

Solicitation 12601-125

Design-Build Pump Station A-16 Upgrade - WATER

Bid Designation: Public



City of Fort Lauderdale

Bid 12601-125

Design-Build Pump Station A-16 Upgrade - WATER

Bid Number **12601-125**
 Bid Title **Design-Build Pump Station A-16 Upgrade - WATER**

Bid Start Date **Nov 18, 2021 3:19:11 PM EST**
 Bid End Date **Jan 27, 2022 2:00:00 PM EST**
 Question & Answer End Date **Jan 3, 2022 5:00:00 PM EST**

Bid Contact **Fausto Vargas**
Procurement Specialist
Finance - Procurement Division
fvargas@fortlauderdale.gov

Contract Duration **One Time Purchase**
 Contract Renewal **Not Applicable**
 Prices Good for **120 days**
 Pre-Bid Conference **Nov 30, 2021 10:00:00 AM EST**
Attendance is optional
Location: SE 11 St and SE 4 Avenue
Fort Lauderdale, FL 33301

Bid Comments **The City of Fort Lauderdale, FL ("City") has issued this Request for Proposal (RFP) to solicit competitive proposals from one single entity ("Firm" or "Proposer" or "Design-Build Firm (DBF)") responsible for the design, permitting, construction, testing and startup of Design Build Pump Station A-16 Upgrade - WATER. The work to be accomplished under this contract includes, but is not limited to; design, surveying, geotechnical exploration, preparation of completed permit submittal packages, labor, materials, dewatering, bypass pumping, and procurement of all required permits for construction, construction phasing, maintenance of traffic, abandonment of existing gravity sewer, 6-inch force main and PS A-16, and all other related work or services, including all other aspects of the project to fulfill the intent of the Project as described in the Design Criteria Package and all supporting documents. Design-Build Firms who are interested in submitting Statements of Qualification (SOQ) in response to this RFP shall comply with Section IV - Submittal Requirements.**

The Proposer shall have the following Minimum Qualifications to be considered eligible to submit a Proposal in response to this Solicitation. It is the responsibility of the Proposer to ensure and certify that it meets the Minimum Qualifications stated below.

The design build firm must have a designer that is a Professional Engineer Registered in Florida and a general contractor having a valid GC license with underground utility designation.

Note to all Bidders: Under P12412 there will be two separate Water and Wastewater components to be designed and built under separate contracts. However, it is the City's objective to have both Water and Wastewater components awarded and constructed simultaneously. The simultaneous completion of both Water and Wastewater components is very crucial for the construction of a new Federal Court House building and a dedicated parking building for the Federal Court House. The City will like to encourage all D/B teams interested in bidding the Water component of the project to also consider bidding the Wastewater (RFP 12600-125) component of the project as well.

**Added on Dec 20, 2021:
 Addendum 2)**

Opening Bid and Q&A will be extended:

New Opening Date January 13,2022

New Q&A Date January 3, 2022

Addendum # 1

New Documents	Addendum 1.pdf
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Addendum # 2

New Documents	Addendum 2.pdf		
Previous End Date	Dec 21, 2021 2:00:00 PM EST	New End Date	Jan 13, 2022 2:00:00 PM EST
Previous Q & A End Date	Dec 10, 2021 5:00:00 PM EST	New Q & A End Date	Jan 3, 2022 5:00:00 PM EST

Addendum # 3

Previous End Date	Jan 13, 2022 2:00:00 PM EST	New End Date	Jan 27, 2022 2:00:00 PM EST
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Item Response Form

Item **12601-125--01-01 - Pump Station A-16 Upgrade - WATER**

Quantity **1 each**

Prices are not requested for this item.

Delivery Location **City of Fort Lauderdale**
City Hall
 100 N. Andrews Avenue
 Fort Lauderdale FL 33301
Qty 1

Description

ENTER TOTAL PROPOSAL "CONTRACT PRICE" AS STATED ON THE PRICE PROPOSAL FORMS.

NOTE: Payment on this contract will be made by Visa or Mastercard.

Proposal Bond: A bond, for **five percent (5%)** of the Price Proposal, shall accompany each proposal as evidence of the good faith and responsibility of the proposer.

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SECTION 1 INTRODUCTION

1.1 Purpose

The City of Fort Lauderdale, FL ("City") has issued this Request for Proposal (RFP) to solicit competitive proposals from one single entity ("Firm" or "Proposer" or "Design-Build Firm (DBF)") responsible for the design, permitting, construction, testing and startup of Water DCP - Pump Station A-16 Upgrade. The work to be accomplished under this contract includes, but is not limited to; design, surveying, geotechnical exploration, preparation of completed permit submittal packages, labor, materials, dewatering, bypass pumping, and procurement of all required permits for construction, construction phasing, maintenance of traffic, abandonment of 586 feet of existing 6-inch water mains, 7 water meters, and a 670 feet section of 30-inch WM. Construction of 609 ft. of 36-inch HDPE and 375 ft. of 30-inch DIP, and all other related work or services, including all other aspects of the project to fulfill the intent of the Project as described in the Design Criteria Package and all supporting documents. Design-Build Firms who are interested in submitting Statements of Qualification (SOQ) in response to this RFP shall comply with Section IV - Submittal Requirements.

The City will retain services within the scope of architecture or professional engineering and within the scope of construction contracting. The City will solicit proposals and establish a competitive selection process in accordance with City of Fort Lauderdale [Code of Ordinances Section 2-125.1](#) to procure the services of a qualified DBF.

The Design-Criteria Professional, **Chen Moore and Associates** including their sub-consultants, are not eligible to render design-build services for this solicitation. Pursuant to [Florida Statutes 287.055 \(9\) \(b\)](#), "A design criteria professional who has been selected to prepare the design criteria package is not eligible to render services under a design-build contract executed pursuant to the design criteria package." The City reserves the right to disqualify any proposal from a team which includes any sub-consultant and/or individual who has played a substantial role in the development of the design criteria package or whose involvement with the design-build team would confer upon that team an unfair competitive advantage because of such sub-consultant's or member's prior involvement in the project.

