EROSION CONTROL MEASURE UNTIL ALL CONTRIBUTING SITE SURFACES AND VEGETATION HAVE BEEN ESTABLISHED AND STABILIZED.
4. THE CONTRACTOR SHALL PERFORM DAILY CLEAN UP OF ALL SEDIMENT AND DEBRIS WHICH LEAVES THE PROJECT SITE(S).
5. THE CONTRACTOR IS RESPONSIBLE FOR CLEANING ALL COUNTY STORM DRAIN SYSTEMS WHICH RECEIVE SEDIMENT OR DEBRIS AS A RESULT OF CONSTRUCTION, STOCKPILING OR DISPOSAL ACTIVITIES. CLEANING OF THE STORM DRAIN WILL OCCUR FROM THE POINT OF INTERCEPT TO THE OUTFALL OF THE SYSTEM OR TO A POINT WITHIN THE SYSTEM WHERE SEDIMENT OR DEBRIS IS NO LONGER PRESENT.
6. RAIN DAYS CLAIMED BY THE CONTRACTOR, DO NOT EXCUSE THE CONTRACTOR OF DAILY INSPECTION AND MAINTENANCE OF ALL SITE EROSION CONTROL MEASURES AND CLEANUP.
7. ALL SEDIMENT COLLECTION SYSTEMS MUST BE MUCKED OUT WHEN 1/3 FULL. MUCKED SEDIMENT MUST BE PROPERLY CONTAINED AND DISPOSED.

ROW IMPROVEMENT NOTES:

1. ALL EXISTING UTILITIES ARE TO BE ADJUSTED TO FINAL GRADE.
2. CONTRACTOR SHALL REMOVE ANY CONFLICTING STRIPING.

ST JOHNS COUNTY NOTES:

1. SUBMITTAL OF AS-BUILT SITE SURVEY, INCLUDING BENCHMARKS, IS REQUIRED IN COMPLIANCE WITH SECTION 6.04.00 OF THE LATEST ST. JOHNS COUNTY LAND DEVELOPMENT CODE AND SECTION 15 (AS-BUILTS) OF THE DEVELOPMENT REVIEW MANUAL PRIOR TO SCHEDULING A FINAL INSPECTION OF THE WORK.
2. ST. JOHNS COUNTY DEVELOPMENT REVIEW INSPECTOR SHALL BE CONTACTED 24 HOURS PRIOR TO ALL NECESSARY SITE WORK INSPECTIONS AND 5 DAYS PRIOR TO FINAL INSPECTION.
3. IT IS THE RESPONSIBILITY OF THE APPLICANT TO SCHEDULE A PRE-CONSTRUCTION / PRE-PERMIT ISSUANCE MEETING WITH CIVIL STAFF AFTER PLANS HAVE BEEN RELEASED FOR CONSTRUCTION BY THE COUNTY, AND PRIOR TO STARTING ANY SITE ACTIVITIES. THE PRE-CONSTRUCTION MEETING WILL BE HELD IN CONJUNCTION WITH THE MANDATORY DUCUD PRE-CONSTRUCTION MEETING.

GENERAL FDOT RIGHT OF WAY NOTES:

1. ALL WORK PERFORMED WITHIN THE DEPARTMENT RIGHT-OF-WAY SHALL CONFORM TO THE MOST CURRENT EDITION OF THE FOLLOWING PUBLICATIONS.
   - A. STANDARD PLANS
   - B. STANDARD SPECIFICATIONS
   - C. FDOT DESIGN MANUAL
   - D. FDOT FLEXIBLE PAVEMENT DESIGN MANUAL
   - C. FDOT UTILITY ACCOMMODATION MANUAL

   (SHOULD A CONFLICT ARISE BETWEEN THE DETAILS SHOWN IN THE PLANS AND THE DEPARTMENT OF TRANSPORTATION STANDARDS THE ENGINEER/APPLICANT SHALL IMMEDIATELY CONFER WITH THE DEPARTMENTS ENGINEER IN ORDER TO RESOLVE THE DISCREPANCY.)
2. ALL TRAFFIC STRIPING AND MARKINGS ARE TO BE LEAD-FREE, NON-SOLVENT BASED THERMO PLASTIC.
3. REMOVAL OF EXISTING STRIPING SHALL BE ACCOMPLISHED USING THE "HYDRO-BLAST" METHOD. IF THIS PROCESS DAMAGES / SCARS PAVEMENT, THEN THE PAVEMENT SHALL BE MILLED AND RESURFACED PER FDOT STANDARDS.
4. ALL DIRECTIONAL ARROWS SHALL BE PLACED AS ONE SEGMENT.
5. ALIGNMENT OF PROPOSED PAVEMENT MARKINGS SHALL MATCH EXISTING PAVEMENT MARKINGS AT PAVEMENT MARKING LIMITS OF CONSTRUCTION.
6. ALL CURB AND GUTTER AND SIDEWALK, WILL BE REMOVED AND REPLACED JOINT TO JOINT.
7. ALL BROKEN / CRACKED DRIVEWAYS MUST BE FULLY REMOVED AND REPLACED.
8. ALL DISTURBED AREAS WITHIN THE DEPARTMENTS RIGHT-OF-WAY WILL BE RESTORED TO ORIGINAL OR BETTER CONDITION BY GRADING AND SODDING THE AREA DISTURBED (BERMUDA IN URBAN, BAHIA IN RURAL).
9. BURNING OF ANY MATERIAL OR DEBRIS IS PROHIBITED IN FDOT RIGHT OF WAY.
10. ALL LANES MUST BE OPENED FOR TRAFFIC DURING AN EVACUATION NOTICE OF A HURRICANE OR OTHER CATASTROPHIC EVENT AND SHALL REMAIN OPEN FOR THE DURATION OF THE EVACUATION OR EVENT.

EXISTING LEGEND

PROPERTY / RIGHT OF WAY LINE
WETLAND LINE
ROADWAY CENTERLINE
CURB & GUTTER
WETLANDS
XX.XX — SPOT ELEVATION
GRAVITY SEWER
FORCE MAIN SEWER
WATER MAIN
MAJOR CONTOUR
MINOR CONTOUR

PROPOSED LEGEND

PROPERTY / RIGHT OF WAY LINE
DRAINAGE EASEMENT LINE
UTILITY EASEMENT LINE
ROADWAY CENTERLINE
BUILDING SETBACK LINE
CURB & GUTTER
XX.XX — SPOT ELEVATION
SLOPE INDICATOR
DRAINAGE SWALE / FLOW DIRECTION
EXISTING TREE TO BE REMOVED
EXISTING TREE TO BE SAVED
TREE PROTECTION FENCING
STORM PIPE
STORM DITCH BOTTOM INLET
CURB INLET
MITERED END SECTION
HEADWALL
STORM MANHOLE
SPOT ELEVATION
MAJOR CONTOUR
MINOR CONTOUR
DRAINAGE DIVIDE
FLOW DIRECTION
SLOPE
SILT FENCE
CRP-1 — CONSTRUCTION REFERENCE POINT
PROPOSED WATER MAIN W/SIZE
PROPOSED GATE VALVE W/BOX AND COVER
FIRE HYDRANT ASSEMBLY
SINGLE WATER SERVICE
FLUSHING VALVE
PROPOSED SANITARY SEWER MAIN
PROPOSED SANITARY SEWER MANHOLE
SANITARY SEWER CLEAN OUT
SANITARY SEWER SERVICE LATERAL
PROPOSED SANITARY SEWER FORCE MAIN
PROPOSED FIRE PROTECTION MAIN
RPZ — REDUCED PRESSURE BACK FLOW PREVENTER
UTILITY CROSSING
SP — SAMPLE POINT (SP)
EOM — END OF WATER MAIN PLUG
DOUBLE WATER SERVICE
L1 — LINE NUMBER
C1 — CURVE NUMBER
00+00 — STATION NUMBER
SP — NUMBER OF PARKING SPACES

ABBREVIATIONS

ABBREVIATION	DESCRIPTION
A	ARC
AC	ACRE
BOC	BACK OF CURB
BFP	BACK FLOW PREVENTER
BLDG	BUILDING
BM	BENCHMARK
BOTT	BOTTOM
CI	CURB INLET
CO	CLEANOUT
CB	CHORD BEARING
CH	CHORD
CMP	CORRUGATED METAL PIPE
CONC	CONCRETE
CONSTR	CONSTRUCT
CONT	CONTINUATION
COORD	COORDINATE
DBL CI	DOUBLE CURB INLET
DE	DRAINAGE EASEMENT
DHW	DESIGN HIGH WATER
DIP	DUCTILE IRON PIPE
Δ	DELTA
E	EAST
EOP	EDGE OF PAVEMENT
EL	ELEVATION
ERCP	ELLIPTICAL REINFORCED CONCRETE PIPE
ESMT	EASEMENT
EXIST	EXISTING
FF	FINISH FLOOR
FH	FIRE HYDRANT
FL	FLOW LINE
FM	FORCE MAIN
FP	FIRE PROTECTION MAIN
FV	FLUSHING VALVE
GV	GATE VALVE
HDPE	HIGH DENSITY POLYETHYLENE
HDWL	HEADWALL
HWL	HIGH WATER LEVEL
INV	INVERT
L	LENGTH
LF	LINEAR FEET
MES	MITERED END SECTION
MAX	MAXIMUM
H	MANHOLE
MIN	MINIMUM
N	NORTH
NIC	NOT IN CONTRACT
NG	NATURAL GRADE
NTS	NOT TO SCALE
NWL	NORMAL WATER LEVEL
PC	POINT OF CURVATURE
PCC	POINT OF COMPOUND CURVE
PI	POINT OF INTERSECTION
POB	POINT OF BEGINNING
PRC	POINT OF REVERSE CURVE
PT	POINT OF TANGENCY
PVC	POINT OF VERTICAL CURVATURE
PVI	POINT OF VERTICAL INFLECTION
PVT	POINT OF VERTICAL TANGENCY
PVMT	PAVEMENT
PVC	POLYVINYL CHLORIDE PIPE
R	RADIUS
RP	RADIAL POINT
R/W	RIGHT OF WAY
RCP	REINFORCED CONCRETE PIPE
RED	REDUCER
RPZBFP	REDUCED PRESSURE BACKFLOW PREVENTER
S	SOUTH
SAN	SANITARY
SEP	SEPARATION
SL	SLOPE
SP	SAMPLE POINT
SPLT	SPLIT
STA	STATION
SWMF	STORMWATER MANAGEMENT FACILITY
TOB	TOP OF BANK
DRN	SEWER
TOC	TOP OF CURB
TRI CI	TRIPLE CURB INLET
TYP	TYPICAL
UDAE	UNOBSTRUCTED DRAINAGE & ACCESS EASEMENT
UDE	UNOBSTRUCTED DRAINAGE EASEMENT
UE	UTILITY EASEMENT
VC	VERTICAL CURVE
W	WEST
WM	WATER MAIN

NO.	DATE	DESCRIPTION
1	---	---
2	---	---
3	---	---
4	---	---
5	---	---

REVISIONS

REGISTERED ENGINEER
PETER K. RODOPOULOS P.E.
FLORIDA LICENSE #66214

DRAWN: DKH
DESIGNED: PKR
CHECKED: SAK
DATE: 05-16-22
PROJECT NO.: 18122.20

MATTHEWS DESIGN GROUP
P.O. BOX 3126, 7 WALDO STREET
ST. AUGUSTINE, FL 32084
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GENERAL NOTES
SR 207 FORCEMAIN DESIGN
ST JOHNS COUNTY
PREPARED FOR
ST. JOHNS COUNTY BOARD OF COUNTY COMMISSIONERS

2
OF 25

ST. JOHNS COUNTY UTILITY DEPARTMENT (SJCUD) GENERAL NOTES

GENERAL:

1. TWO (2) COPIES OF THE SHOP DRAWINGS STAMPED APPROVED BY THE ENGINEER) SHALL BE SUBMITTED TO SJCUD FOR REVIEW PRIOR TO SCHEDULING THE MANDATORY PRE-CONSTRUCTION CONFERENCE. THE INITIAL SHOP DRAWING REVIEW BY SJCUD WILL BE COMPLETED WITHIN FIFTEEN (15) WORKING DAYS. SUBSEQUENT SHOP DRAWING REVIEWS WILL BE COMPLETED WITHIN TEN (10) WORKING DAYS.

2. A PRE-CONSTRUCTION CONFERENCE IS REQUIRED WITH THE DEVELOPER, THE ENGINEER OF RECORD, THE UTILITY CONTRACTOR, AND THE SJCUD PRIOR TO THE START OF ANY CONSTRUCTION. A PRE-CONSTRUCTION CONFERENCE WITH SJCUD IS REQUIRED REGARDLESS OF OTHER AGENCIES REQUIREMENTS.

3. ALL WATER, SEWER, AND/OR REUSE CONSTRUCTION SHALL BE PERFORMED BY A CONTRACTOR LICENSED UNDER THE PROVISIONS OF CHAPTER 489, FLORIDA STATUTES. A COPY OF THE CONTRACTOR'S GENERAL LICENSE AND/OR UNDERGROUND UTILITY LICENSE SHALL BE PROVIDED AT THE PRE-CONSTRUCTION CONFERENCE.

4. THE CONTRACTOR IS RESPONSIBLE FOR INSPECTING THE SITE PRIOR TO CONSTRUCTION.

5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFICATION OF ALL LOCATIONS & ELEVATIONS PRIOR TO COMMENCEMENT OF CONSTRUCTION.

6. THE CONTRACTOR(S) SHALL LOCATE, VERIFY, AND IDENTIFY ALL EXISTING UTILITIES AND UNDERGROUND UTILITIES SHOWN OR NOT SHOWN ON THE PLANS PRIOR TO ANY EXCAVATING ACTIVITIES AND TAKE ALL MEASURES NECESSARY TO PROTECT UTILITIES DURING CONSTRUCTION. SHOULD ANY UTILITY LINE OR COMPONENT BECOME DAMAGED OR REQUIRE RELOCATION, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE AFFECTED UTILITY COMPANY, ENGINEER OF RECORD, COUNTY, AND SJCUD.

7. THE WATER, SEWER, AND/OR REUSE SYSTEM SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE SJCUD APPROVED CONSTRUCTION PLANS AND SPECIFICATIONS. IF THERE IS ANY DEVIATION FROM THE APPROVED CONSTRUCTION DRAWINGS OR SPECIFICATIONS, WITHOUT PRIOR AUTHORIZATION AND CONSENT FROM THE SJCUD, THE CONTRACTOR SHALL REMOVE THE DEVIATION AND RESTORE IT TO THE APPROVED CONSTRUCTION DRAWING CONFIGURATION AT NO EXPENSE TO THE SJCUD. ANY DEVIATIONS FROM THE APPROVED DOCUMENTS WILL DELAY THE SJCUD SUBMITTAL PROCESS.

8. THE CONTRACTOR SHALL FIELD VERIFY THE CONNECTION POINTS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. ALL DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER OF RECORD AND SJCUD IMMEDIATELY.

9. EXISTING UTILITIES SHOWN ON THESE PLANS HAVE BEEN LOCATED FOR AVAILABLE RECORDS WITHOUT EXCAVATION.

10. VERTICAL LOCATIONS OF ALL UTILITIES (INCLUDING EXISTING STORM SEWERS) SHOWN ON PLAN AND PROFILE SHEETS HAVE BEEN REFERENCED TO A BENCH MARK SHOWN ON THE UTILITY PLANS. CONTRACTOR SHALL EXERCISE CAUTION DURING EXCAVATION NEAR EXISTING UTILITIES SHOWN ON THE PLANS AND NOTIFY THE PROPERTY IF LOCATION DIFFERS FROM THAT SHOWN ON THE PLANS BEFORE CONTINUING WITH CONSTRUCTION.

11. SHOULD CONDITIONS VARY FROM THOSE SHOWN ON THESE PLANS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER AND SJCUD PRIOR TO CONTINUING CONSTRUCTION.

12. THE CONTRACTOR SHALL PROTECT SURVEY MARKERS, MONUMENTS, ETC. DURING CONSTRUCTION. THE CONTRACTOR SHALL RESTORE/REPLACE, AT NO ADDITIONAL EXPENSE TO THE OWNER, ANY DAMAGE DONE BY CONSTRUCTION ACTIVITIES.

13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING UTILITIES CAUSED BY HIS OPERATIONS. ANY DAMAGE SHALL BE REPAIRED/REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER.

14. THE CONTRACTOR SHALL COORDINATE ALL CONSTRUCTION AND BUILDING PLACEMENT WITH ALL OTHER UTILITY CONSTRUCTION.

15. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL AND DISPOSAL OF ANY UNSUITABLE MATERIAL FROM THE EXCAVATION. DURING BACKFILLING AND COMPACTING SUITABLE REPLACEMENT BACKFILL MATERIAL SHALL BE IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL REGULATIONS.

16. UNSUITABLE MATERIALS UNDER WATER, SEWER, AND/OR REUSE MAINS SHALL BE REMOVED AND REPLACED WITH SELECTED BACKFILL PROPERLY COMPACTED TO 90% OF MAXIMUM DENSITY. BACKFILL SHALL BE COMPACTED IN MAXIMUM OF ONE-FOOT (1) LIFTS. DENSITY TESTS SHALL BE TAKEN AFTER COMPACTION OF EVERY LIFT.

17. THE CONTRACTOR(S) SHALL NOTIFY ALL APPLICABLE UTILITIES COMPANIES, THE ENGINEER OF RECORD, AND THE PROPERTY OWNER PRIOR TO ANY EXCAVATING OR INTERFERENCE ANY EXCAVATION ACTIVITIES OR AS SPECIFIED BY THE UTILITY COMPANIES AND THE PERMITS OBTAINED FOR THE WORK.

18. THE ENGINEER OF RECORD AND SJCUD SHALL BE GIVEN SEVEN-TWO HOURS (72-HR) NOTICE OF ALL PRECONSTRUCTION MEETINGS AND/OR TESTING MEASURES RELATED TO THE PROJECT.

19. ALL WORK, MATERIALS, AND EQUIPMENT SHALL BE IN COMPLETE ACCORDANCE WITH ALL RELEVANT ST. JOHNS COUNTY STANDARDS AND REQUIREMENTS AS WELL AS STATE AND LOCAL REGULATIONS.

20. ALL UNDERGROUND UTILITY EQUIPMENT, MATERIALS AND INSTALLATION SHALL BE IN ACCORDANCE WITH THE LATEST REVISION OF THE MANUAL OF WATER, WASTEWATER, AND REUSE DESIGN STANDARDS & SPECIFICATIONS, ALONG WITH APPLICABLE FEDERAL, STATE, AND LOCAL REGULATIONS, AND THE APPROVED SITE PLANS.

21. ALL UTILITY CROSSINGS SHALL COMPLY WITH FDEP REGULATIONS (CH. 62-555.314, F.A.C.)

22. ANY LANDSCAPING TREES SHALL BE PLACED AT A MINIMUM OF 7.5 FEET AWAY FROM THE EDGE OF PIPELINE TO THE EDGE OF THE TREE LINE.

23. ALL ROCK AND UNSUITABLY SIZED STONES (AS DESCRIBED IN APPLICABLE AWWA AND ST. JOHNS COUNTY UTILITIES STANDARDS AND/OR PIPE MANUFACTURER'S RECOMMENDED INSTALLATION PROCEDURES) FOUND IN TRENCHES FOR NEW AND RELOCATED PIPE SHALL BE REMOVED TO A DEPTH OF AT LEAST SIX (6) INCHES BELOW THE BOTTOM OF THE PIPE. CONTINUOUS AND UNIFORM BEDDING SHALL BE PROVIDED FOR NEW AND RELOCATED PIPES. THE BACKFILL MATERIAL SHALL BE TAMPED IN LAYERS AROUND THE NEW AND RELOCATED PIPES TOO TO A SUFFICIENT HEIGHT ABOVE SUCH PIPE TO ADEQUATELY SUPPORT AND PROTECT THE PIPE.

24. FOR WATER, WASTEWATER, AND REUSE MAINS SMALLER THAN 12 INCHES, THE MINIMUM AND MAXIMUM COVER SHALL BE 30 INCHES AND 36 INCHES, RESPECTIVELY, IN UNPAVED AREAS AND 36 INCHES AND 42 INCHES, RESPECTIVELY, IN PAVED AREAS (OR AS REQUIRED WITHIN EDM OF MAINROAD RIGHT-OF-WAY FOR MAINS 12 INCHES OR GREATER. THE MINIMUM AND MAXIMUM COVER SHALL BE 42 INCHES AND 54 INCHES, RESPECTIVELY. EXCEPTIONS WILL BE MADE FOR CONFLICTS.

25. WHERE FORCE MAINS, WATER MAINS, OR REUSE MAINS ARE LAID WITHOUT FITTINGS, THE MAXIMUM DEFLECTION SHALL BE 80% OF THAT RECOMMENDED BY THE MANUFACTURER.

26. FITTINGS SHALL BE USED AT LOCATIONS INDICATED ON THE PLANS, UNLESS OTHERWISE APPROVED BY THE ENGINEER. ALL FITTINGS SHALL BE "RESTRAINED PER THE "RESTRAINED JOINT" TABLE IN THE APPROVED PLAN SET.

27. ALL UNDERGROUND VALVES SHALL BE INSTALLED WITH AN ADJUSTABLE CAST IRON VALVE BOX WITH TOP SET TO FINAL GRADE IN ACCORDANCE WITH SJCUD DETAILS AND SPECIFICATIONS. ALL VALVES SHALL HAVE PEG LOCATORS (1145.7 x LOWERTON).

28. CONTRACTOR IS RESPONSIBLE FOR PROPER ADJUSTMENT OF INSPECTING AUTHORITIES BEFORE AND DURING CONSTRUCTION.

29. CONTRACTOR SHALL PROVIDE A MINIMUM OF SEVEN (7) CALENDAR DAYS NOTICE TO SJCUD PRIOR TO SCHEDULING THE FINAL INSPECTION.

NOTICE OF PROCEDURE:

1. ALL COMMERCIAL BUILDING PERMITS AND METERS PROCESSED THROUGH SJCUD CUSTOMER SERVICE SHALL BE ACCOMPANIED BY A SET OF APPROVED CIVIL DESIGN PLANS.

2. ALL CONNECTIONS TO THE WATER, SEWER, AND/OR REUSE SYSTEM, FLUSHING, AND PRESSURE TESTS TO BE PERFORMED BY THE UTILITY CONTRACTOR OR LICENSED MASTER PLUMBER MUST BE SCHEDULED AT LEAST FIVE (5) WORKING DAYS IN ADVANCE WITH THE SJCUD. A SJCUD INSPECTOR MUST BE PRESENT PRIOR TO THE COUPLING OR USAGE MADE OF FITTINGS.

3. IT IS THE ENGINEER OF RECORD'S RESPONSIBILITY TO SECURE APPLICABLE PERMITS PRIOR TO CONSTRUCTION.

4. THE PROPERTY OWNER SHALL PURCHASE THE WATER METER THROUGH THE SJCUD ON PROJECTS THAT REQUIRE A WATER METER LARGER THAN ONE (1) INCH. THE OWNER'S CONTRACTOR SHALL INSTALL ALL METERS THREE (3) INCHES AND LARGER.

5. WATER, SEWER, AND/OR REUSE UNIT CONNECTION FEES SHALL BE PAID AT THE TIME OF BUILDING PERMIT APPLICATION.

6. ALL ON-SITE PRIVATE WATER, SEWER, AND/OR REUSE CONSTRUCTION BETWEEN THE METER AND BUILDING MAY BE INSPECTED BY THE SJCUD TO ENSURE STANDARDS ARE MET.

7. ALL REQUIREMENTS BY THE SJCUD (I.E. FINAL INSPECTION, CORRECTION OF PUNCH LIST ITEMS, "AS BUILTS", LIEN SUBMISSION, OR COMPLETION, ETC.) MUST BE SATISFIED PRIOR OF ISSUANCE OF CERTIFICATES OF OCCUPANCY.

POTABLE WATER SYSTEMS NOTES:

1. ALL WATER MAINS 4" THROUGH 12" DIAMETER SHALL BE PVC C-900, DR-18, COLOR "BLUE" WITH PUSH-ON GASKETED JOINTS OR C-906 HDPE OR 11 COLOR "BLUE" OR DIP CLASS 350.

2. ALL WATER MAINS 16" THROUGH 20" DIAMETER SHALL BE PVC C-905, DR-25, COLOR "BLUE" WITH PUSH-ON GASKETED JOINTS OR C-906 HDPE DR 11 COLOR "BLUE" OR DIP CLASS 250.

3. ALL WATER MAINS 24" AND LARGER DIAMETER SHALL BE DUCTILE IRON PIPE.

4. ALL WATER LINES 2" DIAMETER OR LESS SHALL BE HDPE DR 9 OR 9 COLOR "BLUE".

5. ALL GATE STOPS ARE TO BE BALL-TYPE WITH LOCKING CAPABILITY.

6. THE SEPARATION REQUIREMENT BETWEEN POTABLE WATER MAINS AND OTHER UTILITIES SHALL BE PER CH. 62-555, F.A.C.

7. A FULL LENGTH LENGTH OF WATER MAIN PIPE (USUALLY 20 FEET) SHALL BE CENTERED AT THE POINT OF CROSSING OF ALL WATER AND SEWER (INCLUDING STORM) LINES AT THE POINT OF CROSSINGS REGARDLESS OF THE VERTICAL SEPARATION.

8. WHERE SOLVENT CONTAMINATION IS FOUND IN THE TRENCH, WORK WILL BE STOPPED UNTIL THE PROPER AUTHORITIES NOTIFIED. WITH THE APPROVAL OF THE ST. JOHNS COUNTY HEALTH DEPARTMENT, DUCTILE IRON PIPE, FITTINGS AND APPROVED SOLVENT RESISTANT GASKET MATERIAL SHALL BE USED IN THE CONTAMINATED AREA. THE DUCTILE IRON PIPE WILL EXTEND AT LEAST 100 FEET BEYOND ANY DISCOVERED CONTAMINATION.

9. NO CONNECTION TO EXISTING POTABLE WATER SYSTEM SHALL BE ALLOWED UNTIL ALL PROPOSED WATER LINES HAVE BEEN PRESSURE TESTED, DISINFECTED, CLEARED FOR SERVICE AND ACCEPTED FOR MAINTENANCE BY THE SJCUD AND FDEP.

10. JUMPER CONNECTIONS WITH BACKFLOW PREVENTION DEVICE SHALL BE USED TO FILL OR FLUSH WATER MAINS.

11. ALL NEW AND RELOCATED WATER MAIN PIPE, FITTINGS, VALVES, AND FIRE HYDRANTS SHALL BE IN CONFORMANCE WITH APPLICABLE AMERICAN WATER WORKS ASSOCIATION (AWWA) AND SJCUD STANDARDS.

12. ALL NEW AND RELOCATED WATER MAIN PIPE AND FITTINGS WILL COMPLY WITH THE LATEST FDEP AND AWWA STANDARDS FOR LEAD CONTENT.

13. ALL NEW AND RELOCATED WATER MAINS SHALL BE PRESSURE TESTED AND LEAKAGE TESTED IN ACCORDANCE WITH AWWA STANDARD C600, LATEST EDITION.

14. ALL NEW AND RELOCATED WATER MAINS SHALL BE DISINFECTED IN ACCORDANCE WITH AWWA STANDARD C601 AND RULE 62-555.340, F.A.C.

15. ALL NEW AND RELOCATED WATER SERVICES SHALL BE IN CONFORMANCE WITH THE STATE PLUMBING CODE AND SJCUD STANDARDS.

16. THE BACTERIOLOGICAL SAMPLE POINTS SHALL BE INDICATED ON THE AS BUILT DRAWINGS. THE SAMPLE POINT NUMBERING AND STATIONING SHALL CORRESPOND TO THOSE ON THE BACTERIOLOGICAL SAMPLE CHAIN OF CUSTODY FORMS.

WASTEWATER SYSTEM NOTES:

1. INTERIOR INVERTS ARE REQUIRED ON JUNCTION MANHOLES WITH THREE OR MORE INVERTS.

2. SANITARY SEWER LINE TO DEPTHS UP TO 10' SHALL BE SDR-35 PVC PIPE CONFORMING TO ASTM D-3034 COLORED GREEN. SANITARY SEWER LINE OF DEPTHS 10' TO 15' SHALL BE SDR-26 PVC. ALL SANITARY SEWER LINES SHALL BE GREEN AND CLEARLY MARKED ON THE PIPE.

3. SANITARY SEWER FORCE MAIN 4" AND LARGER SHALL BE DR26 DR26 PVC PIPE CONFORMING TO ASTM D-1784, D-765, AND D-2241. DUCTILE IRON PIPE SHALL ONLY BE USED WITH PRIOR APPROVAL BY THE SJCUD. SANITARY FORCE MAIN SHALL BE COLOR CODED GREEN AND CLEARLY MARKED.

4. THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER OF RECORD AND SJCUD ALL VIDEO LOGS, WRITTEN REPORTS, AND DEFLECTION TEST RESULTS FOR REVIEW AND APPROVAL.

5. THE CONTRACTOR SHALL CONTACT SJCUD PRE-TREATMENT DEPARTMENT AT (904) 209-2662 FOR INSPECTION AFTER INSTALLATION OF GREASE TRAPS, INTERCEPTORS, AND/OR OIL-WATER SEPARATORS.

6. ALL FORCE MAIN LINES 2" SHALL BE HDPE DR 9 OR 9 COLOR "GREEN".

AS-BUILTS:

1. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PRODUCE, SUBMIT AND OBTAIN APPROVAL OF REPRODUCIBLE "AS-BUILT" DRAWINGS FROM JURISDICTIONAL AGENCIES AS MAY BE REQUIRED.

2. "AS-BUILT" INFORMATION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. CONTRACTOR SHALL EMPLOY THE SERVICES OF A SURVEYOR REGISTERED IN THE STATE OF FLORIDA TO DETERMINE AN "AS BUILT" INFORMATION. UPON COMPLETION OF THE WORK, THE CONTRACTOR SHALL PROVIDE UP TO SIX COPIES AND THE CAD FILE OF AS-BUILT DRAWINGS TO THE ENGINEER.

3. A MINIMUM OF FIVE WORKING DAYS PRIOR TO THE FINAL INSPECTION, TWO (2) SETS OF PRELIMINARY BLACKLINE "AS-BUILTS" AND COPY ON DISK IN AUTOCAD FORMAT SHOWING THE REQUIRED INFORMATION, SHALL BE SUBMITTED TO THE ENGINEER OF RECORD.

4. THE RECORD OR "AS BUILT" DRAWINGS TO BE PREPARED BY THE CONTRACTOR AND SUBMITTED AT THE TIME OF THE REQUEST FOR A LETTER OF RELEASE TO PLACE THE CONSTRUCTION INTO SERVICE WILL CLEARLY DEPICT THE VERTICAL CLEARANCES BETWEEN WATER, SEWER (INCLUDING STORM), AND REUSE LINES AT ALL CROSSING AND PARALLEL RUNS WHERE THE HORIZONTAL SEPARATION IS LESS THAN 10 FEET. IN ADDITION, THE CENTERING OF ONE FULL LENGTHS OF PIPE (USUALLY 20 FEET) AT POINTS OF CROSSINGS WILL BE DOCUMENTED ON THE DRAWINGS AND ALL MISGUIDING CONSTRUCTION OBSERVED CLEARLY DEPICTED. IN CASES WHERE A MINIMUM OF 18 INCHES OF VERTICAL CLEARANCE BETWEEN THE WATER AND SEWER (INCLUDING STORM) LINES IS NOT POSSIBLE.

5. AFTER SJCUD HAS APPROVED PRELIMINARY "AS BUILT", THREE (3) SETS OF BLACKLINE AS-BUILTS (SIGNED AND SEALED), ONE SET OF MYLARS AS BUILT (SIGNED), AND COPY ON DISK IN AUTOCAD FORMAT SHOWING THE REQUIRED INFORMATION SHALL BE SUBMITTED TO SJCUD THROUGH ST. JOHNS COUNTY DEVELOPMENT SERVICES.

STANDARD WATER/ SEWER/ RECLAIMED WATER SEPARATION STATEMENT:

THE CONTRACTOR SHALL INSTALL ALL MAINS IN ACCORDANCE WITH THE REQUIREMENTS OF RULE 62-555.314, F.A.C., BELOW. THE CONTRACTOR SHALL NOTIFY SJCUD IN ANY INSTANCE WHERE THE BELOW REQUIREMENTS CANNOT BE MET PRIOR TO INSTALLATION OF PIPE.

"62-555.314 LOCATION OF PUBLIC WATER SYSTEM MAINS.

FOR THE PURPOSE OF THIS SECTION, THE PHRASE "WATER MAINS" SHALL MEAN MAINS, INCLUDING TREATMENT PLANT PROCESS PIPING, CONVEYING EITHER RAW, PARTIALLY TREATED, OR FINISHED DRINKING WATER FOR HUMAN CONSUMPTION AND SERVICE LINES THAT ARE UNDER THE CONTROL OF A PUBLIC WATER SYSTEM AND THAT HAVE AN INSIDE DIAMETER OF THREE INCHES OR GREATER.

(1) HORIZONTAL SEPARATION BETWEEN UNDERGROUND WATER MAINS AND SANITARY OR STORM SEWERS, WASTEWATER OR STORM WATER FORCE MAINS, RECLAIMED WATER PIPELINES, AND ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS.

(a) NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF 3 FEET (BUT PREFERABLY TEN FEET), BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED STORM SEWER, STORM WATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER REGULATED UNDER PART IV OF CHAPTER 62-610, F.A.C.

(b) NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF 6 FEET (BUT PREFERABLY TEN FEET), BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED VACUUM-TYPE SANITARY SEWER.

(c) NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST SIX FEET, AND PREFERABLY TEN FEET, BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED GRAVITY- OR PRESSURE-TYPE SANITARY SEWER, WASTEWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART IV OF CHAPTER 62-610, F.A.C. THE MINIMUM HORIZONTAL SEPARATION DISTANCE BETWEEN WATER MAINS AND GRAVITY-TYPE SANITARY SEWERS SHALL BE REDUCED TO THREE FEET WHERE THE BOTTOM OF THE WATER MAIN IS LAID AT LEAST SIX INCHES ABOVE THE TOP OF THE SEWER.

(d) NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST TEN FEET BETWEEN THE OUTSIDE OF THE WATER MAIN AND ANY PORTION OF AN ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEM AS DEFINED IN SECTION 381.0065(2), F.S., AND RULE 64E-6.002, F.A.C.

(3) VERTICAL SEPARATION BETWEEN UNDERGROUND WATER MAINS AND SANITARY OR STORM SEWERS, WASTEWATER OR STORM WATER FORCE MAINS, AND RECLAIMED WATER PIPELINES.

(a) NEW OR RELOCATED, UNDERGROUND WATER MAINS CROSSING ANY GRAVITY- OR VACUUM-TYPE SANITARY SEWER OR STORM SEWER SHALL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST SIX INCHES, AND PREFERABLY TWELVE INCHES, ABOVE OR AT LEAST 12 INCHES BELOW THE OUTSIDE OF THE OTHER PIPELINE. HOWEVER, IT IS PREFERABLE TO LAY THE WATER MAIN ABOVE THE OTHER PIPELINE.

(b) NEW OR RELOCATED, UNDERGROUND WATER MAINS CROSSING ANY EXISTING OR PROPOSED PRESSURE-TYPE SANITARY SEWER, WASTEWATER OR STORM WATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER SHALL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST 12 INCHES ABOVE OR BELOW THE OUTSIDE OF THE OTHER PIPELINE. HOWEVER, IT IS PREFERABLE TO LAY THE WATER MAIN ABOVE THE OTHER PIPELINE.

(c) AT THE UTILITY CROSSINGS DESCRIBED IN PARAGRAPHS (a) AND (b) ABOVE, ONE FULL LENGTH OF WATER MAIN PIPE SHALL BE CENTERED ABOVE OR BELOW THE OTHER PIPELINE SO THE WATER MAIN JOINTS SHALL BE AS FAR AS POSSIBLE FROM THE OTHER PIPELINE. ALTERNATIVELY, AT SUCH CROSSINGS, THE PIPES SHALL BE ARRANGED SO THAT ALL WATER MAIN JOINTS ARE AT LEAST THREE FEET FROM ALL JOINTS IN VACUUM-TYPE SANITARY SEWERS, STORM SEWERS, GRAVITY-TYPE FORCE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER REGULATED UNDER PART IV OF CHAPTER 62-610, F.A.C., AND AT LEAST SIX FEET FROM ALL JOINTS IN GRAVITY- OR PRESSURE-TYPE SANITARY SEWERS, WASTEWATER FORCE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART IV OF CHAPTER 62-610, F.A.C.

(3) SEPARATION BETWEEN WATER MAINS AND SANITARY OR STORM SEWER MANHOLES.

(a) NO WATER MAIN SHALL PASS THROUGH OR COME INTO CONTACT WITH ANY PART OF A SANITARY SEWER MANHOLE.

(b) EFFECTIVE AUGUST 28, 2008, WATER MAINS SHALL NOT BE CONSTRUCTED OR ALTERED TO PASS THROUGH OR COME INTO CONTACT WITH ANY PART OF A STORM SEWER MANHOLE OR INLET STRUCTURE WHERE IT IS NOT TECHNICALLY FEASIBLE OR ECONOMICALLY SENSIBLE TO COMPLY WITH THIS SUBSECTION (3) (E.G., WHERE IT IS ESSENTIAL TO CONFLICT IN THE CROSSING OF A WATER MAIN AND A STORM SEWER AND WHERE ALTERNATIVE ROUTING OF THE WATER MAIN OR THE STORM SEWER IS NOT TECHNICALLY FEASIBLE OR IS NOT ECONOMICALLY SENSIBLE). THE DEPARTMENT SHALL ALLOW EXCEPTIONS TO THIS REQUIREMENT (I.E., THE DEPARTMENT SHALL ALLOW CONSTRUCTION OF CONFLICT MANHOLES), BUT SUPPLIERS OF WATER OR PERSONS PROPOSING TO CONSTRUCT CONFLICT MANHOLES MUST FIRST OBTAIN A SPECIFIC PERMIT FROM THE DEPARTMENT IN ACCORDANCE WITH PART V OF THIS CHAPTER AND MUST PROVIDE IN THE PRELIMINARY DESIGN REPORT OR DRAWINGS, SPECIFICATIONS, AND DESIGN DATA ACCORDING TO THE PERMIT APPLICATION THE FOLLOWING INFORMATION:

1. TECHNICAL OR ECONOMIC JUSTIFICATION FOR EACH CONFLICT MANHOLE.

2. A STATEMENT IDENTIFYING THE PARTY RESPONSIBLE FOR MAINTAINING EACH CONFLICT MANHOLE.

3. ASSURANCE OF COMPLIANCE WITH THE DESIGN AND CONSTRUCTION REQUIREMENTS IN SUBPARAGRAPHS (a)4. THROUGH 9. BELOW.

4. EACH WATER MAIN PASSING THROUGH A CONFLICT MANHOLE SHALL HAVE A FLEXIBLE, WATERTIGHT JOINT ON EACH SIDE OF THE MANHOLE TO ACCOMMODATE DIFFERENTIAL SETTLING BETWEEN THE MAIN AND THE MANHOLE.

5. WITHIN EACH CONFLICT MANHOLE, THE WATER MAIN PASSING THROUGH THE MANHOLE SHALL BE INSTALLED IN A WATERTIGHT CASING PIPE HAVING HIGH IMPACT STRENGTH (I.E., HAVING AN IMPACT STRENGTH AT LEAST EQUAL TO THAT OF DUCTILE IRON THICKNESS CLASS 52 IRON (IRON PIPE).

6. EACH CONFLICT MANHOLE SHALL HAVE AN ACCESS OPENING, AND SHALL BE SIZED, TO ALLOW FOR EASY CLEANING OF THE MANHOLE.

7. GRATINGS SHALL BE INSTALLED AT ALL STORM SEWER INLETS UPSTREAM OF EACH CONFLICT MANHOLE TO PREVENT LARGE OBJECTS FROM ENTERING THE MAIN OUT.

(4) SEPARATION BETWEEN FIRE HYDRANT DRAINS AND SANITARY OR STORM SEWERS, WASTEWATER OR STORM WATER FORCE MAINS, RECLAIMED WATER PIPELINES, AND ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS. NEW OR RELOCATED FIRE HYDRANTS WITH UNDERGROUND DRAINS SHALL BE LOCATED SO THAT THE DRAINS ARE AT LEAST THREE FEET FROM SANITARY SEWERS, AT LEAST SIX FEET FROM STORM SEWERS, STORM WATER FORCE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER REGULATED UNDER PART OF CHAPTER 62-610, F.A.C., AT LEAST THREE FEET, AND PREFERABLY TEN FEET, FROM ANY EXISTING OR PROPOSED VACUUM-TYPE SANITARY SEWER, AT LEAST SIX FEET, AND PREFERABLY TEN FEET, FROM ANY EXISTING OR PROPOSED GRAVITY- OR PRESSURE-TYPE SANITARY SEWER, WASTEWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART IV OF CHAPTER 62-610, F.A.C., AND AT LEAST TEN FEET FROM ANY EXISTING OR PROPOSED ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEM" AS DEFINED IN SECTION 381.0065(2), F.S., AND RULE 64E-6.002, F.A.C.

(5) EXCEPTIONS. WHERE IT IS NOT TECHNICALLY FEASIBLE OR ECONOMICALLY SENSIBLE TO COMPLY WITH THE REQUIREMENTS IN SUBSECTION (3) ABOVE, THE DEPARTMENT SHALL ALLOW EXCEPTIONS TO THESE REQUIREMENTS IF SUPPLIERS OF WATER OR CONSTRUCTION PERMIT APPLICANTS PROVIDE TECHNICAL OR ECONOMIC JUSTIFICATION FOR EACH EXCEPTION, AND PROVIDE ALTERNATIVE CONSTRUCTION TECHNIQUES THAT ENSURE LONG-TERM RELIABILITY AND PUBLIC HEALTH PROTECTION. ACCEPTABLE ALTERNATIVE CONSTRUCTION FEATURES INCLUDE THE FOLLOWING:

(a) WHERE AN UNDERGROUND WATER MAIN IS BEING LAID LESS THAN THE REQUIRED MINIMUM HORIZONTAL DISTANCE FROM ANOTHER PIPELINE AND WHERE AN UNDERGROUND WATER MAIN IS CROSSING ANOTHER PIPELINE AND, UNLESS THE WATER MAIN JOINTS ARE LOCATED LESS THAN THE REQUIRED MINIMUM DISTANCE FROM JOINTS IN THE OTHER PIPELINE:

1. USE OF PRESSURE-RATED PIPE CONFORMING TO THE AMERICAN WATER WORKS ASSOCIATION STANDARDS INCORPORATED INTO RULE 62-555.330, F.A.C., FOR THE OTHER PIPELINE IF IT IS GRAVITY- OR VACUUM-TYPE PIPELINE;

2. USE OF WELDED, FUSED, OR OTHERWISE RESTRAINED JOINTS FOR EITHER THE WATER MAIN OR THE OTHER PIPELINE; OR

3. USE OF WATERTIGHT CASING PIPE OR CONCRETE ENCASEMENT AT LEAST FOUR INCHES THICK FOR EITHER THE WATER MAIN OR THE OTHER PIPELINE.

(b) WHERE AN UNDERGROUND WATER MAIN IS BEING LAID LESS THAN THREE FEET HORIZONTALLY FROM ANOTHER PIPELINE AND WHERE AN UNDERGROUND WATER MAIN IS CROSSING ANOTHER PIPELINE AND IS BEING LAID LESS THAN THE REQUIRED MINIMUM VERTICAL DISTANCE FROM THE OTHER PIPELINE:

1. USE OF PIPE, OR CASING PIPE, HAVING HIGH IMPACT STRENGTH (I.E., HAVING AN IMPACT STRENGTH AT LEAST EQUAL TO THAT OF 0.25-INCH-THICK DUCTILE IRON PIPE) OR CONCRETE ENCASEMENT AT LEAST FOUR INCHES THICK FOR THE WATER MAIN; AND

2. USE OF PIPE, OR CASING PIPE, HAVING HIGH IMPACT STRENGTH (I.E., HAVING AN IMPACT STRENGTH AT LEAST EQUAL TO THAT OF 0.25-INCH-THICK DUCTILE IRON PIPE) OR CONCRETE ENCASEMENT AT LEAST FOUR INCHES THICK FOR THE OTHER PIPELINE IF IT IS NEW AND IS CONVEYING WASTEWATER OR RECLAIMED WATER."