1.2 Bid Sync

The City of Fort Lauderdale uses BidSync (www.bidsync.com) to administer the competitive solicitation process, including but not limited to soliciting responses, issuing addenda, posting results and issuing notification of an intended decision. There is no charge to register and download the RFP from BidSync and to participate in the solicitation, nor will any fees be charged to the awarded DBF. Proposers are strongly encouraged to read the various vendor guides and tutorials available in BIDS NYC well in advance of their intention of submitting a response to ensure familiarity with the use of BidSync. The City shall not be responsible for a Proposer's inability to submit a response by the submission deadline date and time for any reason, including issues arising from the use of BidSync.

It is the sole responsibility of the Proposer to ensure that their bid is submitted electronically through BidSync at www.bidsync.com no later than the time and date specified in this

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solicitation. **PAPER PROPOSAL SUBMITTALS WILL NOT BE ACCEPTED. PROPOSALS MUST BE SUBMITTED ELECTRONICALLY VIA WWW.BIDSYNC.COM.**

1.3 Submission Deadline

Responses shall be submitted electronically via BidSync (www.bidsync.com) in response to **RFP No. 12601-125, Design Build Pump Station A-16 Upgrade - WATER** prior to the designated bids due date and time indicated in the solicitation.

1.4 Electronic Proposal Openings

Please be advised that effective immediately, and until further notice, all Invitation to Bids, Request For Proposals, Request For Qualifications, and other solicitations let by the City of Fort Lauderdale will be opened electronically via WWW.BIDSYNC.COM at the date and time indicated on the solicitation. All openings will be held on the BIDSYNC.COM platform. Once the Procurement Specialist opens the solicitation, the bid tabulations may be viewed immediately on a computer, laptop, cell phone, or any other device with WiFi access. The opening may also be viewed in real time through a "Webex meeting" or similar type platform.

When it's time, start your Zoom meeting by pasting the following link in your browser :

Topic: Design Build Pump Station A-16 Upgrade - WATER
Time: Dec 21, 2021 02:00 PM Eastern Time (US and Canada)

Join ZoomGov Meeting

<https://fortlauderdale.zoomgov.com/j/1608150897?pwd=QXN2aWk2aHIMRU5PYVN1RnpSY1pHUT09>

Meeting ID: 160 815 0897

Password: 051154

Mobile Phone One-tap Dial:

+16692545252,,1608150897#,,1#,051154# US (San Jose)

+16468287666,,1608150897#,,1#,051154# US (New York)

Dial by your location

+1 669 254 5252 US (San Jose)

+1 646 828 7666 US (New York)

+1 669 216 1590 US (San Jose)

+1 551 285 1373 US

Meeting ID: 160 815 0897

Password: 051154

Find your local number: <https://fortlauderdale.zoomgov.com/u/adNOSPXonJ>

Anyone requesting assistance or having further inquiry in this matter must contact the Procurement Specialist indicated on the solicitation, via the question and Answer forum on Bidsync.com before the Last Day for Questions indicated in the Solicitation."

Please go to <https://www.fortlauderdale.gov/departments/human-resources/recruitment-testing-selection/employment-benefits> for a complete list of all City observed holidays.

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12601-125**1.5 Point of Contact**

Procurement Services Division
Fausto Vargas, Senior Procurement Specialist
100 N. Andrews Avenue, 4th Floor
Fort Lauderdale, FL 33301
Fax: 954-828-5576
Email: fvargas@fortlauderdale.gov

All inquiries concerning this RFP, questions, and request for additional information shall be sent via the BIDSYNC question and answer (Q&A) platform.

1.6 Pre-Proposal Meeting:

There will be a pre-proposal conference and/or site visit scheduled for this Request for Proposal. It is strongly suggested that all Contractors attend the pre-proposal conference and/or site visit.

While attendance is not mandatory, tours at other times might not be available. It is the sole responsibility of the Contractor to become familiar with the scope of the City's requirements and systems prior to submitting a proposal. No variation in price or conditions shall be permitted based upon a claim of ignorance. It is strongly suggested that all Contractors attend the pre-proposal meeting and/or site visit.

It will be the sole responsibility of the Contractor to attend the pre-proposal/site visit to inspect the City's location(s) facilities systems prior to submitting a proposal. No variation in price or conditions shall be permitted based upon a claim of ignorance. Submission of a proposal will be considered evidence that the Proposer has familiarized themselves with the nature and extent of the work, equipment, materials, and labor required.

If a person decides to appeal any decision made by the board, agency, or commission with respect to any matter considered at such meeting or hearing, he or she will need a record of the proceedings, and that, for such purpose, he or she may need to ensure that a verbatim record of the proceedings is made, which record includes the testimony and evidence upon which the appeal is to be based.

1.7 Compliance and Legal Conditions

In order to comply fully with the requirements of the City's Code of Ordinances below and Florida Statutes 287.055, the following procedures shall be followed in selecting firms to provide design/build services and in negotiating design/build contracts.

It will be the sole responsibility of the proposer to familiarize themselves with the following ordinances and statutes:

- a) [City of Fort Lauderdale Ordinance Section 2-125.1 – Design/build contracts](#)
- b) [Florida Statutes 287.055](#) – Acquisition of professional architectural, engineering, landscape architectural, or surveying and mapping services; definitions; procedures; contingent fees prohibited; penalties.
- c) [Florida Statutes 287.055 \(9\)](#) Applicability to Design-Build Contracts

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1.8 Personal Investigation

Proposers shall satisfy themselves by personal investigation and by such other means as they may think necessary or desirable, as to the conditions affecting the proposed work and the cost. No information derived from maps, plans, specifications, or from the Engineer, City Manager, or their assistants shall relieve the DBF from any risk or from fulfilling all terms of the contract.

1.9 Lobbyist Ordinance

ALL CONTRACTORS PLEASE NOTE: Any contractor submitting a response to this solicitation must comply, if applicable, with City of Fort Lauderdale Ordinance No. C-11-42 & Resolution No. 07-101, Lobbying Activities. Copies of Ordinance No. C-11-42 and Resolution No. 07-101 may be obtained from the City Clerk's Office on the 7th Floor of City Hall, 100 N. Andrews Avenue, Fort Lauderdale, Florida. The ordinance may also be viewed on the City's website at <http://www.fortlauderdale.gov/home/showdocument?id=6036>.

1.10 Debarred or Suspended Bidders or Proposers

The bidder or proposer certifies, by submission of a response to this solicitation, that neither it nor its principals and subcontractors are presently debarred or suspended by any Federal department or agency.

1.11 Prohibition Against Contracting with Scrutinized Companies

Subject to *Odebrecht Construction, Inc., v. Prasad*, 876 F.Supp.2d 1305 (S.D. Fla. 2012), *affirmed*, *Odebrecht Construction, Inc., v. Secretary, Florida Department of Transportation*, 715 F.3d 1268 (11th Cir. 2013), with regard to the "Cuba Amendment," the Contractor certifies that it is not on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List or the Scrutinized Companies that Boycott Israel List created pursuant to Section 215.4725, Florida Statutes (2020), that it is not engaged in a boycott of Israel, and that it does not have business operations in Cuba or Syria, as provided in section 287.135, Florida Statutes (2020), as may be amended or revised. The City may terminate this Agreement at the City's option if the Contractor is found to have submitted a false certification as provided under subsection (5) of section 287.135, Florida Statutes (2020), as may be amended or revised, or been placed on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List or the Scrutinized Companies that Boycott Israel List created pursuant to Section 215.4725, Florida Statutes (2019), or is engaged in a boycott of Israel or has been engaged in business operations in Cuba or Syria, as defined in Section 287.135, Florida Statutes (2020), as may be amended or revised.

By submitting a bid, proposal or response, the company, principals, or owners certify that they are not listed on the Scrutinized Companies with Activities in Sudan List or listed on the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List or is engaged in business operations in Cuba or Syria.

1.12 Inconsistencies

Any seeming inconsistency between different provisions of the plans, specifications, proposal or contract, or any point requiring explanation must be inquired into by the proposer, in writing up to the Question & Answer End Date, as published in the solicitation document. After proposals are opened, the proposers shall abide by the decision of the City as to such interpretation. No modifications to Proposals will be permitted after the date and hour of the Proposal opening.

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1.13 Addenda and Interpretations

No interpretations of the meaning of the plans, specifications or other contract documents will be made orally to any proposer. Prospective proposers must request such interpretation in writing as instructed in the RFP. To be considered, such request must be received by the Questions and Answers deadline as indicated in Bidsync.com. Material changes, if any, to the scope of services or bidding procedures are only transmitted by written addendum. It is the proposer's responsibility to verify if addendums have been issued in Bidsync.com. Failure of any proposer to receive any such addenda or interpretation shall not relieve any proposer from any obligation under his RFP as submitted. All addenda so issued shall become a part of the contract document. Proposer shall verify in Bidsync.com that he/she has all addenda before submitting a proposal.

1.14 Forms of Proposals

Each proposal and its accompanying statements must be submitted, in good order with all forms and blanks completed. The proposal must be signed by one duly authorized to do so, and in case signed by a deputy or subordinate, the principal's properly written authority to such deputy or subordinate must accompany the proposal. No proposal will be accepted, for any reason whatsoever, which is not submitted to the City as stated above, within the specified time.

1.15 Bid Firm for Acceptance (120 days)

Proposer warrants, by virtue of bidding, that his proposal and the prices quoted in this proposal will be firm for acceptance by the City for a period of one hundred and twenty (120) days from the date of bid opening unless otherwise stated in the RFP. The City shall award contract within this time period or shall request to the recommended awarded vendor an extension to hold pricing, until products/services have been awarded.

1.16 Additional Items or Services

The City may require additional items or services of a similar nature, but not specifically listed in the contract. The DBF agrees to provide such items or services, and shall provide the City prices on such additional items or services based upon a formula or method, which is the same or similar to that used in establishing the prices in this proposal. If the price(s) offered are not acceptable to the City, and the situation cannot be resolved to the satisfaction of the City, the City reserves the right to procure those items or services from other vendors, or to cancel the contract upon giving the DBF thirty (30) days written notice.

1.17 Deletion or Modification of Services

The City reserves the right to delete any portion of the Contract at any time without cause, and if such right is exercised by the City, the total fee shall be reduced in the same ratio as the estimated cost of the work deleted, bears to the estimated cost of the work originally planned. If work has already been accomplished on the portion of the Contract to be deleted, the DBF shall be paid for the deleted portion on the basis of the estimated percentage of completion of such portion.

If the DBF and the City agree on modifications or revisions to the task elements, after the City has approved work to begin on a particular task or project, the DBF will submit a request for a Change Order and a revised budget to the City for approval prior to proceeding with the work.

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1.18 Rejection of Proposals/Bids

The City reserves the right to reject any proposal if the evidence submitted by the proposer, or if the investigation of such proposer, fails to satisfy the City that such proposer is properly qualified to carry out the obligations and to complete the work contemplated. Any or all proposals will be rejected, if there is reason to believe that collusion exists among submitters. A proposal will be considered irregular and may be rejected, if it shows serious omissions, alterations in form, additions not called for, conditions or unauthorized alternates, or irregularities of any kind. The City reserves the right to reject any or all proposals and to waive such technical errors as may be deemed best for the interests of the City.

1.19 Bid Protest Procedure

Any proposer or bidder who is not recommended for award of a contract and who alleges a failure by the City to follow the City's procurement ordinance or any applicable law, may follow the protest procedures as found in the City's Procurement Ordinance within five (5) days after a Notice of Intent to award is posted on the City's website at the following link: <http://fortlauderdale.gov/departments/finance/procurement-services/notices-of-intent-to-award>

The complete protest ordinance may be found on the City's website at the following link: https://library.municode.com/fl/fort_lauderdale/codes/code_of_ordinances?nodeId=COOR_CH2AD_ARTVFI_DIV2PR_S2-182DIREPRAWINAW

1.20 Withdrawals

Any proposer may, without prejudice to him/herself, withdraw his/her proposal at any time prior to the expiration of the time during which proposals may be submitted. Such request for withdrawal must be in writing and signed in the same manner and by the same person who signed the proposal. After expiration of the period for receiving proposals, no proposal can be withdrawn, modified, or explained.