HYDROSTATIC TESTING NOTES:

1. AFTER ALL PRESSURE PIPES ARE INSTALLED, THE JOINTS COMPLETED, AND THE TRENCH BACKFILLED, THE NEWLY LAID PIPE AND APPURTENANCES SHALL BE SUBJECTED TO A HYDROSTATIC TEST FOR A PERIOD OF AT LEAST TWO (2) HOURS. THE ENGINEER AND THE SJCUD MUST BE NOTIFIED AT LEAST 72 HOURS BEFORE A TEST IS TO BE PERFORMED. TEST SHALL BE AS SET FORTH IN AWWA STANDARD C600. ANY LEAKS DETECTED SHALL BE CORRECTED AND THE SECTION OF PIPELINE RETESTED. THE FINAL HOOP TEST PERIOD SHALL BEGIN WHEN ALL JOINTS HAVE BEEN DETERMINED TO BE WATER TIGHT. LEAKAGE SHALL BE LIMITED TO THAT ALLOWANCE SET FORTH IN SECTION 4 OF AWWA STANDARD C600 LATEST EDITION. HYDROSTATIC AND LEAKAGE TEST AND FLOW DOWN (TESTING OF GATE) MUST OCCUR BEFORE SAMPLING FOR BACTERIOLOGICAL TEST. THE MAXIMUM ALLOWABLE PRESSURE LOSS IS 5 PSI.

NO.	BY	DATE	SYMBOL	REVISIONS
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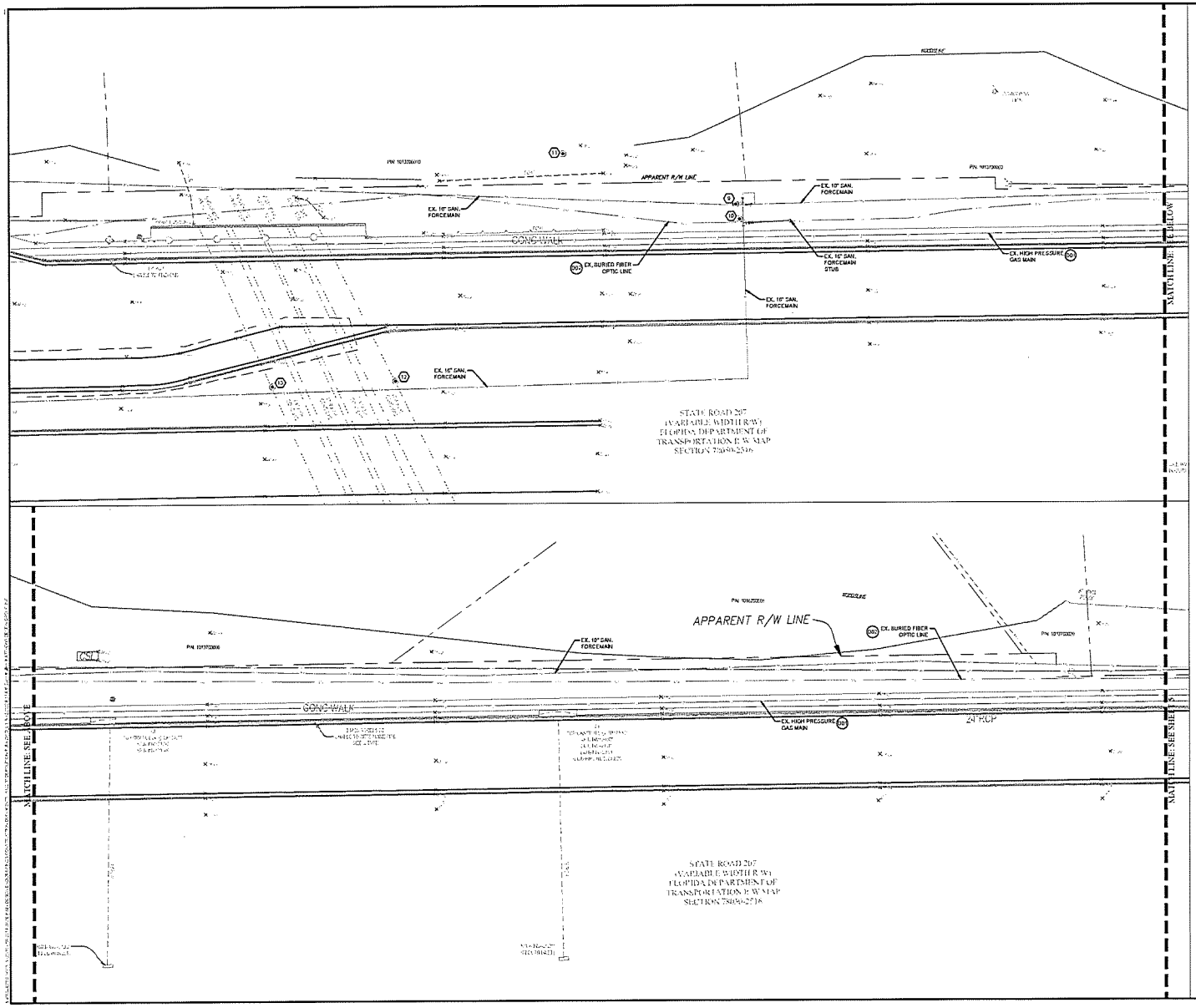
DRAWN BY:
DATE:
CHECKED BY:
DATE:
DESIGN ENGINEER
FLORIDA REGISTRATION NO.

ST. JOHNS COUNTY UTILITY DEPARTMENT
1205 STATE ROAD 16
ST AUGUSTINE, FLORIDA 32084-8641
Phone: (904) 209-2700 • Fax: (904) 209-2702

SR 207 FORCEMAIN DESIGN
SJCUD UTILITY NOTES

NO. SHEETS 25
SHEET NO. 3
DRAWING NO. GN-01.dwg

SJCUD STANDARD DRAWING FOR REFERENCE 2017-07-10



GRAPHIC SCALE

0 20' 30' 40'

1" = 20'

SURVEY UTILITY LOCATE NOTES

1	VVH 1	FOUND 10" GREEN PVC DEPTH = 4.01
2	VVH 2A	FOUND 1" DIRECT BURY CABLE DEPTH = 4.03'
	VVH 2B	FOUND 2" DIRECT BURY CABLE DEPTH = 3.66'
	VVH 2C	FOUND 0.5" DIRECT BURY CABLE DEPTH = 4.20'
3	VVH 3	FOUND 10" FELT WRAPPED FRENCH DRAIN DEPTH = 2.80'
4		NO UTILITY FOUND CLEARED TO 9'
5	VVH 6A	FOUND 1" DIRECT BURY CABLE DEPTH = 3.84'
	VVH 6B	FOUND 2" DIRECT BURY CABLE DEPTH = 3.75'
	VVH 6C	FOUND 0.5" DIRECT BURY CABLE DEPTH = 3.90'
7	VVH 7	FOUND 10" FELT WRAPPED FRENCH DRAIN DEPTH = 3.00'
8		NO UTILITY FOUND CLEARED TO 10'
9	VVH 1B	FOUND 10" BLUE PVC TO BLACK HDPE COUPLING DEPTH = 4.85'
10	VVH 1C	NO UTILITIES FOUND (EXPLORED TO 15.00')
11	VVH 1A	FOUND 12" BLACK HDPE FM DEPTH 4.10'
12	VVH 8	FOUND EAST EDGE BOX CULVERT DEPTH = 5.40'
13	VVH 7	FOUND SOUTH EDGE BOX CULVERT DEPTH = 5.25'

DEMOLITION NOTES

D01	EXISTING HIGH PRESSURE GAS TRANSMISSION MAIN, SIZE UNKNOWN, COVER N/A. CONTRACTOR TO USE EXTREME CAUTION WHEN NEAR THIS UNDERGROUND GAS MAIN.
D02	EXISTING BURIED FIBER OPTIC LINE, DEPTH UNKNOWN. CONTRACTOR TO USE EXTREME CAUTION WHEN WORKING NEAR THIS FIBER OPTIC.
D03	EXISTING SANITARY PRESSURE SERVICE TO BE ABANDONED IN PLACE. PRESSURE SERVICES THAT ARE 4" OR GREATER IN DIAMETER SHALL BE FILLED WITH GROUT.

NOTE:
ANY DAMAGE OR REMOVED SIGNS DUE TO CONSTRUCTION SHALL BE REPLACED OR REINSTALLED PER CURRENT FDOT DESIGN STANDARDS INDEX NO. 700-010 AND 700-101.

REVISIONS

NO.	DATE	

DJM
PDH
SAK
05-15-22
18122.20

REGISTERED ENGINEER
PEDRO "PETE" DEVILLE, P.E.
FLORIDA LICENSE NO. 66911

MATTHEWS DESIGN GROUP
P.O. BOX 3126, 7 WALDO STREET
ST. AUGUSTINE, FL 32084
PHONE: 904.826.1334 • FAX: 904.826.4547
INFO@MDGCOS.COM

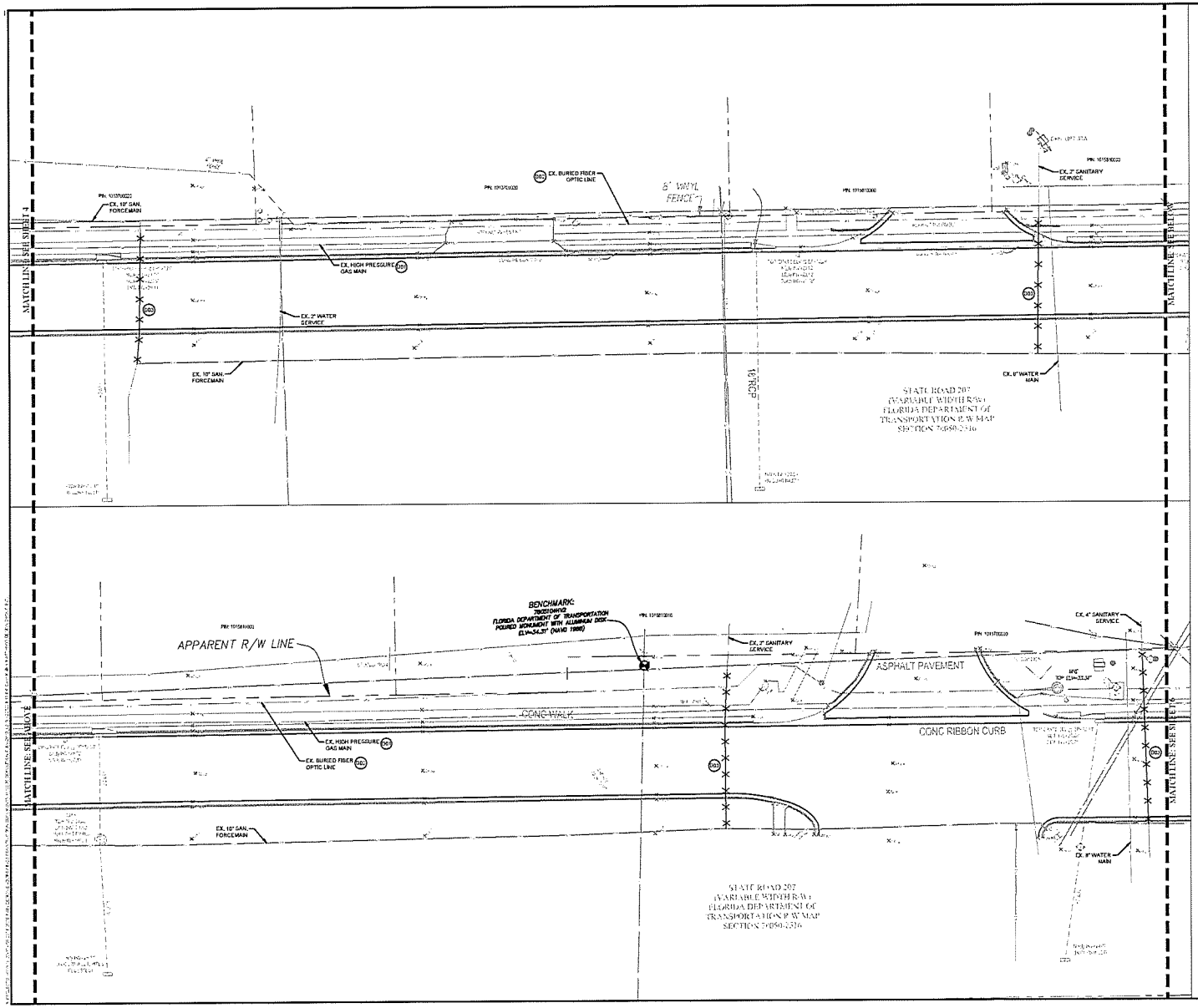
DEMOLITION PLAN

SR 207 FORCEMAIN DESIGN

ST. JOHNS COUNTY

PREPARED FOR

ST. JOHNS COUNTY BOARD OF COUNTY COMMISSIONERS



GRAPHIC SCALE

0 20' 30' 40'

1" = 20'

SURVEY UTILITY LOCATE NOTES

1	VAH 1	FOUND 10" GREEN PVC DEPTH = 4.01
2	VAH 2A	FOUND 1" DIRECT BURY CABLE DEPTH = 4.03'
	VAH 2B	FOUND 2" DIRECT BURY CABLE DEPTH = 3.68'
	VAH 2C	FOUND 0.5" DIRECT BURY CABLE DEPTH = 4.09'
3	VAH 3	FOUND 10" FELT WRAPPED FRENCH DRAIN DEPTH = 2.99'
4	NO UTILITY FOUND CLEARED TO 6'	
6	VAH 6A	FOUND 1" DIRECT BURY CABLE DEPTH = 3.84'
	VAH 6B	FOUND 2" DIRECT BURY CABLE DEPTH = 3.75'
	VAH 6C	FOUND 0.5" DIRECT BURY CABLE DEPTH = 3.90'
7	VAH 7	FOUND 10" FELT WRAPPED FRENCH DRAIN DEPTH = 3.00'
8	NO UTILITY FOUND CLEARED TO 10'	
9	VAH 1B	FOUND 10" BLUE PVC TO BLACK HDPE COUPLING DEPTH = 6.05'
10	VAH 1C	NO UTILITIES FOUND (EXPLORED TO 15.00')
11	VAH 1A	FOUND 12" BLACK HDPE FM DEPTH 4.10'
12	VAH 4	FOUND EAST EDGE BOX CULVERT DEPTH = 5.40'
13	VAH 5	FOUND SOUTH EDGE BOX CULVERT DEPTH = 5.25'

DEMOLITION NOTES

D01 EXISTING HIGH PRESSURE GAS TRANSMISSION MAIN, SIZE UNKNOWN, COVER 6'±. CONTRACTOR TO USE EXTREME CAUTION WHEN NEAR THIS UNDERGROUND GAS MAIN.

D02 EXISTING BURIED FIBER OPTIC LINE, DEPTH UNKNOWN. CONTRACTOR TO USE EXTREME CAUTION WHEN WORKING NEAR THIS FIBER OPTIC.

D03 EXISTING SANITARY PRESSURE SERVICE TO BE ABANDONED IN PLACE. PRESSURE SERVICES THAT ARE 4" OR GREATER IN DIAMETER SHALL BE FILLED WITH GROUT.

NOTE:
ANY DAMAGE OR REMOVED SIGNS DUE TO CONSTRUCTION, SHALL BE REPLACED OR REINSTALLED PER CURRENT FDOT DESIGN STANDARDS INDEX NO. 700-010 AND 700-101.

REVISIONS

NO.	DATE	DESCRIPTION
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REGISTERED ENGINEER
FREDK. ROOD #72943, P.E.
DATE: 5/16/22

DWN	DAH
DES	FDH
CHK	SAK
DATE	05-16-22
JOB #	18122-30

MATTHEWS DESIGN GROUP
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ST. AUGUSTINE, FL 32084
PHONE: 904.826.1234 FAX: 904.826.4347
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DEMOLITION PLAN

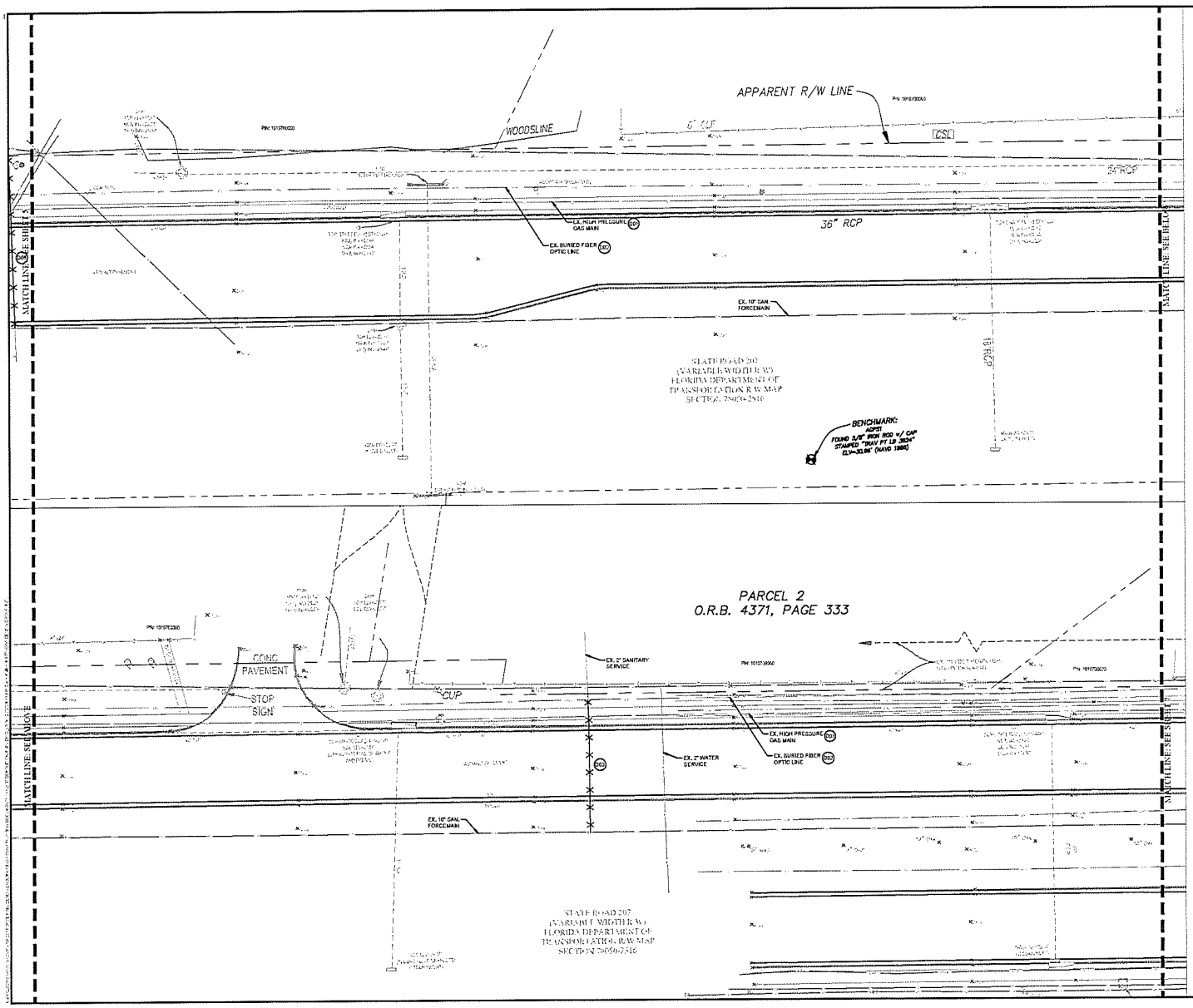
SR 207 FORCEMAIN DESIGN

ST. JOHNS COUNTY

PREPARED FOR

ST. JOHNS COUNTY BOARD OF COUNTY COMMISSIONERS

SHEET NO. 5 OF 25



GRAPHIC SCALE

0 20' 30' 40'

1" = 20'

SURVEY UTILITY LOCATE NOTES

1	VAN 1	FOUND 10" GREEN PVC DEPTH = 4.01'
2	VAN 2A	FOUND 1" DIRECT BURY CABLE DEPTH = 4.03'
	VAN 2B	FOUND 2" DIRECT BURY CABLE DEPTH = 3.99'
	VAN 2C	FOUND 0.5" DIRECT BURY CABLE DEPTH = 4.00'
3	VAN 3	FOUND 10" FELT WRAPPED FRENCH DRAIN DEPTH = 2.99'
4		NO UTILITY FOUND CLEARED TO 9'
6	VAN 6A	FOUND 1" DIRECT BURY CABLE DEPTH = 3.84'
	VAN 6B	FOUND 2" DIRECT BURY CABLE DEPTH = 3.75'
	VAN 6C	FOUND 0.5" DIRECT BURY CABLE DEPTH = 3.90'
7	VAN 7	FOUND 10" FELT WRAPPED FRENCH DRAIN DEPTH = 3.00'
8		NO UTILITY FOUND CLEARED TO 10'
8	VAN 18	FOUND 10" BLUE PVC TO BLACK HDPE COUPLING DEPTH = 6.85'
10	VAN 1C	NO UTILITIES FOUND (EXPLORED TO 15.00')
11	VAN 1A	FOUND 12" BLACK HDPE FM DEPTH 4.10'
12	VAN 6	FOUND EAST EDGE BOX CULVERT DEPTH = 5.40'
13	VAN 7	FOUND SOUTH EDGE BOX CULVERT DEPTH = 5.25'

DEMOLITION NOTES

D01 EXISTING HIGH PRESSURE GAS TRANSMISSION MAIN, SIZE UNKNOWN, COVER 6'±. CONTRACTOR TO USE EXTREME CAUTION WHEN NEAR THIS UNDERGROUND GAS MAIN.

D02 EXISTING BURIED FIBER OPTIC LINE, DEPTH UNKNOWN. CONTRACTOR TO USE EXTREME CAUTION WHEN WORKING NEAR THIS FIBER OPTIC.