****END OF SECTION 1****

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12601-125**SECTION 2 SPECIAL CONDITIONS****2.1 Definitions**

Award – means the acceptance of a bid, offer or proposal by the proper authorized designee. The City Commission must approve all awards over the authority of the City Manager, with the exception of emergency purchases.

City – the City of Fort Lauderdale or the City Commission, a municipal corporation of the State of Florida.

City Commission – City Commission shall mean the governing and legislative body of the City.

Contract – This Agreement and all addenda, exhibits and amendments thereto between the City and the Design-Build Firm for this Project. Contract shall also mean the same as Agreement.

Design Build – Means a single contract with a Design-Build Firm for the design and construction of a City construction project.

Design Build Firm (DBF) – means a partnership, corporation, or other legal entity that is certified under Florida Statute 489.119 to engage in contracting through a certified or registered general contractor or a certified or registered building contractor as the qualifying agent or is certified under Florida Statute 471.023 to practice or to offer to practice engineering; certified under Florida Statute 481.219 to practice or to offer to practice architecture, or certified under Florida Statute 481.319 to practice or to offer to practice landscape architecture.

Design Criteria Package (DCP) – DCP shall mean those certain conceptual plans and specifications and performance oriented drawings or specifications of the Project, as prepared and sealed by the Design Criteria Professional, and in compliance with the requirements of Section 287.055, Florida Statutes.

Design Criteria Professional – means a firm which holds a current certificate or registration under Chapter 481, Florida Statutes, to practice architecture or landscape architecture or a firm which holds a current certificate as a registered engineer under Chapter 471, Florida Statutes, to practice engineering and who is employed by or under contract by the City to provide professional architect services, landscape architect services, or engineering services in connection with the preparation of the Design Criteria Package.

Guaranteed Maximum Price (GMP) – the mutually agreed upon contract price to be paid to the DBF for the work, with the DBF agreeing to complete the work without additional payment. The guaranteed maximum price is not subject to increase, except as expressly allowed by the City. Savings below the maximum guaranteed price are shared between owner and DBF, whereas the DBF assumes the responsibility for any overrun beyond the Guaranteed maximum price.

Negotiate – any form of that word means to conduct legitimate, arm's length discussion and conferences to reach an agreement on a term or price.

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Notice to Proceed – means the written notice given by the City to the Design-Build Firm of the date and time for work to start.

Professional Services – means those services within the scope of the practice of architecture, professional engineering, landscape architect, or registered surveying and mapping, as defined by the laws of the state, or those performed by any architect, professional engineer, landscape architect, or registered surveyor and mapper in connection with his or her professional employment or practice.

Project Manager – an authorized representative of the City assigned to the Project by the City, assigned to make necessary observations of materials furnished by DBF and of the Work performed by DBF as detailed.

Proposal – means the proposal or submission submitted by a Proposer. The terms “Proposal” and “Bid” are used interchangeably and have the same meaning.

Proposer – means one who submits a Proposal in response to a solicitation. The terms “Proposer” and “Bidder” are used interchangeably and have the same meaning.

Substantial Completion – the date(s) certified by the Project Manager that all conditions of the permits and regulatory agencies have been met for the City’s intended use of the Project, and all construction has been performed in accordance with the Contract Documents so City can fully utilize, as opposed to partially utilize, the Project for its intended purpose.

Work – the completed construction required by the Contract Documents, as permitted, including all labor necessary to produce such construction, and all materials and equipment incorporated or to be incorporated in such construction.

2.2 Responsiveness

In order to be considered responsive to the solicitation, the firm’s response shall fully conform in all material respects to the solicitation and all of its requirements, including all form and substance.

2.3 Responsibility

In order to be considered responsible, DBF shall be fully capable of meeting all of the requirements of the solicitation and the subsequent contract; must possess the full capability, including financial and technical capacity, to perform as contractually required; and must fully document the ability to provide good faith performance.

2.4 Sub-Consultants

A Sub-Consultant is an individual or firm contracted by the DBF to assist in the performance of services required under this RFP. A Sub-Consultant shall be paid through DBF and not paid directly by the City. Sub-Consultants are permitted by the City in the performance of the services pursuant to the Agreement. DBF must clearly reflect in its Statement of Qualification (SOQ) the major Sub-Consultant(s) to be utilized in the performance of required services. The City retains the right to accept or reject any Sub-Consultant proposed in the response of successful DBFs or prior to contract execution. Any and all liabilities regarding the use of a Sub-Consultant shall be borne solely by the successful DBF and insurance for each Sub-Consultant must be maintained in good standing and approved by the City throughout the duration of the Contract. Neither successful DBF nor any of its Sub-Consultants are

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considered to be employees or agents of the City. Failure to list all Sub-Consultants and provide the required information may disqualify any proposed Sub-Consultant from performing work under this RFP.

DBFs shall include in their responses the requested Sub-Consultant information and include all relevant information required of the DBF. In addition, within five (5) working days after the identification of the award to the successful DBF, the DBF shall provide a list confirming the Sub-Consultant(s) that the successful DBF intends to utilize in the Contract, if applicable. The list shall include, at a minimum, the name, and location of the place of business for each Sub-Consultant, the services Sub-Consultant will provide relative to any contract that may result from this RFP, Sub-consultants hourly rates or fees, any applicable licenses, insurance, references, ownership, and other information required of the DBF. No more than 20% of the team members selected for this project can be substituted and any and all team and/or staff substitutions must be approved by the City in advance.

2.5 Contract Term

Time is of the essence for the DBF's performance of the Work.

The City will enter into a Not-To-Exceed (NTE) contract with the successful DBF for a Guaranteed Maximum Price (GMP) for the Work. The terms and conditions of this contract are fixed price and for a fixed period of time. The DBF submitted proposal is to be a NTE GMP proposal for completing the Scope of Work in the RFP. The DBF will provide a Schedule of Values to the City for their approval. The total of the Schedule of Values will be this NTE GMP contract price for the work.

The DBF shall not assign, transfer or sub-contract any work either in whole or in part, without prior written approval of the City. The submittal responses shall be valid until such time as City Commission awards a contract as a result of this RFP.

City reserves the right, where it may serve the City of Fort Lauderdale's best interest, to request additional information or clarification from Proposers including but not limited to oral interviews as requested by the Evaluation Committee.

The City of Fort Lauderdale reserves the right to waive formalities in any proposal and further reserves the right to take any other action that may be necessary in the best interest of the City.

The City reserves the right to let other contracts in connection with this Project, provided it does not interfere with DBF's work or schedule. By submitting a Proposal each firm is confirming that the firm has not been placed on the convicted vendors list as described in [Florida Statue §287.133 \(2\) \(a\)](#).

2.6 Unauthorized Work

The successful DBF(s) shall not begin work until a Contract and a Notice to Proceed has been issued. DBF(s) agree and understand that a purchase order and/or task order shall be issued and provided to the DBF(s) following City Commission award; however, receipt of a purchase order and/or task order shall not prevent the DBF(s) from commencing the work once the City Commission has awarded the contract and notice to proceed is issued.

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2.7 Proposal Bond

A certified check, cashier's check or bank officer's check, for **five percent (5%)** of the Price Proposal, made payable to the City of Fort Lauderdale, Florida, or bid bond in such amount, shall accompany each proposal as evidence of the good faith and responsibility of the proposer.

Proposers can submit proposal bonds for projects **four** different ways:

- 1) BidSync allows bidders to submit bid bonds electronically directly through their system using **Surety 2000**. For more information on this feature and to access it, contact BIDSYNC customer care department.
- 2) Proposers may **electronically upload** their original executed proposal bond on BidSync to accompany their electronic proposal, and deliver the original, signed and sealed hard copy within five (5) business days after proposal opening, with the Firm's name, proposal number and title clearly indicated.

Proposal bond shall be written by a surety insurer authorized to do business in the State of Florida as surety, in accordance with Section 255.05, Florida Statutes. Insufficient proposal bond surety shall automatically constitute a failure on the part of the Consultant and shall be grounds for rejection of your proposal.

- 3) Bidders can **hand deliver** their bid bond in a sealed envelope to the Finance Department, Procurement Services Division, 100 North Andrews Avenue, Room 619, Fort Lauderdale, Florida 33301-1016, before time of bid opening, with the company name, bid number and title clearly indicated on the envelope.
- 4) Bidders can **mail** their bid bond to the Finance Department, Procurement Services Division, 100 North Andrews Avenue, Room 619, Fort Lauderdale, Florida 33301-1016, before time of bid opening, with the company name, bid number and title clearly indicated on the envelope. **NOTE: Bond must be received in Procurement and time stamped before bid opening.**

It will be the sole responsibility of the proposer to ensure that his proposal is submitted prior to the proposal opening date and time listed. **PAPER PROPOSAL SUBMITTALS WILL NOT BE ACCEPTED. PROPOSALS MUST BE SUBMITTED ELECTRONICALLY VIA BIDSYNC.COM**

Certified Checks, Cashier's Checks and Bank Drafts:

These **CANNOT** be submitted via BIDSYNC, nor are their images allowed to be uploaded and submitted with your electronic proposal. These forms of securities, as well as hard copy proposal bonds, must be received on or before the Design Build Request for Proposal (RFP) opening date and time, at the Finance Department, Procurement Services Division, 100 North Andrews Avenue, Room 619, Fort Lauderdale, Florida 33301-1016, with the bid number and title clearly indicated on the envelope.

It is the proposer's sole responsibility to ensure that his proposal bond or other proposal security is received by the Procurement Services Division before time of proposal opening. Failure to adhere to this requirement may be grounds to consider the proposal as non-responsive.

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The check or bond shall be retained by the City as liquidated damages should the proposer refuse to or fail to enter into a contract for the execution of the work embraced in this proposal, in the event the proposal of the proposer is accepted. Retention of such amount shall not be construed as a penalty or forfeiture.

The above bond or check shall be a guarantee that the proposer will, if necessary, promptly execute a satisfactory contract and furnish good and sufficient bonds. As soon as a satisfactory contract has been executed and the bonds furnished and accepted, proposal bond accompanying the proposal of the successful proposer will be returned to him/her. If the successful proposer shall not enter into, execute, and deliver such a contract and furnish the required bonds within fifteen (15) days after receiving notice to do so, proposal bond shall immediately become the property of the City of Fort Lauderdale as liquidated damages. Retention of such amount shall not be construed as a penalty or forfeiture.

Additional insurance and bonds may be required for the construction phase of the project.

2.8 Performance and Payment Bond (Surety Bond)

The DBF shall execute and record in the public records of Broward County, Florida, a payment and performance bond in an amount at least equal to the Contract Price with a surety insurer authorized to do business in the State of Florida as surety, ("Bond"), in accordance with [Section 255.05, Florida Statutes](#), as may be amended or revised, as security for the faithful performance and payment of all of the DBF's obligations under the Contract Documents.

The successful bidder shall furnish a performance and payment bond in compliance with Section 255.05, Florida Statutes, written by a Corporate Surety company, holding a Certificate of Authority from the Secretary of the Treasury of the United States as acceptable sureties on federal bonds, in an amount equal to the total amount payable by the terms of the contract, executed and issued by a Resident Agent licensed by and having an office in the State of Florida, representing such Corporate Surety, conditioned for the due and faithful performance of the work, and providing in addition to all other conditions, that if the DBF, or his or its subcontractors, fail to duly pay for any labor, materials, or other supplies used or consumed by such Contractor, or his or its subcontractor or subcontractors, in performance of the work contracted to be done, the Surety will pay the same in the amount not exceeding the sum provided in such bonds, together with interest at the rate of fifteen percent (15%) per annum, and that they shall indemnify and save harmless the City of Fort Lauderdale to the extent of any and all payments in connection with carrying out of the contract, which the City may be required to make under the law.

The DBF is required at all times to have a valid surety bond in force covering the work being performed. A failure to have such bond in force at any time shall constitute a default on the part of the DBF. A bond written by a surety, that becomes disqualified to do business in the State of Florida, shall automatically constitute a failure on the part of the DBF to meet the above requirements.

Such bond shall continue in effect for one (1) year after completion and acceptance of the work with liability equal to at least twenty-five percent (25%) of contract price, or an additional bond shall be conditioned that the DBF will correct any defective or faulty work or material which appear within one (1) year after completion of the contract, upon notification by the

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City, except in contracts which are concerned solely with demolition work, in which cases twenty-five percent (25%) liability will not be applicable.