D03 EXISTING SANITARY PRESSURE SERVICE TO BE ABANDONED IN PLACE. PRESSURE SERVICES THAT ARE 4" OR GREATER IN DIAMETER SHALL BE FILLED WITH GROUT.

NOTE:
ANY DAMAGE OR REMOVED SIGNS DUE TO CONSTRUCTION SHALL BE REPLACED OR REINSTALLED PER CURRENT FDOT DESIGN STANDARDS INDEX NO. 700-010 AND 700-101.

REGISTERED ENGINEER
FRANCIS C. MATTHEWS P.E.
FL# 36155

REVISIONS			
NO.	DATE	DESCRIPTION	
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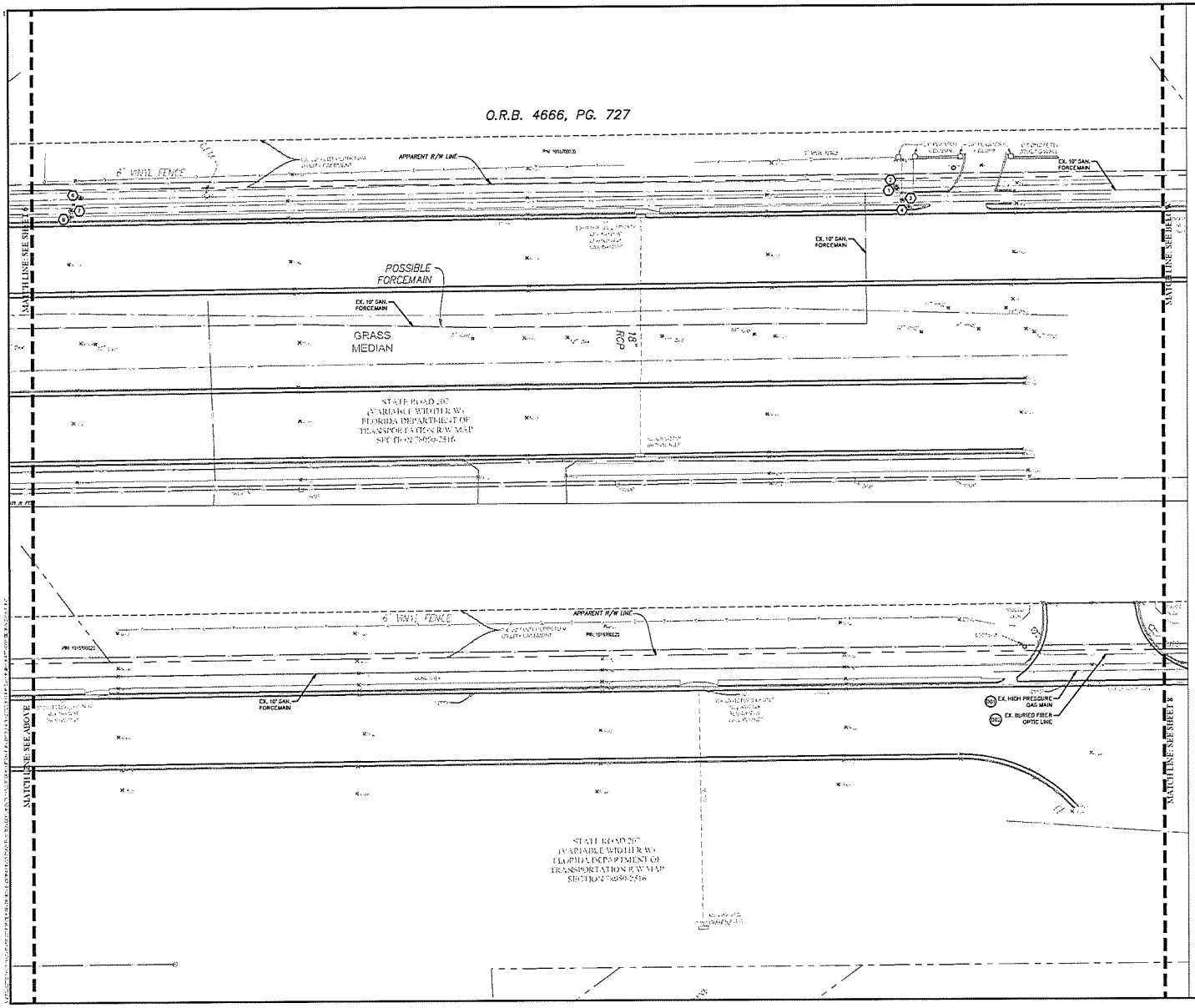
DWN	FCM
CHK	SAK
DATE	05-16-22
JOB #	18123.53

MATTHEWS DESIGN GROUP
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DEMOLITION PLAN

SR 207 FORCEMAIN DESIGN

ST. JOHNS COUNTY
PROJECT NO.
ST. JOHNS COUNTY BOARD OF COUNTY COMMISSIONERS



GRAPHIC SCALE

0 20' 30' 40'

1" = 20'

SURVEY UTILITY LOCATE NOTES

1	VVH 1	FOUND 10" GREEN PVC DEPTH = 4.01
2	VVH 2A	FOUND 1" DIRECT BURY CABLE DEPTH = 4.03'
	VVH 2B	FOUND 2" DIRECT BURY CABLE DEPTH = 3.98'
	VVH 2C	FOUND 0.5" DIRECT BURY CABLE DEPTH = 4.00'
3	VVH 3	FOUND 10" FELT WRAPPED FRENCH DRAIN DEPTH = 2.90'
4		NO UTILITY FOUND CLEARED TO 6'
6	VVH 6A	FOUND 1" DIRECT BURY CABLE DEPTH = 3.84'
	VVH 6B	FOUND 2" DIRECT BURY CABLE DEPTH = 3.75'
	VVH 6C	FOUND 0.5" DIRECT BURY CABLE DEPTH = 3.90'
7	VVH 7	FOUND 10" FELT WRAPPED FRENCH DRAIN DEPTH = 3.90'
8		NO UTILITY FOUND CLEARED TO 10'
9	VVH 9B	FOUND 10" BLUE PVC TO BLACK HDPE COUPLING DEPTH = 6.85'
10	VVH 10	NO UTILITIES FOUND (EXPLORED TO 10.00')
11	VVH 11A	FOUND 12" BLACK HDPE FM DEPTH 4.10'
12	VVH 8	FOUND CAST EDGE BOX CULVERT DEPTH = 5.40'
13	VVH 7	FOUND SOUTH EDGE BOX CULVERT DEPTH = 5.25'

DEMOLITION NOTES

D01 EXISTING HIGH PRESSURE GAS TRANSMISSION MAIN, SIZE UNKNOWN, COVER 6'±. CONTRACTOR TO USE EXTREME CAUTION WHEN NEAR THIS UNDERGROUND GAS MAIN.

D02 EXISTING BURIED FIBER OPTIC LINE, DEPTH UNKNOWN. CONTRACTOR TO USE EXTREME CAUTION WHEN WORKING NEAR THIS FIBER OPTIC.

D03 EXISTING SANITARY PRESSURE SERVICE TO BE ABANDONED IN PLACE. PRESSURE SERVICES THAT ARE 4" OR GREATER IN DIAMETER SHALL BE FILLED WITH GROUT.

NOTE:
ANY DAMAGE OR REMOVED SIGNS DUE TO CONSTRUCTION SHALL BE REPLACED OR REINSTALLED PER CURRENT FDOT DESIGN STANDARDS INDEX NO. 700-010 AND 700-151.

REVISIONS

NO.	DATE	DESCRIPTION
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DSN: DJH
DWN: FDH
CHK: SXX
DATE: 05-16-22
JOB #: 18122.50

MATTHEWS DESIGN GROUP
P.O. BOX 3126, 7 WALDO STREET
ST. AUGUSTINE, FL 32084
PHONE: 904.615.1444 FAX: 904.824.4547
INFO@MDGINC.COM

REGISTERED ENGINEER
TYLER R. WOOD, PE#85878
CERTIFICATE OF AUTHORIZATION #30154

DEMOLITION PLAN

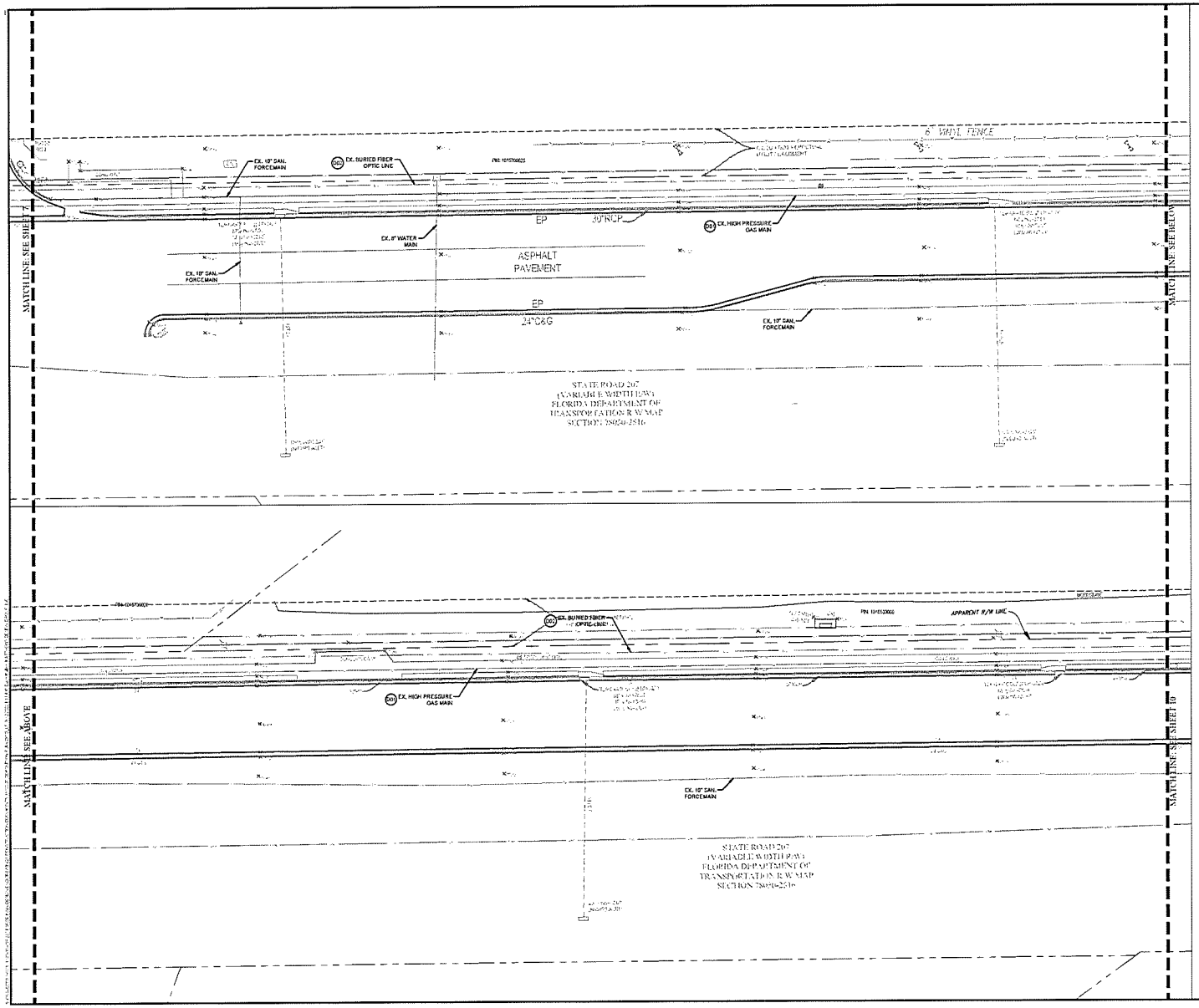
SR 207 FORCEMAIN DESIGN

ST. JOHNS COUNTY

PREPARED FOR

ST. JOHNS COUNTY BOARD OF COUNTY COMMISSIONERS

SHEET NO.
7
OF 25



GRAPHIC SCALE

0 20' 30' 40'

1" = 20'

SURVEY UTILITY LOCATE NOTES

1	VAH 1	FOUND 10" GREEN PVC DEPTH = 4.01
2	VAH 2A	FOUND 1" DIRECT BURY CABLE DEPTH = 4.03'
	VAH 2B	FOUND 2" DIRECT BURY CABLE DEPTH = 3.89'
	VAH 2C	FOUND 0.5" DIRECT BURY CABLE DEPTH = 4.00'
3	VAH 3	FOUND 10' FELT WRAPPED FRENCH DRAIN DEPTH = 2.90'
4		NO UTILITY FOUND CLEARED TO 8'
6	VAH 6A	FOUND 1" DIRECT BURY CABLE DEPTH = 3.84'
	VAH 6B	FOUND 2" DIRECT BURY CABLE DEPTH = 3.75'
	VAH 6C	FOUND 0.5" DIRECT BURY CABLE DEPTH = 3.90'
7	VAH 7	FOUND 10' FELT WRAPPED FRENCH DRAIN DEPTH = 3.00'
8		NO UTILITY FOUND CLEARED TO 10'
9	VAH 10	FOUND 10" BLUE PVC TO BLACK HDPE COUPLING DEPTH = 6.05'
10	VAH 1C	NO UTILITIES FOUND (EXPLORED TO 15.00')
11	VAH 1A	FOUND 12" BLACK HDPE FM DEPTH = 4.10'
12	VAH 6	FOUND EAST EDGE BOX CULVERT DEPTH = 5.40'
13	VAH 7	FOUND SOUTH EDGE BOX CULVERT DEPTH = 5.25'

DEMOLITION NOTES

D01 EXISTING HIGH PRESSURE GAS TRANSMISSION MAIN. SIZE UNKNOWN, COVER 6'±. CONTRACTOR TO USE EXTREME CAUTION WHEN NEAR THIS UNDERGROUND GAS MAIN.

D02 EXISTING BURIED FIBER OPTIC LINE. DEPTH UNKNOWN. CONTRACTOR TO USE EXTREME CAUTION WHEN WORKING NEAR THIS FIBER OPTIC.

D03 EXISTING SANITARY PRESSURE SERVICE TO BE ABANDONED IN PLACE. PRESSURE SERVICES THAT ARE 4" OR GREATER IN DIAMETER SHALL BE FILLED WITH GROUT.

NOTE:
ANY DAMAGE OR REMOVED SIGNS DUE TO CONSTRUCTION, SHALL BE REPLACED OR REINSTALLED PER CURRENT FDOT DESIGN STANDARDS INDEX NO. 700410 AND 700-101.

REVISIONS

NO.	DATE	DESCRIPTION
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REGISTERED ENGINEER
FRED R. TUDOR JONES P.E.
FLORIDA LICENSE NO. 84818

MATTHEWS DESIGN GROUP
P.O. BOX 3126, 7 WALDO STREET
ST. AUGUSTINE, FL 32084
PHONE: 904.810.2324 FAX: 904.826.4347
INFO@MDGINC.COM

DES	DJH
DWN	FDH
CHK	SXK
DATE	05-16-22
JOB NO.	18122-30

DEMOLITION PLAN

SR 207 FORCEMAIN DESIGN

ST. JOHNS COUNTY

PREPARED FOR

ST. JOHNS COUNTY BOARD OF COUNTY COMMISSIONERS

DEMOLITION PLAN

SR 207 FORCEMAIN DESIGN

ST. JOHNS COUNTY

PREPARED FOR

ST. JOHNS COUNTY BOARD OF COUNTY COMMISSIONERS

9 OF 35

MATTHEWS DESIGN GROUP

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ST. AUGUSTINE, FL 32084
PHONE: 904.826.1324 • FAX: 904.826.4547
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DJM	10/22/20	---
FDH	05-16-22	---
SAK	---	---
FDH	---	---
DJM	---	---

NO.	DATE	REVISIONS DESCRIPTION
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REGISTERED ENGINEER
FRED R. TUCCI JONES, P.E.
CA 26351 IN 04/24

NOTE:
ANY DAMAGE OR REMOVED SIGNS DUE TO CONSTRUCTION, SHALL BE REPLACED OR REINSTALLED PER CURRENT FDOT INDEX STANDARDS UNLESS OTHERWISE NOTED.

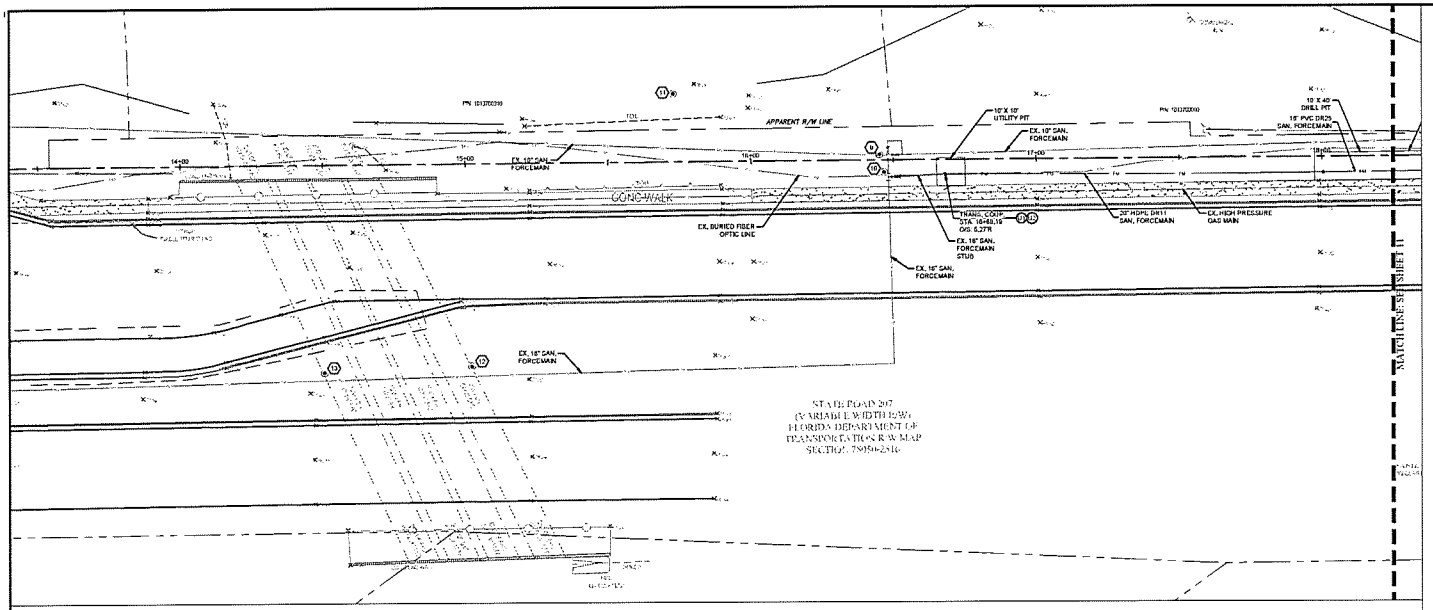
GRAPHIC SCALE

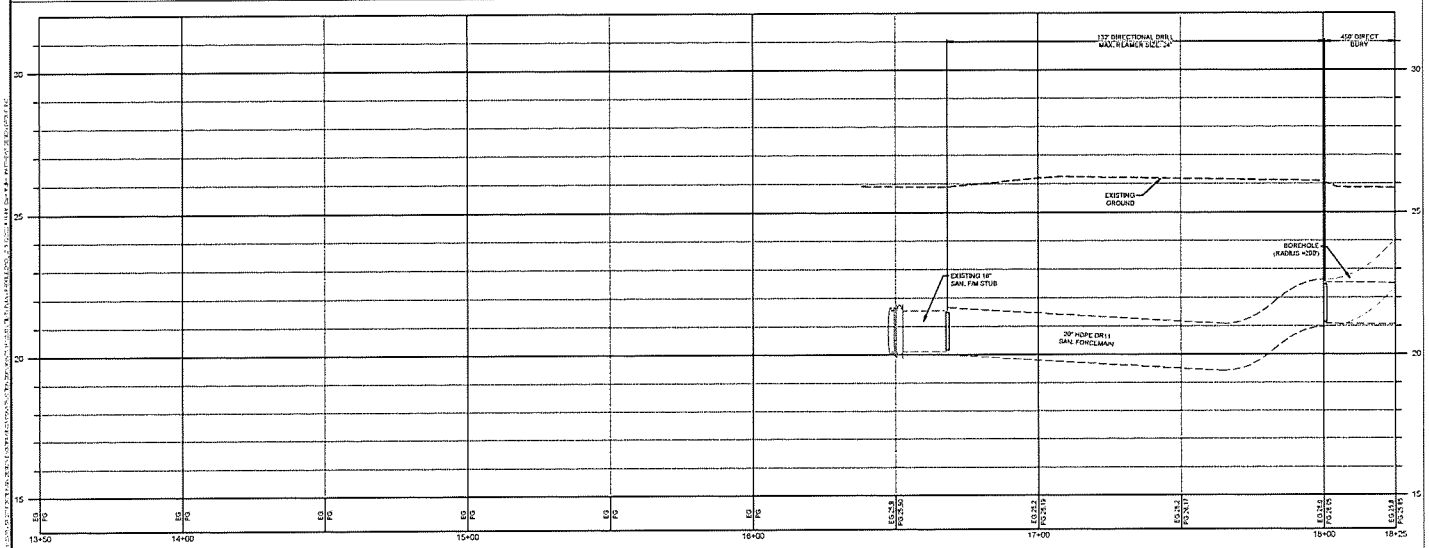
SURVEY UTILITY LOCATE NOTES

1	VAH 1	FOUND 6" DIRECT BURY CABLE DEPTH = 4.0'
2	VAH 2A	FOUND 7" DIRECT BURY CABLE DEPTH = 4.0'
	VAH 2B	FOUND 7" DIRECT BURY CABLE DEPTH = 3.9'
	VAH 2C	FOUND 7" DIRECT BURY CABLE DEPTH = 4.0'
	VAH 3	FOUND 8" PVC WRAPPED FRENCH DRAIN DEPTH = 2.9'
3		NO UTILITY FOUND CLEARED TO 9'
4	VAH 4A	FOUND 7" DIRECT BURY CABLE DEPTH = 3.6'
4	VAH 4B	FOUND 6.5" DIRECT BURY CABLE DEPTH = 3.7'
	VAH 4C	FOUND 6.5" DIRECT BURY CABLE DEPTH = 3.6'
	VAH 5	FOUND 18" FELT WRAPPED FRENCH DRAIN DEPTH = 3.0'
7	VAH 6	FOUND 6" DIRECT BURY CABLE DEPTH = 3.5'
8	VAH 11B	FOUND 8" BLUE PVC TO BLACK HDPE COUPLING DEPTH = 6.8'
9	VAH 11C	NO UTILITIES FOUND DEPLOMED TO 11.20'
10	VAH 11A	FOUND 12" BLACK HDPE TIE DEPTH 4.9'
11	VAH 8	FOUND 24" RCP EDGE OF PIPE DEPTH = 3.6'
12	VAH 7	FOUND SOUTH EDGE RCP CULVERT DEPTH = 3.2'
13		

DEMOLITION NOTES

D01	EXISTING HIGH PRESSURE GAS TRANSMISSION MAIN, SIZE UNKNOWN. CONTACT ATMOS ENERGY TO GUIDE EXTREME CAUTION WHEN NEAR THIS UNDERGROUND GAS MAIN.
D02	EXISTING BURIED FIBER OPTIC LINE, DEPTH UNKNOWN. CONTRACTOR TO USE EXTREME CAUTION WHEN NEAR THIS UNDERGROUND UTILITY.
D03	EXISTING SANITARY FORCEMAIN TO BE ABANDONED IN PLACE. REMOVE ALL APPURTENANCES THAT ARE CONFLICTING WITH NEW PIPE. PIPE TO BE FILLED WITH GROUT.