2.9 Insurance Requirements

During the term of this Agreement, Contractor at its sole expense, shall provide insurance of such a type and with such terms and limits as noted below. Providing and maintaining adequate insurance coverage is a material obligation of Contractor. Contractor shall provide the City a certificate of insurance evidencing such coverage. Contractor's insurance coverage shall be primary insurance as respects to the City for all applicable policies. The limits of coverage under each policy maintained by Contractor shall not be interpreted as limiting Contractor's liability and obligations under this Agreement. All insurance policies shall be through insurers authorized or eligible to write policies in Florida and possess an A.M. Best rating of A-, VII or better, subject to the approval of the City's Risk Manager.

The coverages, limits and/or endorsements required herein protect the primary interests of the City, and these coverages, limits and/or endorsements shall in no way be required to be relied upon when assessing the extent or determining appropriate types and limits of coverage to protect the Contractor against any loss exposures, whether as a result of this Agreement or otherwise. The requirements contained herein, as well as the City's review or acknowledgement, is not intended to and shall not in any manner limit or qualify the liabilities and obligations assumed by the Contractor under this Agreement.

The following insurance policies/coverages are required:

Commercial General Liability

Coverage must be afforded under a Commercial General Liability policy with limits not less than:

- \$1,000,000 each occurrence and \$2,000,000 project aggregate for Bodily Injury, Property Damage, and Personal and Advertising Injury
- \$1,000,000 each occurrence and \$2,000,000 project aggregate for Products and Completed Operations

Policy must include coverage for Contractual Liability, Independent Contractors, and contain no exclusions for explosion, collapse, or underground.

The City, a political subdivision of the State of Florida, its officials, employees, and volunteers are to be covered as an additional insured with a CG 20 26 04 13 Additional Insured – Designated Person or Organization Endorsement or similar endorsement providing equal or broader Additional Insured Coverage with respect to liability arising out of activities performed by or on behalf of the Contractor. The coverage shall contain no special limitation on the scope of protection afforded to the City, its officials, employees, or volunteers.

Business Automobile Liability

Coverage must be afforded for all Owned, Hired, Scheduled, and Non-Owned vehicles for Bodily Injury and Property Damage in an amount not less than \$1,000,000 combined single limit each accident.

If the Contractor does not own vehicles, the Contractor shall maintain coverage for Hired and Non-Owned Auto Liability, which may be satisfied by way of endorsement to the Commercial General Liability policy or separate Business Auto Liability policy.

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Workers' Compensation and Employer's Liability

Coverage must be afforded per Chapter 440, Florida Statutes. Any firm performing work on behalf of the City must provide Workers' Compensation insurance. Exceptions and exemptions will be allowed by the City's Risk Manager, if they are in accordance with Florida Statute.

The Contractor and its insurance carrier waives all subrogation rights against the City, a political subdivision of the State of Florida, its officials, employees, and volunteers for all losses or damages. The City requires the policy to be endorsed with WC00 03 13 Waiver of our Right to Recover from Others or equivalent.

Contractor must be in compliance with all applicable State and federal workers' compensation laws, including the U.S. Longshore and Harbor Workers' Compensation Act or Jones Act, if applicable.

For any Contractor who has exempt status as an individual, the City requires proof of Workers' Compensation insurance coverage for that Contractor's employees, leased employees, volunteers, and any workers performing work in execution of this Agreement.

If the Contractor has applied for a workers' compensation exemption, the City does not recognize this exemption to extend to the employees of the Contractor. The Contractor is required to provide proof of coverage for their employees, leased employees, volunteers and any workers performing work in execution of this Agreement. This applies to all contractors including but not limited to the construction industry.

Contractors Pollution Liability Coverage

For sudden and gradual occurrences and in an amount not less than \$1,000,000 per claim arising out of this Agreement, including but not limited to, all hazardous materials identified under the Agreement.

Professional Liability and/or Errors and Omissions (if architectural or engineering services are provided)

Coverage must be afforded for Wrongful Acts in an amount not less than \$5,000,000 each claim and \$5,000,000 aggregate.

Contractor must keep insurance in force until the third anniversary of expiration of this Agreement or the third anniversary of acceptance of work by the City.

Property Coverage (Builder's Risk)

Coverage must be afforded in an amount not less than 100% of the total project cost, including soft costs, with a deductible of no more than \$25,000 each claim. Coverage form shall include, but not be limited to:

- All Risk Coverage including Flood and Windstorm with no coinsurance clause
- Guaranteed policy extension provision
- Waiver of Occupancy Clause Endorsement, which will enable the City to occupy the facility under construction/renovation during the activity
- Storage and transport of materials, equipment, supplies of any kind whatsoever to be used on or incidental to the project
- Equipment Breakdown for cold testing of all mechanized, pressurized, or electrical equipment

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For installation of property and/or equipment, Contractor must provide Builder's Risk Installation insurance to include coverage for materials or equipment stored at the project site, while in transit, or while stored at a temporary location. Coverage limit must be no less than replacement cost.

This policy shall insure the interests of the owner, contractor, and subcontractors in the property against all risk of physical loss and damage, and name the City as a loss payee. This insurance shall remain in effect until the work is completed and the property has been accepted by the City.

Umbrella/Excess Liability

The Contractor shall provide umbrella/excess coverage with limits of no less than \$2,000,000 excess of Commercial General Liability, Automobile Liability and Employer's Liability.

Insurance Certificate Requirements

- a. The Contractor shall provide the City with valid Certificates of Insurance (binders are unacceptable) no later than thirty (30) days prior to the start of work contemplated in this Agreement.
- b. The Contractor shall provide a Certificate of Insurance to the City with a thirty (30) day notice of cancellation; ten (10) days' notice if cancellation is for nonpayment of premium.
- c. In the event that the insurer is unable to accommodate the cancellation notice requirement, it shall be the responsibility of the Contractor to provide the proper notice. Such notification will be in writing by registered mail, return receipt requested, and addressed to the certificate holder.
- d. In the event the Agreement term goes beyond the expiration date of the insurance policy, the Contractor shall provide the City with an updated Certificate of Insurance no later than ten (10) days prior to the expiration of the insurance currently in effect. The City reserves the right to suspend the Agreement until this requirement is met.
- e. The certificate shall indicate if coverage is provided under a claims-made or occurrence form. If any coverage is provided on a claims-made form, the certificate will show a retroactive date, which should be the same date of the initial contract or prior.
- f. The City shall be named as an Additional Insured on all liability policies, with the exception of Workers' Compensation.
- g. The City shall be granted a Waiver of Subrogation on the Contractor's Workers' Compensation insurance policy.
- h. The Agreement, Bid/Contract number, event dates, or other identifying reference must be listed on the certificate.