Baseline Along ROW
STA:13+50.00 TO STA:18+25.00

GRAPHIC SCALE

0 20' 30' 40'
1"=20'

SURVEY NOTES

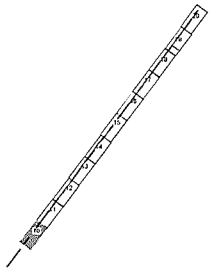
1 VVH1 FOUND 10" GREEN PVC DEPTH = 4.01'
2A VVP H2A FOUND 1" DIRECT BURY CABLE DEPTH = 4.03'
2B VVH2B FOUND 2" DIRECT BURY CABLE DEPTH = 3.94'
2C VVH2C FOUND 0.5" DIRECT BURY CABLE DEPTH = 4.00'
3 VVH3 FOUND 10" FELT WRAPPED FRENCH DRAIN DEPTH = 2.90'
4 NO UTILITY FOUND CLEARED TO 8
6A VVH6A FOUND 1" DIRECT BURY CABLE DEPTH = 3.84'
6B VVH6B FOUND 2" DIRECT BURY CABLE DEPTH = 3.75'
6C VVH26C FOUND 0.5" DIRECT BURY CABLE DEPTH = 3.90'
7 VVH7 FOUND 10" FELT WRAPPED FRENCH DRAIN DEPTH = 3.00'
8 NO UTILITY FOUND CLEARED TO 10'
9 VVH16 FOUND 16" BLUE PVC TO BLACK HDPE COUPLING DEPTH = 6.85'
10 VVH1C NO UTILITIES FOUND (EXPLORED TO 15.00')
11 VVH1A FOUND 12" BLACK HDPE FM DEPTH 4.10'
12 VVH8 FOUND EAST EDGE BOX CULVERT DEPTH = 5.40'
13 VVH7 FOUND SOUTH EDGE BOX CULVERT DEPTH = 5.25'

UTILITY DETAILS

D16 AIR VALVE ASSEMBLY WITH MANHOLE

UTILITY NOTES

U1 POINT OF CONNECTION - REMOVE EXISTING 16" PLUG AND CONNECT PROPOSED 20" HDPE FORCEMAIN USING A 16" PVC TO 20" HDPE COUPLING.
U2 16" PVC TO 20" HDPE TRANSITION COUPLING.
U3 CONNECT EXISTING SANITARY SERVICE TO PROPOSED 16" SANITARY FORCEMAIN.
U4 16" 45° M.J. BEND
U5 POINT OF CONNECTION - REMOVE EXISTING 16" PLUG AND CONNECT PROPOSED 16" PVC FORCEMAIN USING A 16" 45° BEND.
U6 PROPOSED 2" SANITARY SERVICE TO BE DIRECTIONALLY DRILLED TO SOUTHEAST RIGHT OF WAY LIMITS AND CONNECTED TO THE PROPOSED 20" HDPE FORCEMAIN RUNNING ALONG THE NORTHWEST SIDE OF THE RIGHT OF WAY.



KEY MAP
1"=1000'

REVISIONS
DESCRIPTION | BY | DATE

D.M.M.
F.C.H.
S.M.K.
05-16-22
18122.33

MATTHEWS DESIGN GROUP
P.O. BOX 3126, 7 WALDO STREET
ST. AUGUSTINE, FL 32084
PHONE: 904.826.1334 • FAX: 904.826.4547
INFO@MDGINC.COM

REGISTERED ENGINEER
FELIX "FELIX" GOLES P.E.
No. 70324
STATE OF FLORIDA

UTILITY PLAN - PROFILE

SR 207 FORCEMAIN DESIGN

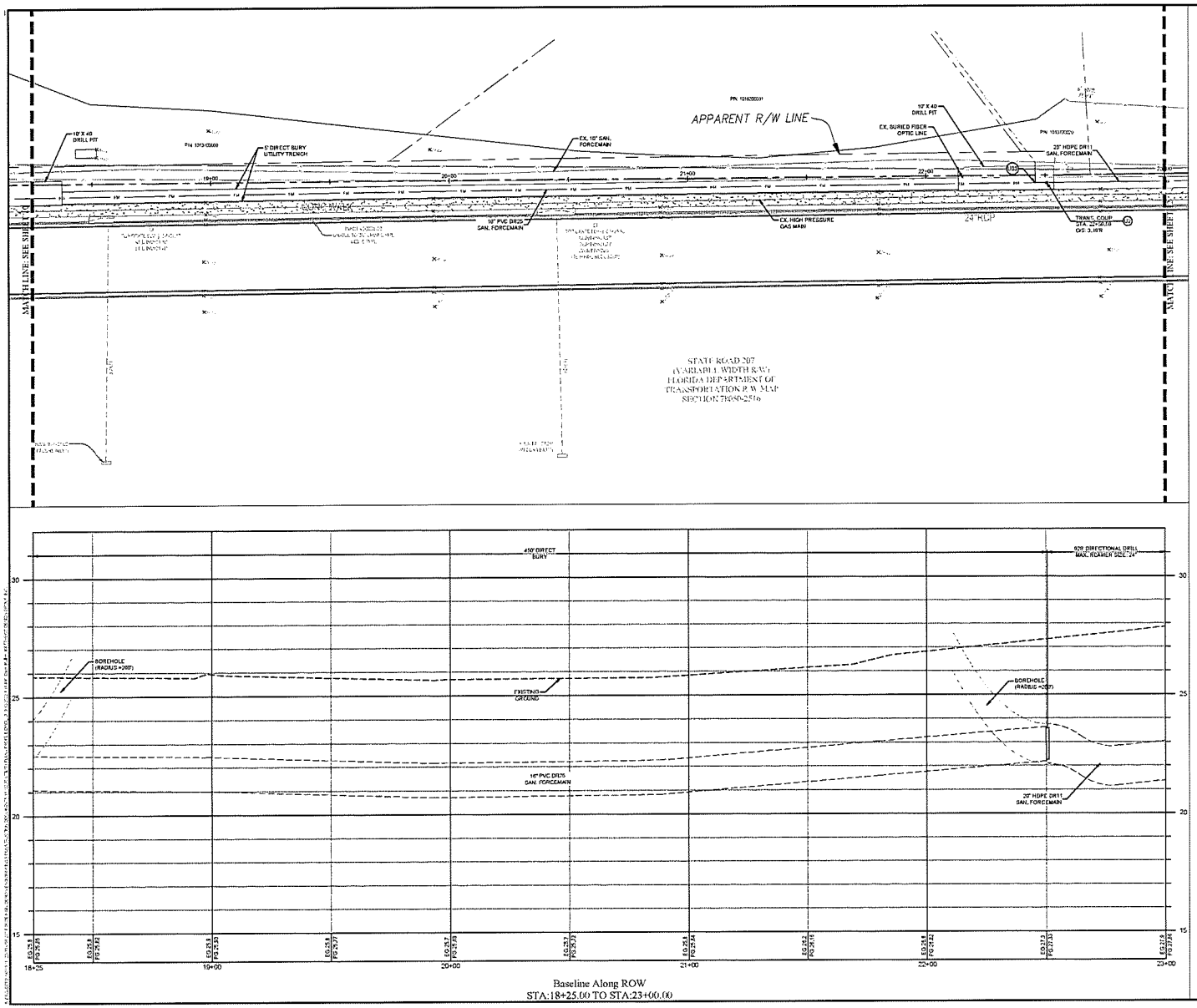
ST. JOHNS COUNTY

PREPARED FOR

ST. JOHNS COUNTY BOARD OF COUNTY COMMISSIONERS

10

OF 25



Baseline Along ROW
STA:18+25.00 TO STA:23+00.00

GRAPHIC SCALE
0 20 30 40
1" = 20'

SURVEY NOTES

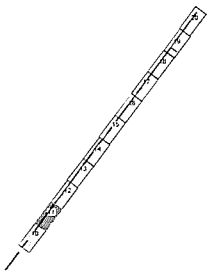
1	VH1 FOUND 10" GREEN PVC DEPTH = 4.01'
2A	VH2 HDA FOUND 1" DIRECT BURY CABLE DEPTH = 4.03'
2B	VH2B FOUND 2" DIRECT BURY CABLE DEPTH = 3.98'
2C	VH2C FOUND 0.5" DIRECT BURY CABLE DEPTH = 4.00'
3	VH3 FOUND 10" FELT WRAPPED FRENCH DRAIN DEPTH = 2.90'
4	NO UTILITY FOUND CLEARED TO 9'
5A	VH5A FOUND 1" DIRECT BURY CABLE DEPTH = 3.84'
5B	VH5B FOUND 2" DIRECT BURY CABLE DEPTH = 3.75'
5C	VH5C FOUND 0.5" DIRECT BURY CABLE DEPTH = 3.80'
7	VH7 FOUND 10" FELT WRAPPED FRENCH DRAIN DEPTH = 3.00'
8	NO UTILITY FOUND CLEARED TO 15'
9	VH9 FOUND 16" BLUE PVC TO BLACK HDPE COUPLING DEPTH = 6.85'
10	VH10 NO UTILITIES FOUND (EXPLORED TO 15.00')
11	VH11A FOUND 12" BLACK HDPE FM DEPTH 4.10'
12	VH6 FOUND EAST EDGE BOX CULVERT DEPTH = 5.40'
13	VH7 FOUND SOUTH EDGE BOX CULVERT DEPTH = 5.20'

UTILITY DETAILS

S10	AIR VALVE ASSEMBLY WITH MANHOLE

UTILITY NOTES

U1	POINT OF CONNECTION - REMOVE EXISTING 16" PLUG AND CONNECT PROPOSED 20" HDPE FORCEMAIN USING A 16" PVC TO 20" HDPE COUPLING.
U2	16" PVC TO 20" HDPE TRANSITION COUPLING.
U3	CONNECT EXISTING SANITARY SERVICE TO PROPOSED 16" SANITARY FORCEMAIN.
U4	16" 45° M.J. BEND
U5	POINT OF CONNECTION - REMOVE EXISTING 16" PLUG AND CONNECT PROPOSED 16" PVC FORCEMAIN USING A 16" 45° BEND.
U6	PROPOSED 2" SANITARY SERVICE TO BE DIRECTIONALLY DRILLED TO SOUTHEAST RIGHT OF WAY LIMITS AND CONNECTED TO THE PROPOSED 20" HDPE FORCEMAIN RUNNING ALONG THE NORTHWEST SIDE OF THE RIGHT OF WAY.



KEY MAP
1"=1000'

REGISTERED ENGINEER
FELIX R. TODD JONES, P.E.
FLORIDA LICENSE NO. 70010

REVISIONS

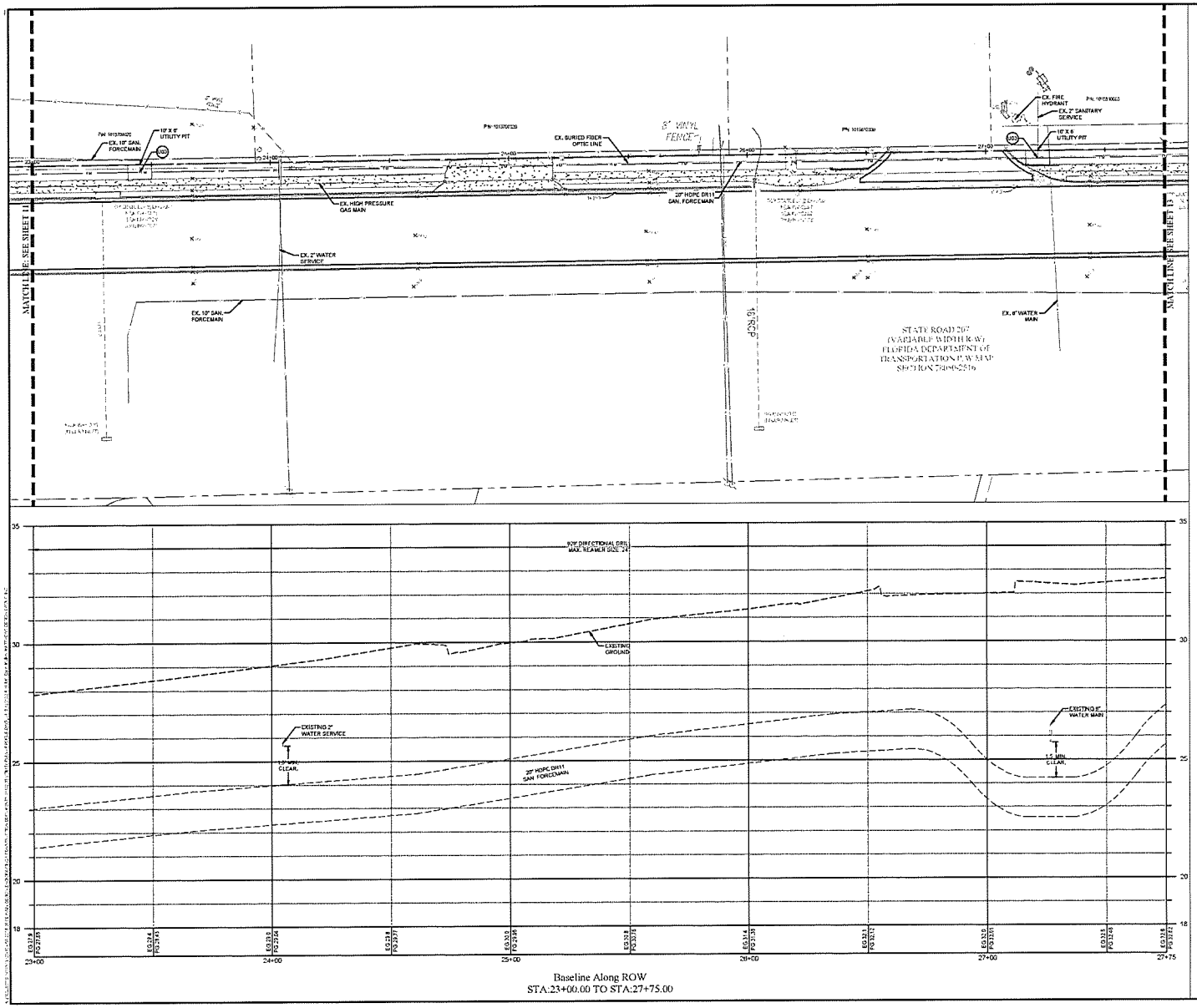
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DSN: F. TODD JONES, P.E.
DWN: PDH
CHK'D: SAK
DATE: 05-18-22
JOB NO: 18122.30

MATTHEWS DESIGN GROUP
P.O. BOX 3126, 7 WALDO STREET
ST. AUGUSTINE, FL 32084
PHONE 904.826.1317 FAX 904.824.4547
INFO@JAXENGCO.COM

UTILITY PLAN - PROFILE
SR 207 FORCEMAIN DESIGN
ST. JOHNS COUNTY
PREPARED FOR
ST. JOHNS COUNTY BOARD OF COUNTY COMMISSIONERS

SHEET NO.
11
OF 25



Baseline Along ROW
STA:23+00.00 TO STA:27+75.00

GRAPHIC SCALE
0 20 30 40
1" = 20'

SURVEY NOTES

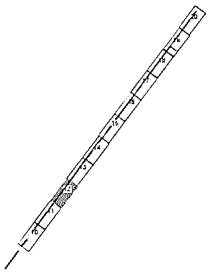
1 VM1 FOUND 10" GREEN PVC DEPTH = 4.01'
2A VM2A FOUND 1" DIRECT BURY CABLE DEPTH = 4.02'
2B VM2B FOUND 2" DIRECT BURY CABLE DEPTH = 3.99'
2C VM2C FOUND 0.5" DIRECT BURY CABLE DEPTH = 4.00'
3 VM3 FOUND 18" FELT WRAPPED FRENCH DRAIN DEPTH = 2.90'
4 NO UTILITY FOUND CLEARED TO 9'
6A VM6A FOUND 1" DIRECT BURY CABLE DEPTH = 3.84'
6B VM6B FOUND 2" DIRECT BURY CABLE DEPTH = 3.75'
6C VM2BC FOUND 0.5" DIRECT BURY CABLE DEPTH = 3.98'
7 VM7 FOUND 18" FELT WRAPPED FRENCH DRAIN DEPTH = 3.00'
8 NO UTILITY FOUND CLEARED TO 10'
9 VM1B FOUND 10" BLUE PVC TO BLACK HDPE COUPLING DEPTH = 6.95'
10 VM1C NO UTILITIES FOUND (EXPLORED TO 10.00')
11 VM1A FOUND 12" BLACK HDPE FM DEPTH 4.10'
12 VM8 FOUND EAST EDGE BOX CULVERT DEPTH = 5.40'
13 VM7 FOUND SOUTH EDGE BOX CULVERT DEPTH = 5.25'

UTILITY DETAILS

S10 AIR VALVE ASSEMBLY WITH MANHOLE

UTILITY NOTES

U1 POINT OF CONNECTION - REMOVE EXISTING 18" PLUG AND CONNECT PROPOSED 20" HDPE FORCEMAIN USING A 18" PVC TO 20" HDPE COUPLING.
U2 18" PVC TO 20" HDPE TRANSITION COUPLING.
U3 CONNECT EXISTING SANITARY SERVICE TO PROPOSED 18" SANITARY FORCEMAIN.
U4 18" 45° MJ. BEND
U5 POINT OF CONNECTION - REMOVE EXISTING 18" PLUG AND CONNECT PROPOSED 18" PVC FORCEMAIN USING A 18" 45° BEND.
U6 PROPOSED 2" SANITARY SERVICE TO BE DIRECTIONALLY DRILLED TO SOUTHEAST RIGHT OF WAY LIMITS AND CONNECTED TO THE PROPOSED 20" HDPE FORCEMAIN RUNNING ALONG THE NORTHWEST SIDE OF THE RIGHT OF WAY.