The Certificate Holder should read as follows:

City of Fort Lauderdale
100 N. Andrews Avenue
Fort Lauderdale, FL 33301

The Contractor has the sole responsibility for all insurance premiums and shall be fully and solely responsible for any costs or expenses as a result of a coverage deductible, co-insurance penalty, or self-insured retention; including any loss not covered because of the operation of such deductible, co-insurance penalty, self-insured retention, or coverage exclusion or limitation. Any costs for adding the City as an Additional Insured shall be at the Contractor's expense.

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If the Contractor's primary insurance policy/policies do not meet the minimum requirements, as set forth in this Agreement, the Contractor may provide an Umbrella/Excess insurance policy to comply with this requirement.

The Contractor's insurance coverage shall be primary insurance as respects to the City, a political subdivision of the State of Florida, its officials, employees, and volunteers. Any insurance or self-insurance maintained by the City, its officials, employees, or volunteers shall be excess of Contractor's insurance and shall be non-contributory.

Any exclusions or provisions in the insurance maintained by the Contractor that excludes coverage for work contemplated in this Agreement shall be deemed unacceptable and shall be considered breach of contract.

All required insurance policies must be maintained until the contract work has been accepted by the City, and/or this Agreement is terminated. Any lapse in coverage shall be considered breach of contract. In addition, Contractor must provide confirmation of coverage renewal via an updated certificate should any policies expire prior to the expiration of this Agreement. The City reserves the right to review, at any time, coverage forms and limits of Contractor's insurance policies.

All notices of any claim/accident (occurrences) associated with this Agreement, shall be provided to the Contractor's insurance company and the City's Risk Management office as soon as practical.

It is the Contractor's responsibility to ensure that all independent and subcontractors comply with these insurance requirements. All coverages for independent and subcontractors shall be subject to all of the requirements stated herein. Any and all deficiencies are the responsibility of the Contractor.

Loss Control/Safety

Precaution shall be exercised at all times by the Contractor for the protection of all persons, including employees, and property. The Contractor shall comply with all laws, regulations, or ordinances relating to safety and health, and shall make special effort to detect hazardous conditions and shall take prompt action where loss control/safety measures should reasonably be expected.

The City may order work to be stopped if conditions exist that present immediate danger to persons or property. The Contractor acknowledges that such stoppage will not shift responsibility for any loss or damages from the Contractor to the City.

2.10 Invoices/Payment

A payment schedule based upon agreed upon deliverables may be developed with the awarded vendor.

The DBF shall submit a proposed schedule of values, after contract award, in a form acceptable to the City and will be required to be approved by the City before any design Work on this Project can commence. The proposed schedule of values shall be broken into two phases for the design and the construction.

During the design phase, the DBF may submit a request for payment monthly based upon percentage of completion of the final plans and specifications. Payment during the

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construction phase will be based upon percentage of work/inspections completed for each item in the approved schedule of values. DBF requisition for payment shall show a complete breakdown of the Project components, and the amount due, together with such supporting evidence, as may be required by the Project Manager (PM).

The City agrees that it will pay the DBF per Florida Statutes 218.735. If, at any time during the contract, the City shall not approve or accept the DBF's work product, and an agreement cannot be reached between the City and the DBF to resolve the problem to the City's satisfaction, the City shall negotiate with the DBF on a payment for the work completed and usable to the City. This negotiated payment shall be based on the overall task or project breakdown, relative to the percentage of work completed.

Payment of invoices from the DBF shall be retained by the City per Florida Statute 255.078, until the Project has obtained Final Completion, receipt of as-built, and been accepted by the City.

2.11 Payment Method

The City of Fort Lauderdale has implemented a Procurement Card (P-Card) program which changes how payments are remitted to its vendors. The City has transitioned from traditional paper checks to payment by credit card via MasterCard or Visa. This allows you as a vendor of the City of Fort Lauderdale to receive your payment fast and safely. No more waiting for checks to be printed and mailed. Payments will be made utilizing the City's P-Card (MasterCard or Visa). Accordingly, firms must presently have the ability to accept credit card payment or take whatever steps necessary to implement acceptance of a credit card before the commencement of a contract. See Contract Payment Method form attached.

2.12 Price Proposal

A total Price Proposal (proposed Contract Price) shall be submitted on the Price Proposal Form. The Price Schedule breakdown shall consist of a Not-To-Exceed, Guaranteed Maximum Price (GMP) amount. The Price Proposal shall be based upon and include any and all costs or expenses to be incurred by the DBF in implementing, fulfilling and completing all aspects of the Design-Build Project. The information must include but is not limited to, the design, plans approval, permitting, construction and activation of the project in accordance with the requirements set forth in the City's Request for Proposals and the requirement of any and all agencies or organizations having jurisdiction for project review, permit approval or the design, construction, occupancy, activation, use or operation of the project, or use of the property on which the project is located.

The Price Proposal, in addition to all direct costs and expenses, shall include all other indirect costs and expenses including but not limited to, such costs as the Design-Builder's general, administrative and overhead costs, project management and supervisory costs, all fees, taxes, labor, direct and indirect payroll costs, insurance and bond costs, cost of equipment, materials, tools, transportation, and service fee (profit).

2.13 Bid Allowance/Reimbursable

Allowance for Permits: Payments will be made to the DBF based on the actual cost of permits upon submission of paid permit receipts. The City shall not pay for other costs related to obtaining or securing permits.

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The amount indicated is intended to be sufficient to cover the entire project. If the City Permit fees exceed the allowance indicated, the City will reimburse the contractor the actual amount of City Permit Fees required for project completion.