KEY MAP
1"= 1000'

REVISIONS

NO.	DATE	DESCRIPTION
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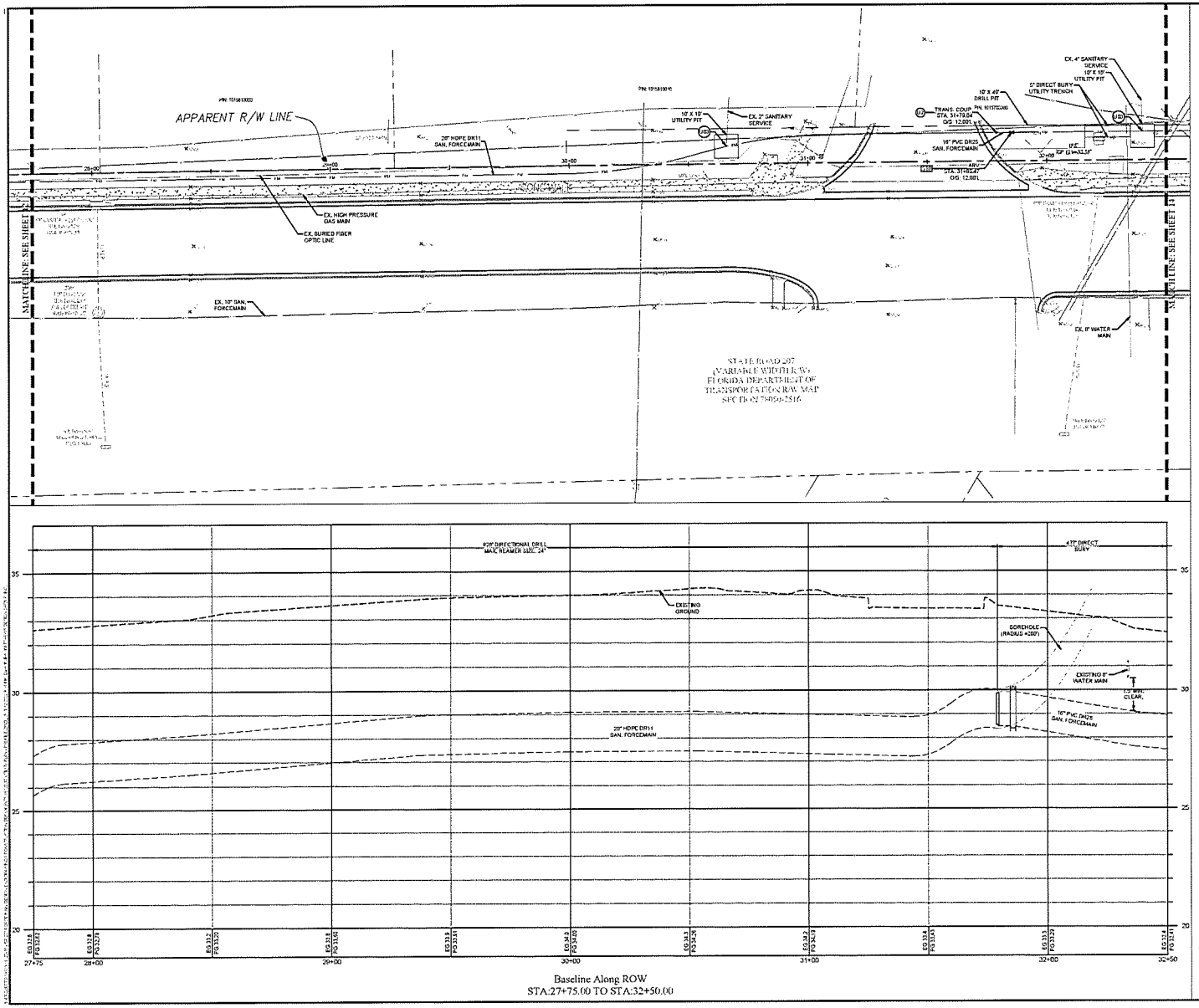
REGISTERED ENGINEER
PAUL N. WOOD JONES, P.E.
FLORIDA LICENSE NO. 73508

DESIGNED	DJM
DRAWN	FCH
CHECKED	SAK
DATE	05-18-22
JOB NO.	18122.53

MATTHEWS DESIGN GROUP
P.O. BOX 3126, 7 WALDO STREET
ST. AUGUSTINE, FL 32084
PHONE: (904) 826-0045 FAX: (904) 826-4347
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UTILITY PLAN - PROFILE
SR 207 FORCEMAIN DESIGN
ST. JOHNS COUNTY
PROJECT NO. 18122.53
ST. JOHNS COUNTY BOARD OF COUNTY COMMISSIONERS

12
OF 25



Baseline Along ROW
STA:27+75.00 TO STA:32+50.00

GRAPHIC SCALE
0 20 30 40
1" = 20'

SURVEY NOTES

1 VVH1 FOUND 18" GREEN PVC DEPTH = 4.91
2A VVP H2A FOUND 1" DIRECT BURY CABLE DEPTH = 4.83'
2B VVH2B FOUND 2" DIRECT BURY CABLE DEPTH = 3.86'
2C VVH2C FOUND 8.5" DIRECT BURY CABLE DEPTH = 4.06'
3 VVH3 FOUND 10" FELT WRAPPED FRENCH DRAIN DEPTH = 2.80'
4 NO UTILITY FOUND CLEARED TO 8'
5A VVH5A FOUND 1" DIRECT BURY CABLE DEPTH = 3.04'
5B VVH5B FOUND 2" DIRECT BURY CABLE DEPTH = 3.75'
5C VVH25C FOUND 8.5" DIRECT BURY CABLE DEPTH = 3.98'
7 VVH7 FOUND 10" FELT WRAPPED FRENCH DRAIN DEPTH = 3.00'
9 NO UTILITY FOUND CLEARED TO 10'
9 VVH9B FOUND 18" BLUE PVC TO BLACK HDPE COUPLING DEPTH = 6.85'
10 VVH1C NO UTILITIES FOUND (EXPLORED TO 15.00')
11 VVH1A FOUND 12" BLACK HDPE FM DEPTH 4.10'
12 VVH9 FOUND EAST EDGE BOX CULVERT DEPTH = 5.40'
13 VVH7 FOUND SOUTH EDGE BOX CULVERT DEPTH = 5.25'

UTILITY DETAILS

S18 AIR VALVE ASSEMBLY WITH MANHOLE

UTILITY NOTES

U1 POINT OF CONNECTION - REMOVE EXISTING 16" PLUG AND CONNECT PROPOSED 20" HDPE FORCEMAIN USING A 16" PVC TO 20" HDPE COUPLING.
U2 16" PVC TO 20" HDPE TRANSITION COUPLING.
U3 CONNECT EXISTING SANITARY SERVICE TO PROPOSED 16" SANITARY FORCEMAIN.
U4 16" 45° M.J. BEND
U5 POINT OF CONNECTION - REMOVE EXISTING 16" PLUG AND CONNECT PROPOSED 16" PVC FORCEMAIN USING A 16" 45° BEND.
U6 PROPOSED 3" SANITARY SERVICE TO BE DIRECTIONALLY DRILLED TO SOUTHEAST RIGHT OF WAY LIMITS AND CONNECTED TO THE PROPOSED 20" HDPE FORCEMAIN RUNNING ALONG THE NORTHWEST SIDE OF THE RIGHT OF WAY.

KEY MAP
1" = 1000'

REGISTERED ENGINEER
TODD K. TUTEN JONES P.E.
FLORIDA LICENSE NO. 73918

NO.	DATE	REVISIONS DESCRIPTION
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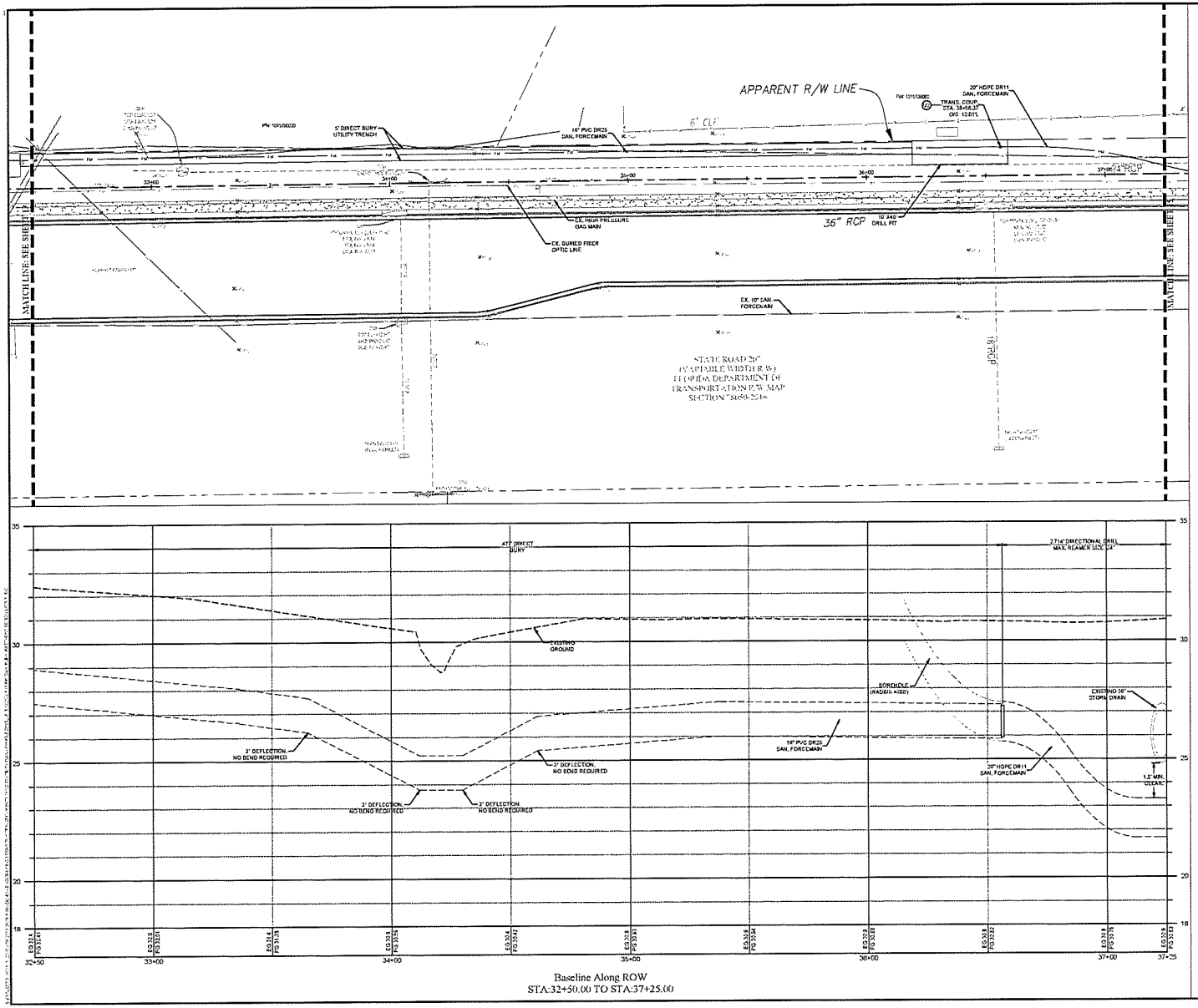
DSN. DJH
DTL. FDH
CHK. SAK
DATE 05-16-22
JOB # 18122.50

MATTHEWS DESIGN GROUP
P.O. BOX 3126, 7 WALDO STREET
ST. AUGUSTINE, FL 32085
PHONE: (904) 826-1334 FAX: (904) 826-4547
INFO@MDGINC.COM

UTILITY PLAN - PROFILE

SR 207 FORCEMAIN DESIGN

ST. JOHNS COUNTY
PREPARED FOR
ST. JOHNS COUNTY BOARD OF COUNTY COMMISSIONERS



Baseline Along ROW
STA:32+50.00 TO STA:37+25.00

GRAPHIC SCALE
0 10' 20' 40'
1" = 20'

SURVEY NOTES

1 WM1: FOUND 16" GREEN PVC DEPTH = 4.01
2A WMH2A: FOUND 1" DIRECT BURY CABLE DEPTH = 4.25'
2B WMH2B: FOUND 2" DIRECT BURY CABLE DEPTH = 3.58'
2C WMH2C: FOUND 0.5" DIRECT BURY CABLE DEPTH = 4.00'
3 WMH3 FOUND 16" FELT WRAPPED FRENCH DRAIN DEPTH = 2.90'
4 NO UTILITY FOUND CLEARED TO 9
6A WMH6A: FOUND 1" DIRECT BURY CABLE DEPTH = 3.64'
6B WMH6B: FOUND 2" DIRECT BURY CABLE DEPTH = 3.75'
6C WMH6C FOUND 0.5" DIRECT BURY CABLE DEPTH = 3.66'
7 WMH7 FOUND 16" FELT WRAPPED FRENCH DRAIN DEPTH = 3.00'
8 NO UTILITY FOUND CLEARED TO 16'
9 WMH9 FOUND 16" BLUE PVC TO BLACK HDPE COUPLING DEPTH = 6.85'
10 WMH10 NO UTILITIES FOUND (EXPLORED TO 16.00')
11 WMH11A FOUND 12" BLACK HDPE FM DEPTH 4.10'
12 WMH8 FOUND EAST EDGE BOX CULVERT DEPTH = 5.40'
13 WMH7 FOUND SOUTH EDGE BOX CULVERT DEPTH = 5.25'

UTILITY DETAILS

S10 AIR VALVE ASSEMBLY WITH MANHOLE

UTILITY NOTES

U1 POINT OF CONNECTION - REMOVE EXISTING 16" PLUG AND CONNECT PROPOSED 20" HDPE FORCEMAIN USING A 16" PVC TO 20" HDPE COUPLING.
U2 16" PVC TO 20" HDPE TRANSITION COUPLING.
U3 CONNECT EXISTING SANITARY SERVICE TO PROPOSED 16" SANITARY FORCEMAIN.
U4 16" 45° M.J. BEND
U5 POINT OF CONNECTION - REMOVE EXISTING 16" PLUG AND CONNECT PROPOSED 16" PVC FORCEMAIN USING A 16" 45° BEND.
U6 PROPOSED 2" SANITARY SERVICE TO BE DIRECTIONALLY DRILLED TO SOUTHEAST RIGHT OF WAY LIMITS AND CONNECTED TO THE PROPOSED 20" HDPE FORCEMAIN RUNNING ALONG THE NORTHWEST SIDE OF THE RIGHT OF WAY.

KEY MAP
1" = 1000'

REVISIONS

NO	DATE	DESCRIPTION
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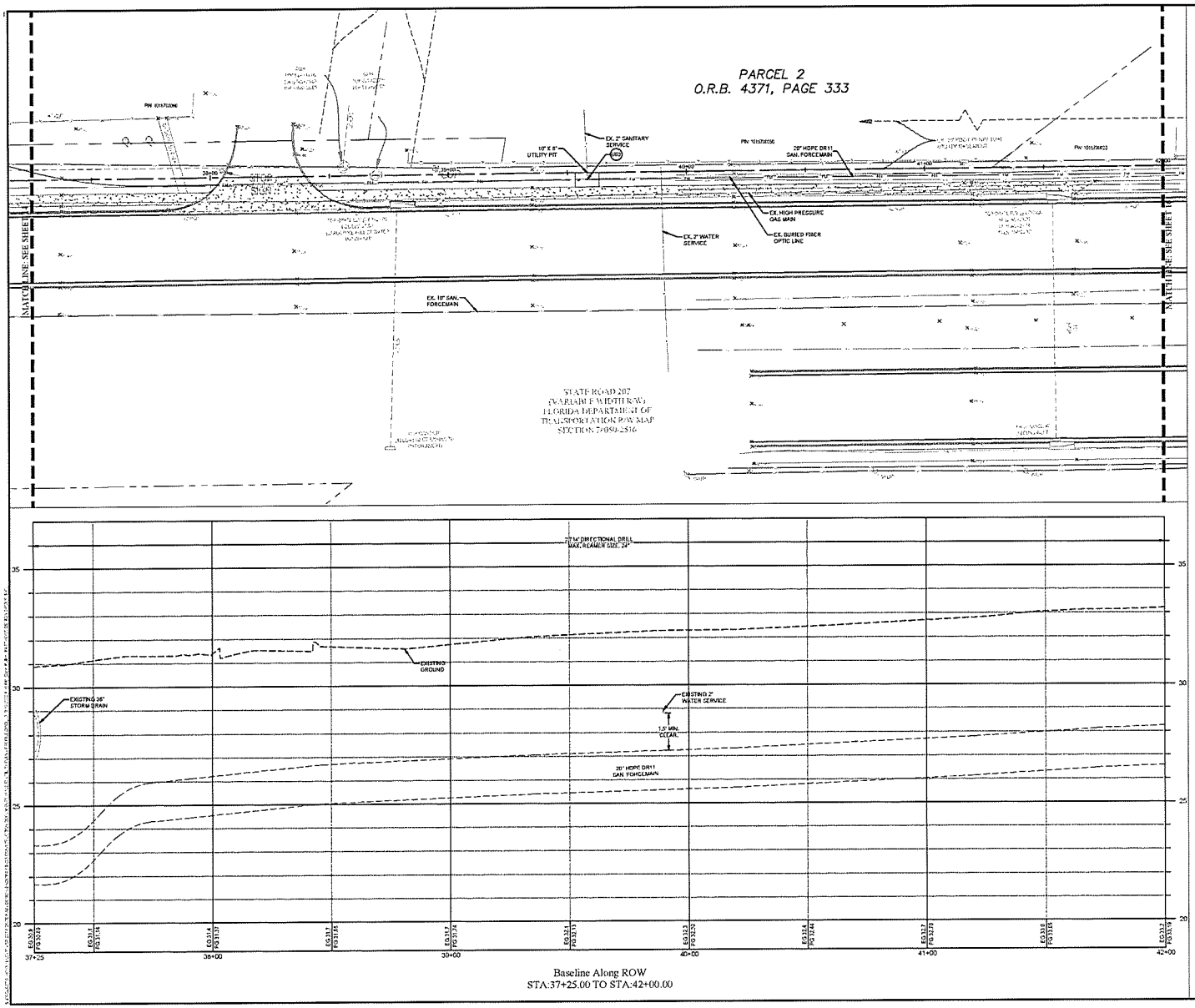
REGISTERED ENGINEER
FRED R. RUSSO JONES P.E.
FLORIDA LICENSE NO. 0000000

D.A.R.	
DESIGNED	FDH
DRAWN	SAK
CHECKED	
DATE	05-16-22
PROJECT NO.	18122.30

MATTHEWS DESIGN GROUP
P.O. BOX 3126, 7 WALDO STREET
ST. AUGUSTINE, FL 32084
PHONE: 904.826.1134 • FAX: 904.826.4547
INFO@MDGICC.COM

UTILITY PLAN - PROFILE
SR 207 FORCEMAIN DESIGN
ST. JOHNS COUNTY
PREPARED FOR
ST. JOHNS COUNTY BOARD OF COUNTY COMMISSIONERS

14
OF 25



Baseline Along ROW
STA:37+25.00 TO STA:42+00.00

GRAPHIC SCALE
0 20' 30' 40'
1" = 20'

SURVEY NOTES

1 WVH1 FOUND 18" GREEN PVC DEPTH = 4.01'
2A WVH2A FOUND 1" DIRECT BURY CABLE DEPTH = 4.03'
2B WVH2B FOUND 2" DIRECT BURY CABLE DEPTH = 3.99'
2C WVH2C FOUND 0.5" DIRECT BURY CABLE DEPTH = 4.00'
3 WVH3 FOUND 18" FELT WRAPPED FRENCH DRAIN DEPTH = 2.90'
4 NO UTILITY FOUND CLEARED TO 8'
6A WVH6A FOUND 1" DIRECT BURY CABLE DEPTH = 3.94'
6B WVH6B FOUND 2" DIRECT BURY CABLE DEPTH = 3.75'
6C WVH6C FOUND 0.5" DIRECT BURY CABLE DEPTH = 3.90'
7 WVH7 FOUND 18" FELT WRAPPED FRENCH DRAIN DEPTH = 3.05'
8 NO UTILITY FOUND CLEARED TO 10'
9 WVH9 FOUND 18" BLUE PVC TO BLACK HDPE COUPLING DEPTH = 6.85'
10 WVH10 NO UTILITIES FOUND (EXPLORED TO 15.00')
11 WVH11 FOUND 12" BLACK HDPE FM DEPTH 4.10'
12 WVH12 FOUND EAST EDGE BOX CULVERT DEPTH = 5.40'
13 WVH13 FOUND SOUTH EDGE BOX CULVERT DEPTH = 5.25'

UTILITY DETAILS

S10 AIR VALVE ASSEMBLY WITH MANHOLE

UTILITY NOTES

U1 POINT OF CONNECTION - REMOVE EXISTING 18" PLUG AND CONNECT PROPOSED 20" HDPE FORCEMAIN USING A 18" PVC TO 20" HDPE COUPLING.
U2 18" PVC TO 20" HDPE TRANSITION COUPLING.
U3 CONNECT EXISTING SANITARY SERVICE TO PROPOSED 18" SANITARY FORCEMAIN.
U4 18"-45° MJ. BEND
U5 POINT OF CONNECTION - REMOVE EXISTING 18" PLUG AND CONNECT PROPOSED 18" PVC FORCEMAIN USING A 18" 45° BEND.
U8 PROPOSED 2" SANITARY SERVICE TO BE DIRECTIONALLY DRILLED TO SOUTHEAST RIGHT OF WAY LIMITS AND CONNECTED TO THE PROPOSED 20" HDPE FORCEMAIN RUNNING ALONG THE NORTHWEST SIDE OF THE RIGHT OF WAY.

KEY MAP
1"= 1000'

REGISTERED ENGINEER
TODD R. TUCCI JONES P.E.
FLORIDA LICENSE NO. 76825

REVISIONS

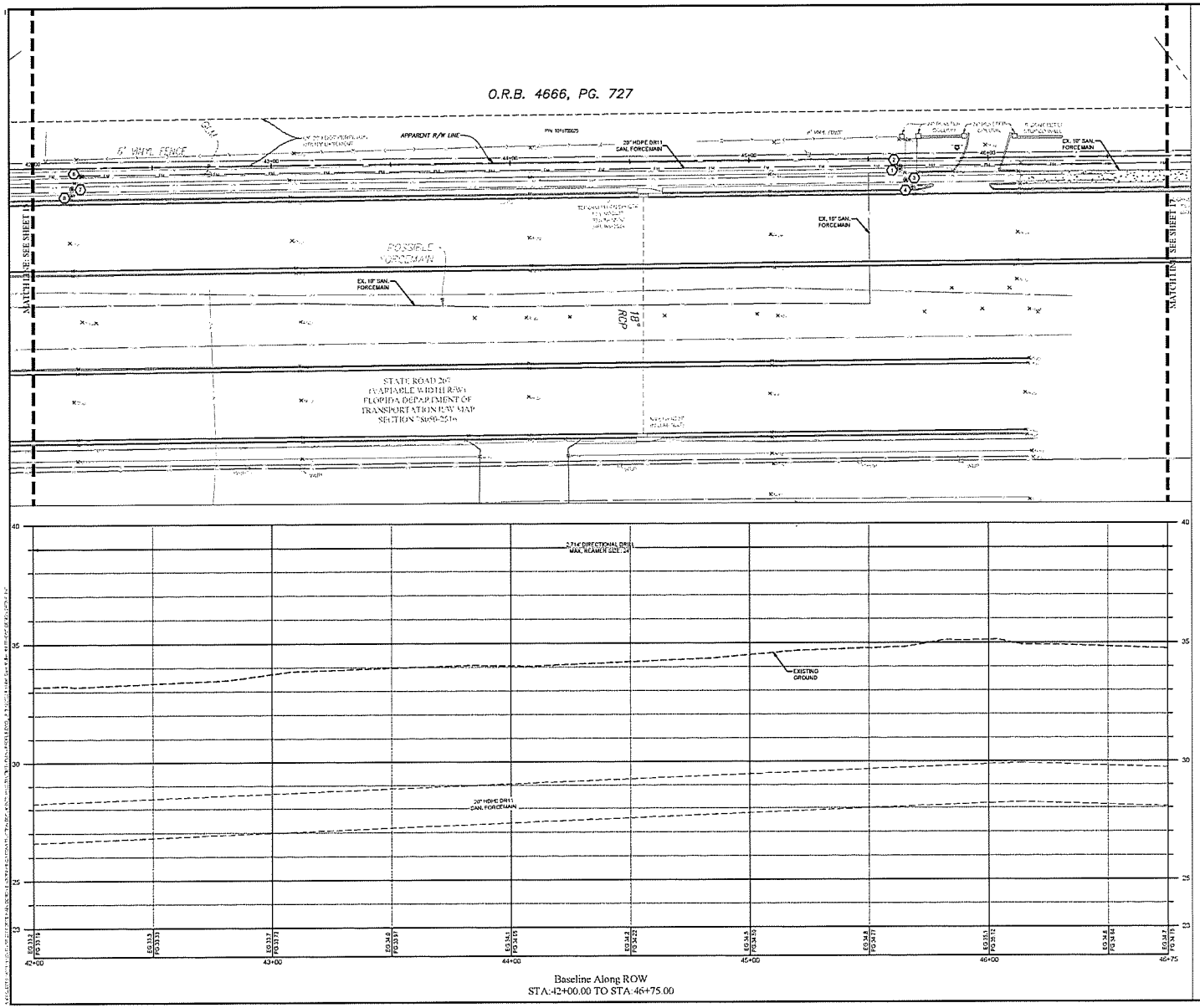
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DSN: D.M.
DWN: FDH
CHK: SAK
DATE: 05-16-22
JOB #: 18122.50

MATTHEWS DESIGN GROUP
P.O. BOX 3126, 7 WALDO STREET
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UTILITY PLAN - PROFILE
SR 207 FORCEMAIN DESIGN
ST. JOHNS COUNTY
PREPARED FOR
ST. JOHNS COUNTY BOARD OF COUNTY COMMISSIONERS

15
OF 25



Baseline Along ROW
STA:42+00.00 TO STA:46+75.00

GRAPHIC SCALE
0 20' 30' 40'
1" = 20'

SURVEY NOTES

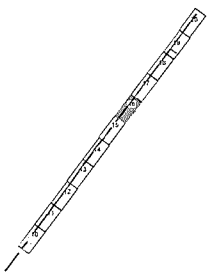
1 VVH1 FOUND 16" GREEN PVC DEPTH = 4.61
2A VVP H2A FOUND 1" DIRECT BURY CABLE DEPTH = 4.03'
2B VVH2B FOUND 2" DIRECT BURY CABLE DEPTH = 3.68'
2C VVH2C FOUND 0.5" DIRECT BURY CABLE DEPTH = 4.00'
3 VVH3 FOUND 16" FELT WRAPPED FRENCH DRAIN DEPTH = 2.40'
4 NO UTILITY FOUND CLEARED TO 6'
6A VVH6A FOUND 1" DIRECT BURY CABLE DEPTH = 3.64'
6B VVH6B FOUND 2" DIRECT BURY CABLE DEPTH = 3.75'
6C VVH26C FOUND 0.5" DIRECT BURY CABLE DEPTH = 3.95'
7 VVH7 FOUND 16" FELT WRAPPED FRENCH DRAIN DEPTH = 3.00'
8 NO UTILITY FOUND CLEARED TO 10'
9 VVH18 FOUND 18" BLUE PVC TO BLACK HDPE COUPLING DEPTH = 6.85'
10 VVH10 NO UTILITIES FOUND (EXPLORED TO 15.00')
11 VVH14 FOUND 12" BLACK HDPE FM DEPTH = 4.10'
12 VVH8 FOUND EAST EDGE BOX CULVERT DEPTH = 5.40'
13 VVH7 FOUND SOUTH EDGE BOX CULVERT DEPTH = 5.25'

UTILITY DETAILS

S10 AIR VALVE ASSEMBLY WITH MANHOLE

UTILITY NOTES

U1 POINT OF CONNECTION - REMOVE EXISTING 16" PLUG AND CONNECT PROPOSED 20" HDPE FORCEMAIN USING A 16" PVC TO 20" HDPE COUPLING.
U2 16" PVC TO 20" HDPE TRANSITION COUPLING.
U3 CONNECT EXISTING SANITARY SERVICE TO PROPOSED 16" SANITARY FORCEMAIN.
U4 16" 45° M.J. BEND
U5 POINT OF CONNECTION - REMOVE EXISTING 16" PLUG AND CONNECT PROPOSED 16" PVC FORCEMAIN USING A 16" 45° BEND.
U6 PROPOSED 2" SANITARY SERVICE TO BE DIRECTIONALLY DRILLED TO SOUTHEAST RIGHT OF WAY LIMITS AND CONNECTED TO THE PROPOSED 20" HDPE FORCEMAIN RUNNING ALONG THE NORTHWEST SIDE OF THE RIGHT OF WAY.



KEY MAP
1" = 1000'

REVISIONS

NO.	DATE	DESCRIPTION
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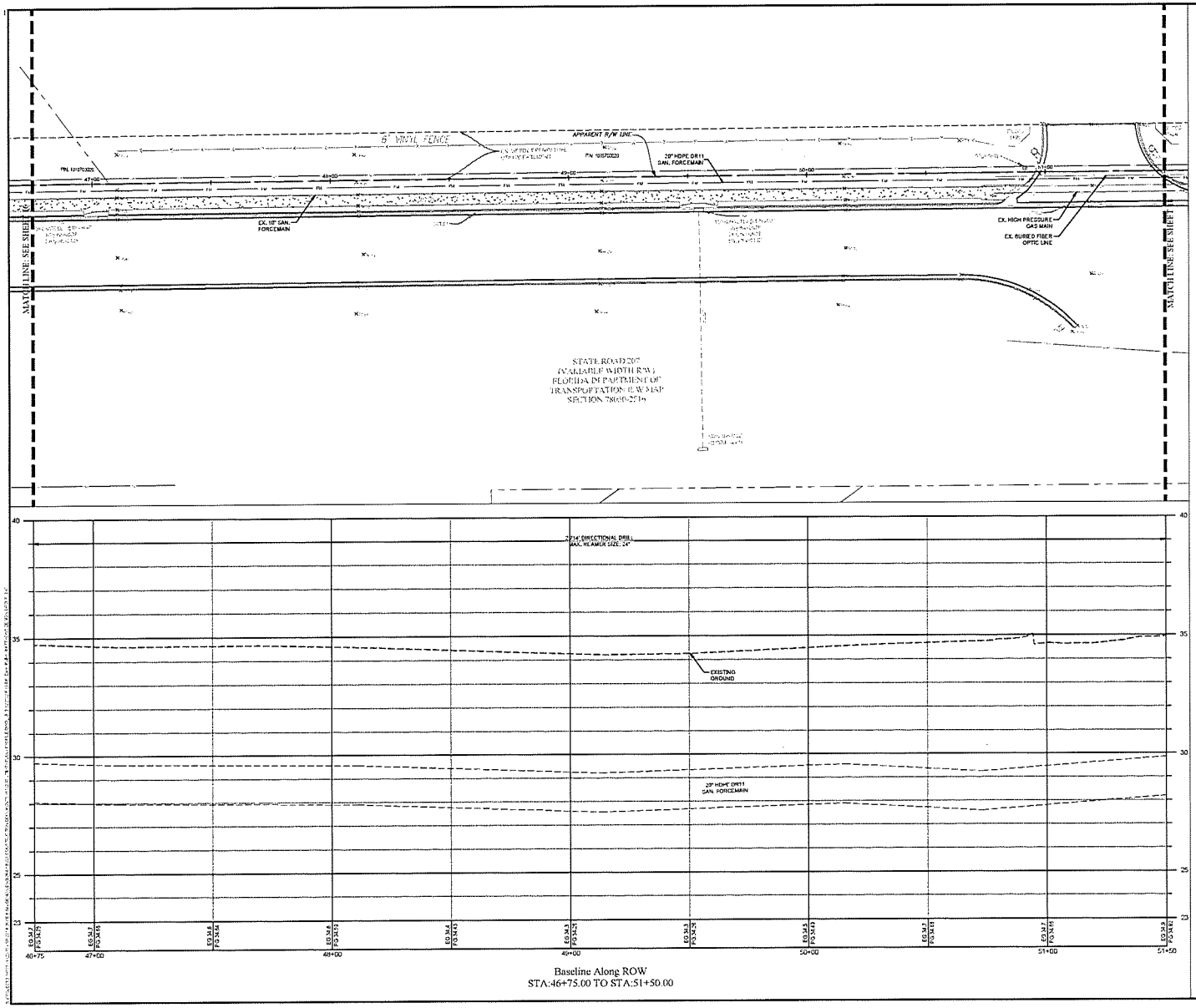
FLORIDA REGISTERED ENGINEER
FRED R. TODD JONES, P.E.
LICENSE NO. 66464

DRAWN: DJH
DESIGNED: FDH
CHECKED: SAK
DATE: 05-16-22
JOB NO.: 18122.30

MATTHEWS DESIGN GROUP
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UTILITY PLAN - PROFILE
SR 207 FORCEMAIN DESIGN
ST. JOHNS COUNTY
PREPARED FOR
ST. JOHNS COUNTY BOARD OF COUNTY COMMISSIONERS

16
OF 25



Baseline Along ROW
STA:46+75.00 TO STA:51+50.00

GRAPHIC SCALE
0 20' 30' 40'
1" = 20'

SURVEY NOTES

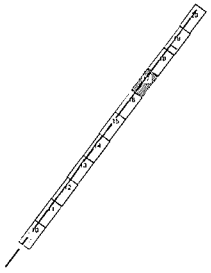
1 VM1 FOUND 10" GREEN PVC DEPTH = 4.01'
2A VM2A FOUND 1" DIRECT BURY CABLE DEPTH = 4.03'
2B VM2B FOUND 2" DIRECT BURY CABLE DEPTH = 3.88'
2C VM2C FOUND 0.5" DIRECT BURY CABLE DEPTH = 4.00'
3 VM3 FOUND 10" FELT WRAPPED FRENCH DRAIN DEPTH = 2.90'
4 NO UTILITY FOUND CLEARED TO 9'
6A VM6A FOUND 1" DIRECT BURY CABLE DEPTH = 3.94'
6B VM6B FOUND 2" DIRECT BURY CABLE DEPTH = 3.75'
6C VM2C FOUND 0.5" DIRECT BURY CABLE DEPTH = 3.99'
7 VM7 FOUND 10" FELT WRAPPED FRENCH DRAIN DEPTH = 3.00'
8 NO UTILITY FOUND CLEARED TO 10'
9 VM1B FOUND 10" BLUE PVC TO BLACK HDPE COUPLING DEPTH = 6.85'
10 VM1C NO UTILITIES FOUND (EXPLORED TO 15.00')
11 VM1A FOUND 12" BLACK HDPE FM DEPTH 4.10'
12 VM6 FOUND EAST EDGE BOX CULVERT DEPTH = 5.40'
13 VM7 FOUND SOUTH EDGE BOX CULVERT DEPTH = 5.25'

UTILITY DETAILS

S10 AIR VALVE ASSEMBLY WITH MANHOLE

UTILITY NOTES

U1 POINT OF CONNECTION - REMOVE EXISTING 16" PLUG AND CONNECT PROPOSED 20" HDPE FORCEMAIN USING A 16" PVC TO 20" HDPE COUPLING.
U2 16" PVC TO 20" HDPE TRANSITION COUPLING.
U3 CONNECT EXISTING SANITARY SERVICE TO PROPOSED 16" SANITARY FORCEMAIN.
U4 16" 45° M.J. BEND
U5 POINT OF CONNECTION - REMOVE EXISTING 16" PLUG AND CONNECT PROPOSED 16" PVC FORCEMAIN USING A 16" 45° BEND.
U6 PROPOSED 2" SANITARY SERVICE TO BE DIRECTIONALLY DRILLED TO SOUTHEAST RIGHT OF WAY LIMITS AND CONNECTED TO THE PROPOSED 20" HDPE FORCEMAIN RUNNING ALONG THE NORTHWEST SIDE OF THE RIGHT OF WAY.



KEY MAP
1"= 1000'

REVISIONS

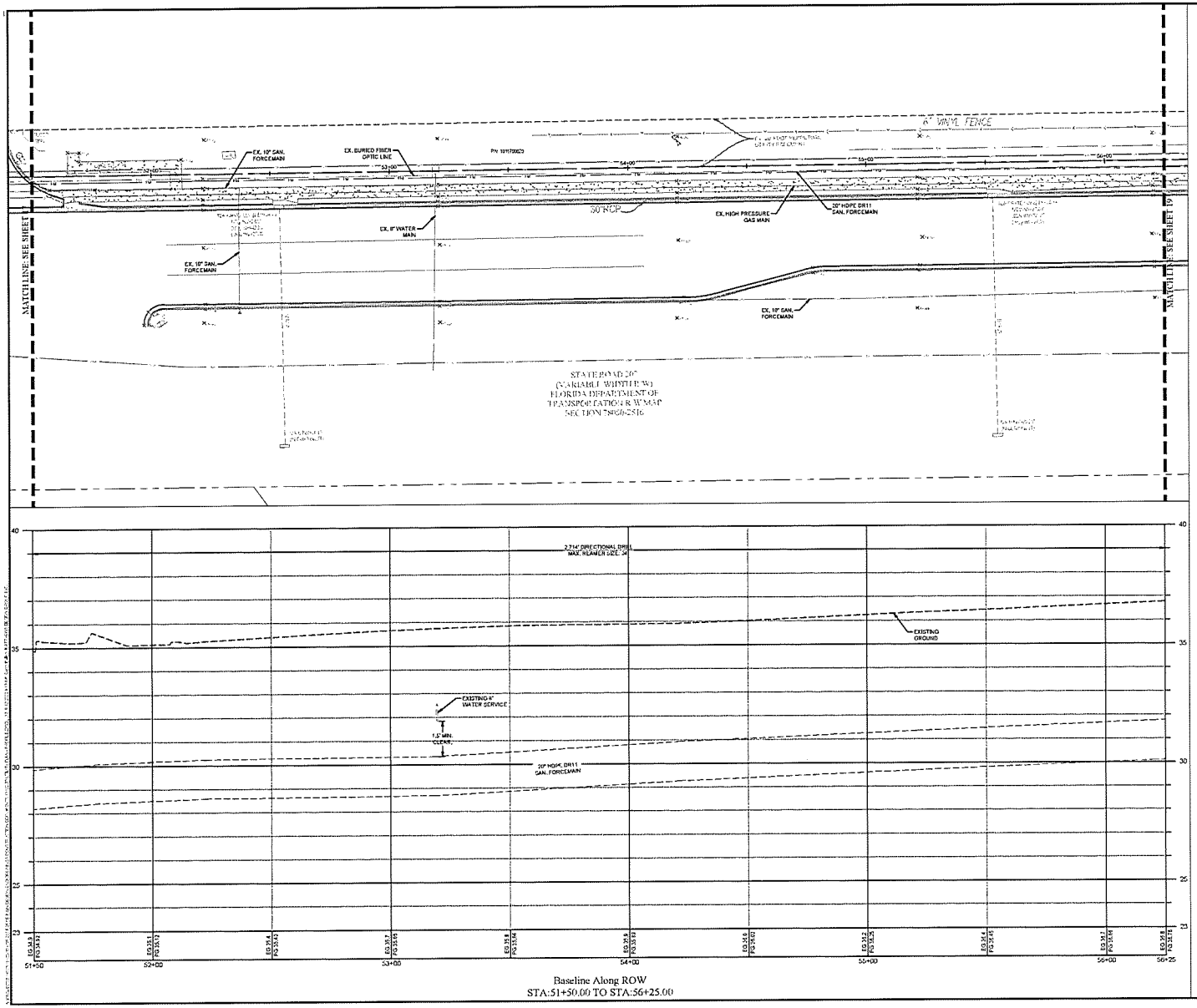
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REGISTERED ENGINEER
FEDR. RUDD JONES, P.E.
DATE: 05-16-22

DSN'D	DJM
DWN	PDH
CHK'D	SJK
DATE	05-16-22
JOB #	18122.30

MATTHEWS DESIGN GROUP
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UTILITY PLAN - PROFILE
SR 207 FORCEMAIN DESIGN
ST. JOHNS COUNTY
PREPARED FOR
ST. JOHNS COUNTY BOARD OF COUNTY COMMISSIONERS



Baseline Along ROW
STA:51+50.00 TO STA:56+25.00

GRAPHIC SCALE
0 20 30 40
1" = 20'

SURVEY NOTES

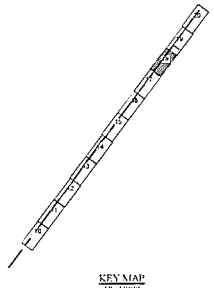
1 WVH1 FOUND 10" GREEN PVC DEPTH = 4.01'
2A WVH2A FOUND 1" DIRECT BURY CABLE DEPTH = 4.03'
2B WVH2B FOUND 2" DIRECT BURY CABLE DEPTH = 3.86'
2C WVH2C FOUND 0.5" DIRECT BURY CABLE DEPTH = 4.00'
3 WVH3 FOUND 10" FELT WRAPPED FRENCH DRAIN DEPTH = 2.90'
4 NO UTILITY FOUND CLEARED TO 6'
6A WVH6A FOUND 1" DIRECT BURY CABLE DEPTH = 3.84'
6B WVH6B FOUND 2" DIRECT BURY CABLE DEPTH = 3.72'
6C WVH6C FOUND 0.5" DIRECT BURY CABLE DEPTH = 3.90'
7 WVH7 FOUND 10" FELT WRAPPED FRENCH DRAIN DEPTH = 3.20'
8 NO UTILITY FOUND CLEARED TO 10'
9 WVH9 FOUND 10" BLUE PVC TO BLACK HDPE COUPLING DEPTH = 6.95'
10 WVH10 NO UTILITIES FOUND (EXPLORED TO 15.00')
11 WVH11A FOUND 12" BLACK HDPE FM DEPTH 4.10'
12 WVH12 FOUND EAST EDGE BOX CULVERT DEPTH = 5.43'
13 WVH13 FOUND SOUTH EDGE BOX CULVERT DEPTH = 5.25'

UTILITY DETAILS

S10 AIR VALVE ASSEMBLY WITH MANHOLE

UTILITY NOTES

U1 POINT OF CONNECTION - REMOVE EXISTING 16" PLUG AND CONNECT PROPOSED 20" HDPE FORCEMAIN USING A 16" PVC TO 20" HDPE COUPLING.
U2 16" PVC TO 20" HDPE TRANSITION COUPLING.
U3 CONNECT EXISTING SANITARY SERVICE TO PROPOSED 16" SANITARY FORCEMAIN.
U4 16"45° M.J. BEND
U5 POINT OF CONNECTION - REMOVE EXISTING 16" PLUG AND CONNECT PROPOSED 16" PVC FORCEMAIN USING A 16" 45° BEND.
U6 PROPOSED 2" SANITARY SERVICE TO BE DIRECTIONALLY DRILLED TO SOUTHEAST RIGHT OF WAY LIMITS AND CONNECTED TO THE PROPOSED 20" HDPE FORCEMAIN RUNNING ALONG THE NORTHWEST SIDE OF THE RIGHT OF WAY.



KEY MAP
1"=1000'

REVISIONS

NO.	DATE	DESCRIPTION
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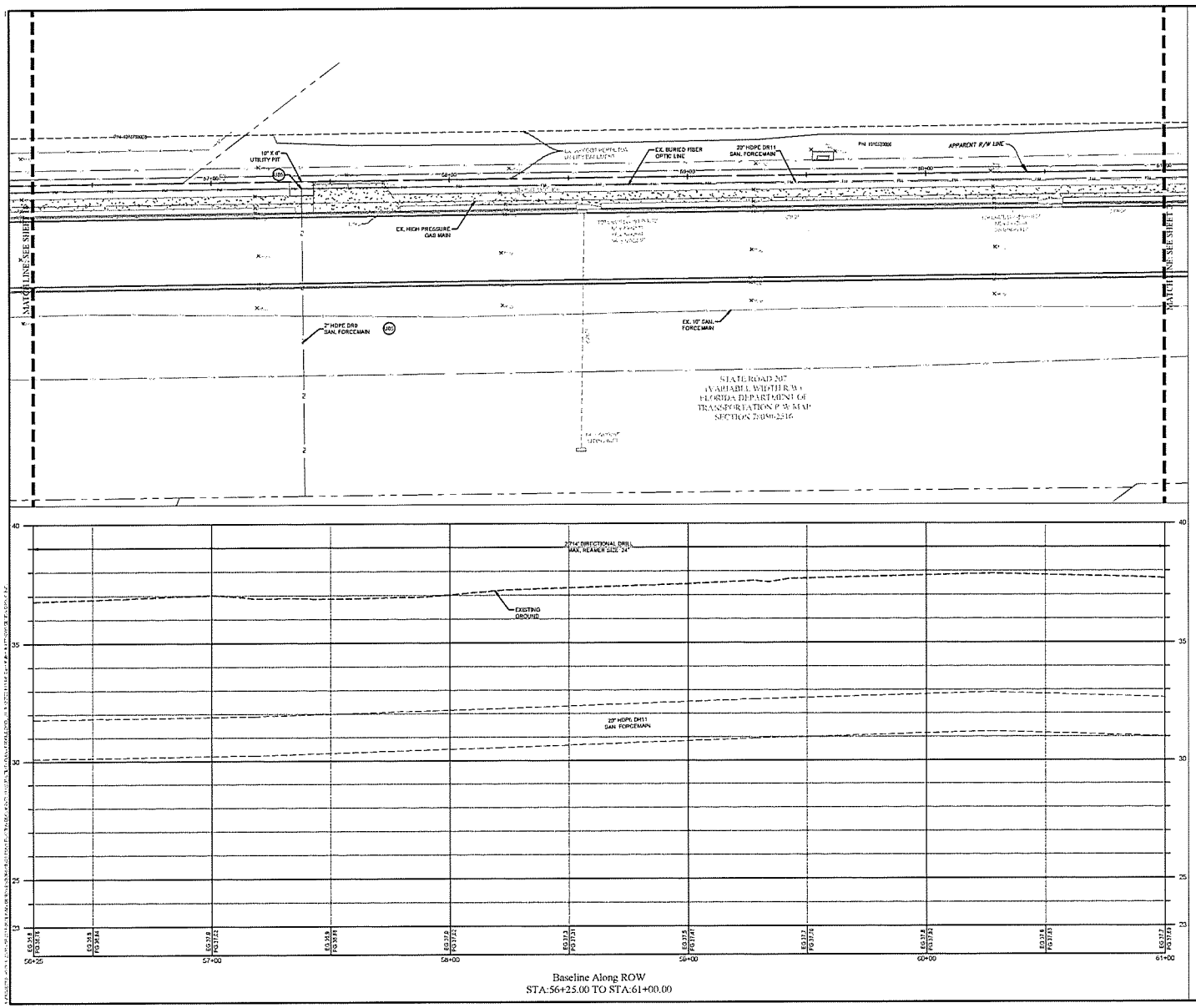
REGISTERED ENGINEER
FREDA R. TODD #56415, P.E.
CERTIFICATE OF AUTHORIZATION #6514

DSN BY: DWN BY: CHK BY: APP BY:
DSN BY: FDH
DWN BY: FDH
CHK BY: SMX
APP BY: SMX
DATE: 05-16-22
JOB #: 1612233

MATTHEWS DESIGN GROUP
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UTILITY PLAN - PROFILE
SR 207 FORCEMAIN DESIGN
ST. JOHNS COUNTY
PREPARED FOR
ST. JOHNS COUNTY BOARD OF COUNTY COMMISSIONERS

18
OF 25



Baseline Along ROW
STA:56+25.00 TO STA:61+00.00

GRAPHIC SCALE

0 20 30 40
1" = 20'

SURVEY NOTES

1 VVH1 FOUND 16" GREEN PVC DEPTH = 4.01
2A VVP1CA FOUND 1" DIRECT BURY CABLE DEPTH = 4.03'
2B VVH2B FOUND 2" DIRECT BURY CABLE DEPTH = 3.98'
2C VVH2C FOUND 0.5" DIRECT BURY CABLE DEPTH = 4.00'
3 VVH3 FOUND 16" FELT WRAPPED FRENCH DRAIN DEPTH = 2.80'
4 NO UTILITY FOUND CLEARED TO 8'
5A VVH5A FOUND 1" DIRECT BURY CABLE DEPTH = 3.04'
5B VVH5B FOUND 2" DIRECT BURY CABLE DEPTH = 3.75'
6C VVH2C FOUND 0.5" DIRECT BURY CABLE DEPTH = 3.80'
7 VVH7 FOUND 16" FELT WRAPPED FRENCH DRAIN DEPTH = 3.00'
8 NO UTILITY FOUND CLEARED TO 16'
9 VVH18 FOUND 10" BLUE PVC TO BLACK HDPE COUPLING DEPTH = 8.85'
10 VVH10 NO UTILITIES FOUND (EXPLORED TO 15.00')
11 VVH1A FOUND 12" BLACK HDPE FM DEPTH 4.10'
12 VVH6 FOUND EAST EDGE BOX CULVERT DEPTH = 5.40'
13 VVH7 FOUND SOUTH EDGE BOX CULVERT DEPTH = 5.25'

UTILITY DETAILS

310 AIR VALVE ASSEMBLY WITH MANHOLE

UTILITY NOTES

U1 POINT OF CONNECTION - REMOVE EXISTING 16" PLUG AND CONNECT PROPOSED 20" HDPE FORCEMAIN USING A 16" PVC TO 20" HDPE COUPLING.
U2 16" PVC TO 20" HDPE TRANSITION COUPLING.
U3 CONNECT EXISTING SANITARY SERVICE TO PROPOSED 16" SANITARY FORCEMAIN.
U4 16"45° MJ. BEND
U5 POINT OF CONNECTION - REMOVE EXISTING 16" PLUG AND CONNECT PROPOSED 16" PVC FORCEMAIN USING A 16" 45° BEND.
U6 PROPOSED 2" SANITARY SERVICE TO BE DIRECTIONALLY DRILLED TO SOUTHEAST RIGHT OF WAY LIMITS AND CONNECTED TO THE PROPOSED 20" HDPE FORCEMAIN RUNNING ALONG THE NORTHWEST SIDE OF THE RIGHT OF WAY.

KEY MAP
1"= 1000'

REVISIONS

NO.	DATE	
1	---	---
2	---	---
3	---	---
4	---	---
5	---	---

REGISTERED ENGINEER
FRED R. FLOOD JR.#43 P.E.
STATE OF FLORIDA

D.M.	
FDH	
SAK	
05-15-22	
18122-30	

MATTHEWS DESIGN GROUP
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ENTER@MDGINC.COM

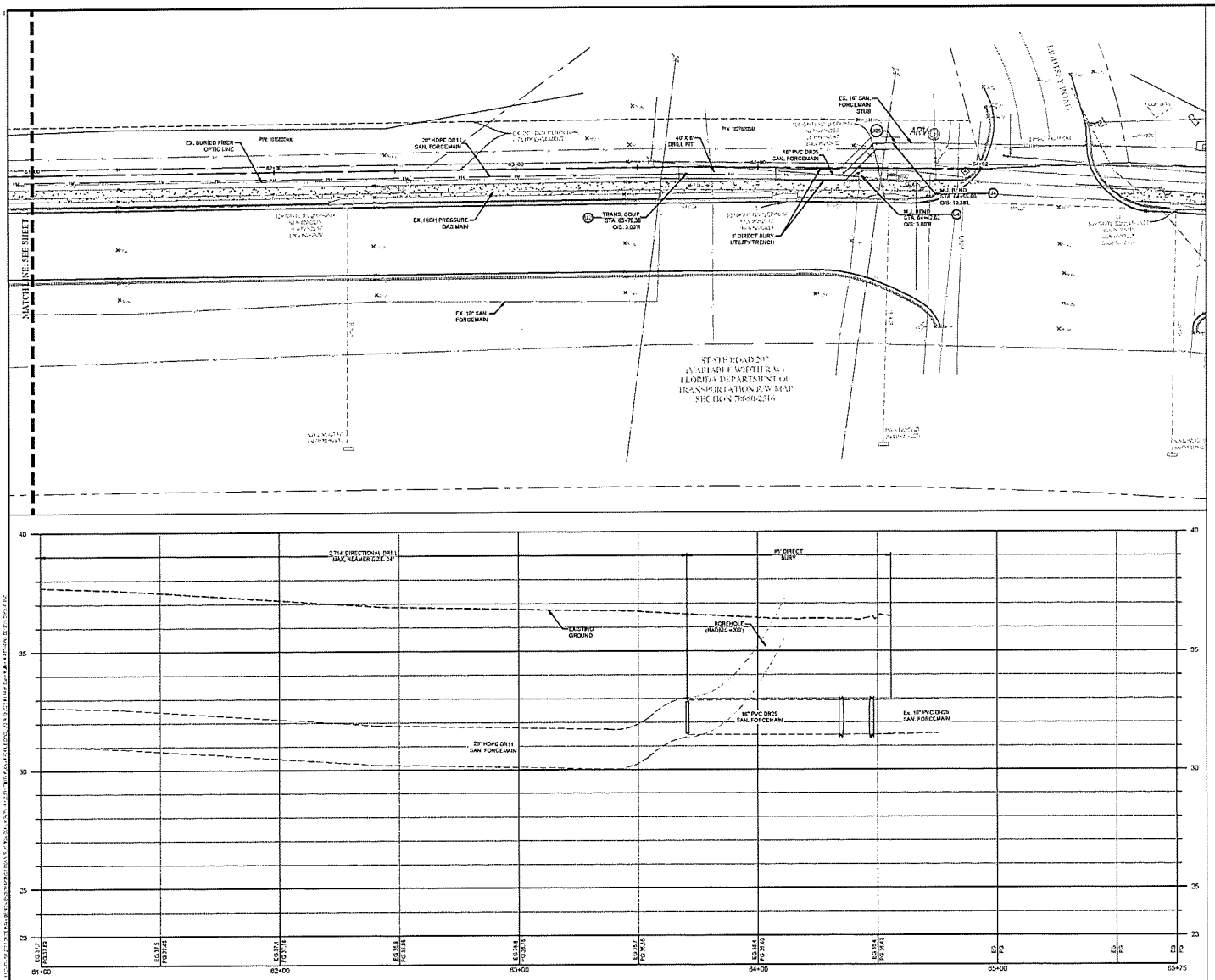
UTILITY PLAN - PROFILE

SR 207 FORCEMAIN DESIGN

ST. JOHNS COUNTY

PREPARED FOR

ST. JOHNS COUNTY BOARD OF COUNTY COMMISSIONERS



Baseline Along ROW
STA:61+00.00 TO STA:65+75.00

GRAPHIC SCALE
0 20' 30' 40'
1" = 20'

SURVEY NOTES

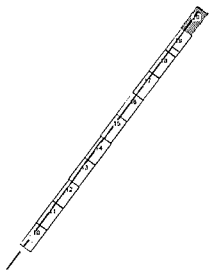
1 VVH1 FOUND 16" GREEN PVC DEPTH = 4.01'
2A VVP1H2A FOUND 1" DIRECT BURY CABLE DEPTH = 4.03'
2B VVH2B FOUND 2" DIRECT BURY CABLE DEPTH = 3.66'
2C VVH2C FOUND 0.5" DIRECT BURY CABLE DEPTH = 4.50'
3 VVH3 FOUND 10" FELT WRAPPED FRENCH DRAIN DEPTH = 2.66'
4 NO UTILITY FOUND CLEARED TO 6'
6A VVH6A FOUND 1" DIRECT BURY CABLE DEPTH = 3.84'
6B VVH6B FOUND 2" DIRECT BURY CABLE DEPTH = 3.75'
6C VVH6C FOUND 0.5" DIRECT BURY CABLE DEPTH = 3.80'
7 VVH7 FOUND 10" FELT WRAPPED FRENCH DRAIN DEPTH = 3.00'
8 NO UTILITY FOUND CLEARED TO 10'
9 VVH18 FOUND 18" BLUE PVC TO BLACK HDPE COUPLING DEPTH = 8.85'
10 VVH1C NO UTILITIES FOUND (EXPLORED TO 15.00')
11 VVH1A FOUND 12" BLACK HDPE FM DEPTH 4.10'
12 VVH5 FOUND EAST EDGE BOX CULVERT DEPTH = 5.48'
13 VVH7 FOUND SOUTH EDGE BOX CULVERT DEPTH = 5.25'

UTILITY DETAILS

S10 AIR VALVE ASSEMBLY WITH MANHOLE

UTILITY NOTES

U1 POINT OF CONNECTION - REMOVE EXISTING 16" PLUG AND CONNECT PROPOSED 20" HDPE FORCEMAIN USING A 16" PVC TO 20" HDPE COUPLING.
U2 16" PVC TO 20" HDPE TRANSITION COUPLING.
U3 CONNECT EXISTING SANITARY SERVICE, TO PROPOSED 16" SANITARY FORCEMAIN.
U4 16" 45° M.J. BEND
U5 POINT OF CONNECTION - REMOVE EXISTING 16" PLUG AND CONNECT PROPOSED 16" PVC FORCEMAIN USING A 16" 45° BEND.
U6 PROPOSED 2" SANITARY SERVICE TO BE DIRECTIONALLY DRILLED TO SOUTHEAST RIGHT OF WAY LIMITS AND CONNECTED TO THE PROPOSED 20" HDPE FORCEMAIN RUNNING ALONG THE NORTHWEST SIDE OF THE RIGHT OF WAY.



KEY MAP
1"= 1000'

REGISTERED ENGINEER
FRED R. TODD JR.,P.E.
FLORIDA LICENSE NO. 56314

REVISIONS

NO	DATE	DESCRIPTION
1	---	---
2	---	---
3	---	---
4	---	---
5	---	---

DSN	DAR
DWN	PDH
CHK	BAK
DATE	05-16-22
JOB NO	1812230

MATTHEWS DESIGN GROUP
P.O. BOX 3126, 7 WALDO STREET
ST. AUGUSTINE, FL 32084
PHONE: 904.826.1374 • FAX: 904.826.4547
INFO@MDGINC.COM

UTILITY PLAN - PROFILE
SR 207 FORCEMAIN DESIGN
ST. JOHNS COUNTY
PREPARED FOR
ST. JOHNS COUNTY BOARD OF COUNTY COMMISSIONERS

SHEET NO.
20
OF 25

ST. JOHNS COUNTY UTILITY DEPARTMENT

AIR VALVE ASSEMBLY WITH MANHOLE

ROAD #28

FLUID S-10

NOTE:
1. VALVE ASSEMBLY TO BE LOCATED OUTSIDE OF ROADWAY PAVING.
2. ALL PIPE AND FITTINGS SHALL BE AWWA C-900 DR 18 PVC PIPE AND FITTINGS.
3. PIPE PENETRATING SHALL BE LOCATED 12" CENTER TO CENTER OF PIPE OR 1 PIPE DIAMETER, WHICHEVER IS GREATER.
4. THE INTERIOR AND EXTERIOR OF MANHOLE AND THE INTERIOR OF ASSEMBLY PIPE SHALL BE EPOXY COATED AS SPECIFIED IN THE MANUFACTURER'S SPECIFICATIONS. THE PIPE JOINT AT THE MANHOLE WALL SHALL BE WATERTIGHT.
5. US SHALL SPECIFY "SAV" AND "SVC".

ST. JOHNS COUNTY UTILITY DEPARTMENT

TYPE A BEDDING & TRENCHING

ROAD #28

FLUID W-13

NOTE:
1. MINIMUM 12" STATE COMMON FILL COMPACTED TO 95% OF THE MAXIMUM DENSITY AS PER AASHTO T-180.
2. 12" MINIMUM STATE COMMON FILL COMPACTED TO 95% OF THE MAXIMUM DENSITY AS PER AASHTO T-180.
3. 6" MINIMUM STATE #57 STONE OR STATE COMMON FILL OR APPROVED EQUAL MAY BE USED AS BEDDING AND TRENCHING MATERIAL BUT MUST BE ACCEPTED BY THE UTILITY DEPARTMENT.
4. 12" MINIMUM, 24" MAXIMUM TOP AND CHAMFER LESS THAN 24", AND 24" MAXIMUM BOTTOM WIDTH.
5. WATER LINES MAY BE INSTALLED IN THE TRENCH DURING CONSTRUCTION.
6. ALL PIPE TO BE INSTALLED WITH BELL FACING UPSTREAM TO THE DIRECTION OF PIPE LAYING.
7. FOR ADDITIONAL INFORMATION REFER TO SECTION 3.3 OF THE MANUAL FOR WASTEWATER AND WATER CONSTRUCTION.
8. SHOULD UNSUITABLE MATERIAL BE ENCOUNTERED IN THE TRENCH, IT SHALL BE REMOVED AND REPLACED WITH STATE #57 STONE, STATE COMMON FILL OR APPROVED EQUAL AS DIRECTED BY THE UTILITY DEPARTMENT. ALL REMOVED MATERIAL SHALL BE DISPOSED OF AT AN APPROVED SITE.
9. ALL TRENCHING SHALL BE IN ACCORDANCE WITH FLORIDA TRENCH SAFETY ACT.

ST. JOHNS COUNTY UTILITY DEPARTMENT

TYPE B BEDDING & TRENCHING

ROAD #28

FLUID W-14

NOTE:
1. MINIMUM 12" STATE COMMON FILL COMPACTED TO 95% OF THE MAXIMUM DENSITY AS PER AASHTO T-180.
2. 12" MINIMUM STATE COMMON FILL COMPACTED TO 95% OF THE MAXIMUM DENSITY AS PER AASHTO T-180.
3. 6" MINIMUM STATE #57 STONE OR STATE COMMON FILL OR APPROVED EQUAL MAY BE USED AS BEDDING AND TRENCHING MATERIAL BUT MUST BE ACCEPTED BY THE UTILITY DEPARTMENT.
4. 12" MINIMUM, 24" MAXIMUM TOP AND CHAMFER LESS THAN 24", AND 24" MAXIMUM BOTTOM WIDTH.
5. WATER LINES MAY BE INSTALLED IN THE TRENCH DURING CONSTRUCTION.
6. ALL PIPE TO BE INSTALLED WITH BELL FACING UPSTREAM TO THE DIRECTION OF PIPE LAYING.
7. FOR ADDITIONAL INFORMATION REFER TO SECTION 3.3 OF THE MANUAL FOR WASTEWATER AND WATER CONSTRUCTION.
8. SHOULD UNSUITABLE MATERIAL BE ENCOUNTERED IN THE TRENCH, IT SHALL BE REMOVED AND REPLACED WITH STATE #57 STONE, STATE COMMON FILL OR APPROVED EQUAL AS DIRECTED BY THE UTILITY DEPARTMENT. ALL REMOVED MATERIAL SHALL BE DISPOSED OF AT AN APPROVED SITE.
9. ALL TRENCHING SHALL BE IN ACCORDANCE WITH FLORIDA TRENCH SAFETY ACT.

CONSTRUCTION DETAILS

SR 207 FORCEMAIN DESIGN

ST. JOHNS COUNTY

PREPARED FOR

ST. JOHNS COUNTY BOARD OF COUNTY COMMISSIONERS

21

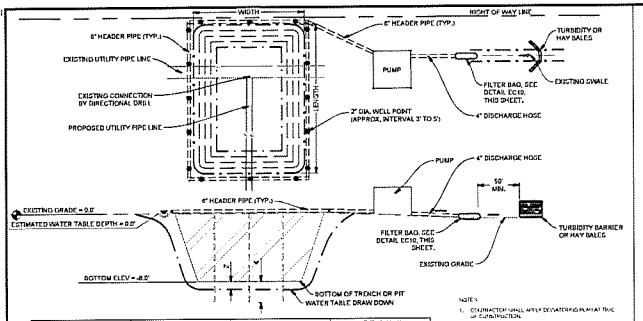
MATTHEWS DESIGN GROUP

P.O. BOX 3126, 7 WALDO STREET
ST. AUGUSTINE, FL 32084
PHONE: 904 826 1234 • FAX: 904 826 4547
INFO@MDGINC.COM

DRAWN BY	DATE	DESCRIPTION	NO.
DMI			
PDH			
SAK			
CHECKED BY	05-18-22		
JOB NO.	1812.20		

REVISIONS

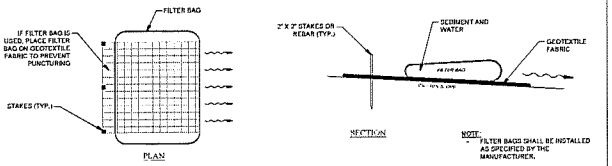
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05-18-2022
CLERK OF COURT
ST. JOHNS COUNTY, FLORIDA



DEWATERING SUMMARY	LOCATE STRAW PIT	DRILL PIT	UTILITY TRENCH
PIT / TRENCH DIMENSIONS	VARY	VARY	VARY
REQUIRED DEWATERING DEPTH	4.0'	4.0'	4.0'
EXCAVATION AREA	15' - 50' MAX.	20' MAX.	20' MAX.
EXCAVATION METHOD	W/ EXCAVATOR OR VACUUM EXCAVATOR	W/ EXCAVATOR OR VACUUM EXCAVATOR	W/ EXCAVATOR OR VACUUM EXCAVATOR
PUMPS	TRASH PUMP OR SUBMERSIBLE PUMP W/ 4" DISCHARGE HOSE	4" SUBMERSIBLE VACUUM ASSISTED SUMP PUMP W/ 4" DISCHARGE HOSE	4" SUBMERSIBLE VACUUM ASSISTED SUMP PUMP W/ 4" DISCHARGE HOSE
DISCHARGE LOCATION	TO SEDIMENT TRAP OR FILTER BAG, SEE DETAIL THIS SHEET	TO SEDIMENT TRAP OR FILTER BAG, SEE DETAIL THIS SHEET	TO SEDIMENT TRAP OR FILTER BAG, SEE DETAIL THIS SHEET
EXCAVATION WATER DISPOSITION	SEDIMENT TRAP OR WELL POINTS	WELL POINTS OR TRENCH	SEDIMENT TRAP OR WELL POINTS
TURBIDITY CONTROL	FILTER BAG, SEE DETAIL THIS SHEET	FILTER BAG, SEE DETAIL THIS SHEET	FILTER BAG, SEE DETAIL THIS SHEET
NOISE MITIGATION	TYPICALLY LESS THAN 50 dBA @ 50'	TYPICALLY LESS THAN 50 dBA @ 50'	TYPICALLY LESS THAN 50 dBA @ 50'
HAZARDOUS SOIL CONTROL	PER SWPPP	PER SWPPP	PER SWPPP

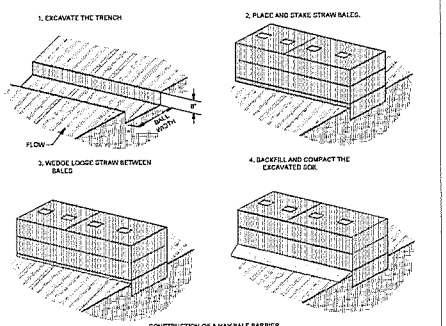
NOTES:
1. CONTRACTOR SHALL APPLY DEWATERING PLAN AT TIME OF CONSTRUCTION.
2. IF DEWATERING METHOD SHOWN IS NOT EFFECTIVE, THE CONTRACTOR MAY USE ANOTHER METHOD WITH THE APPROVAL OF THE ENGINEER.
3. THE DISCHARGE LOCATION IS APPROXIMATE. STAFF TO ADJUST AS NECESSARY TO SUIT SITE CONDITIONS.
4. TURBIDITY BARRIER OR HAY BALES TO BE INSTALLED DOWNSTREAM OF FILTER BAG.
5. INSPECT A FILTER BAG AT THE END OF EACH WORK DAY AND REMOVE SEDIMENT WHEN IT REACHES 1/2 THE HEIGHT OF THE BAG.

TRENCH OR PIT DEWATERING PLAN & PROFILE — ST

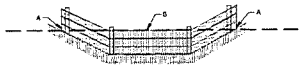


NOTE:
1. FILTER BAGS SHALL BE INSTALLED AS SPECIFIED BY THE MANUFACTURER.

DEWATERING FILTER BAG — EC7



CONSTRUCTION OF A HAY BALE BARRIER.



POINTS A SHOULD BE HIGHER THAN POINT B

PROPER PLACEMENT OF HAY BALE BARRIER IN DRAINAGE WAY

HAY BALE BARRIER CONSTRUCTION DETAILS — EC

REVISIONS

NO.	DATE	DESCRIPTION
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DESIGNED: DJM
DRAWN: PDH
CHECKED: SAK
DATE: 05-16-22
JOB #: 1612.30

REGISTERED ENGINEER
FREDK. ROOD JONES, P.E.
FLORIDA LICENSE NO. 56043

THESE PLANS ARE THE PROPERTY OF MATTHEWS DESIGN GROUP AND ARE NOT TO BE USED IN WHOLE OR IN PART FOR ANY OTHER PROJECT WITHOUT THE EXPRESS WRITTEN CONSENT OF MATTHEWS DESIGN GROUP.

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DEWATERING DETAILS

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22
OF 25