Allowance	\$
Permit fees and testing allowance	50,000.00
TOTAL	50,000.00

2.14 City Project Manager

The Project Manager is hereby designated by the City as, **Jorge Holguin**. The Project Manager will assume all duties and responsibilities and will have the rights and authorities assigned to the Project Manager in the Contract Documents in connection with completion of the work in accordance with this Agreement.

For information or questions concerning technical specifications, please utilize the Question/Answer platform provided by BIDSYNC at www.bidsync.com. Questions of a material nature must be received prior to the cut-off date specified in the solicitation.

2.15 Liquidated Damages

Upon failure of the DBF to substantially complete the entire Contract within the total specified period of time, plus approved time extension, DBF shall pay to the City the sum of **Two Thousand Dollars (\$2000)** for each and every calendar day that the completion of the work is delayed beyond the time specified in this Agreement for completion.

The time frame for liquidated damages shall not commence and thus shall not be tolled until the Project Manager submits the punch list to the DBF. These amounts are not penalties but are liquidated damages to City for its inability to obtain full beneficial use of the Project. Liquidated damages are fixed and agreed upon between the parties, recognizing the impossibility of precisely ascertaining the amount of damages that will be sustained by City as consequence of such delay.

2.16 Public Entity Crimes

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

2.17 Work Schedule

Except in connection with the safety or protection of persons, or the Work, or property at the site or adjacent thereto, and except as otherwise indicated in the Supplementary Conditions, all work at the site shall be performed during regular working hours between 8:00 A.M. and 4:30 P.M., Monday through Friday.

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The Contractor will not permit overtime work or the performance of work on Saturday, Sunday or any legal holiday (designated by the City of Fort Lauderdale) without the Project Manager's written consent at least seventy-two (72) hours in advance of starting such work. If the Project Manger permits overtime work, the Contractor shall pay for the additional charges to the City with respect to such overtime work. Such additional charges shall be a subsidiary obligation of the Contractor and no extra payment shall be made to the Contractor for overtime work. It shall be noted that the City's Inspector work hours are from 8:00 A.M. to 4:30 P.M., Monday through Friday, and any Work requiring inspection oversight being performed outside of this timeframe shall be paid for by the Contractor as Inspector overtime. The cost to the Contractor to reimburse the City for overtime inspection is established at \$100.00 per hour.

2.18 Contract

The proposer to whom award is made shall execute a written contract to do the work and maintain the same in good repair until final acceptance by the proper authorities, and shall furnish good and sufficient bonds as specified within fifteen (15) days after receiving such contract for execution. If the bidder to whom the first award is made fails to enter into a contract as provided, the award may be annulled and the contract let to the next highest ranked bidder who is reliable, responsible, and responsive in the opinion of the City, and that proposer shall fulfill every stipulation and obligation as if such proposer were the original highest ranked bidder.

****END OF SECTION 2****

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SECTION 3 SCOPE OF WORK

I. PROJECT OBJECTIVE

The City of Fort Lauderdale (CITY) Pumping Station A-16 Upgrade (Court House) 30" WM (hereinafter the PROJECT), consists in the relocation of an existing 30" ductile iron water main to provide room for the construction of a new Federal Court House facility. The existing watermain is located on the proposed building property and crosses the Tarpon River. The Courthouse property is bounded by SE 11th Street to the south, SE 3rd Street to the west, the Tarpon River to the north and the Nissan dealership parking lot to the east. All watermain utilities within the described footprint need to be relocated or abandoned in place. It is anticipated that the relocated pipe route will require installation under the Tarpon River utilizing Horizontal Directional Drilling (HDD).

The CITY has issued this Request for Proposal (RFP) to solicit competitive proposals for the design, permitting, relocation and construction of the Pump Station A-16 Upgrade 30" Watermain project. The project will be implemented using a design/build approach to expedite the construction. The selected Design/Build Firm (DBF) will be required to retain full responsibility for the final design, permitting, and construction of all aspects of the project

II. SCOPE OF WORK

The Project includes the design, permitting, construction, testing, and startup of a new watermain and related work. The scope of work includes:

1. New 30-inch internal diameter watermain connecting from the intersection of SE 9th St and the intersection of SE 4th Ave to SE 11th St and SE 3rd Ave.
2. The new watermain will be installed via open cut in SE 9th St and via HDD in SE 3rd Ave to cross Tarpon River under the bridge.
3. Work shall also include any demolition, reconstruction, relocation and incidentals required within City right-of-way, and County right-of-way to complete the project.
4. Design/Build Firms can provide an alternate bid for installation of the pipe on SE 9th Street via HDD. DBF is responsible for verifying all existing conditions and site constraints.

Included in the scope of work are design, permitting, construction, as well as inspection, testing, construction certification and all associated work delineated herein or determined by the DBF as required to meet the Project intent. The RFP Documents, including the Design Criteria Package (DCP), and the successful proposal, shall form the terms and conditions of the Contract.

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The DBF shall be responsible for design, any additional surveying, geotechnical investigations, borings, environmental investigation, compliance, preparation of completed permit submittal packages, and procurement of all required permits for construction, construction phasing, maintenance of traffic and all other related work or services.

This Design Criteria Package sets forth minimum requirements regarding design, construction, and maintenance of traffic during construction, including specifications and other requirements relative to project management, scheduling and coordination with other agencies and entities such as the state, county and local government environmental permitting agencies and the public.

DBF Procurement

CITY will procure the services of a DBF to implement the scope of work described herein. CITY will solicit proposals and establish selection criteria in accordance with City of Fort Lauderdale Code of Ordinances Section 2-125.1 to procure the services of a qualified DBF.

III. PROJECT REQUIREMENTS

The DBF shall demonstrate good project management practices while working on this Project. These include communication with the CITY and others as necessary, management of time and resources, and documentation. The CITY will provide contract administration and technical reviews of all work associated with this Project. The successful Design Build firm shall be able to address the following information.

Design and Construction Criteria

The DBF shall provide a complete and thorough technical approach to conducting a design-build pipeline installation for the construction of the project. The technical proposal should demonstrate a complete understanding of the Project and CITY objectives as well as include how the DBF intends to address the following items:

1. Completion of 100% Construction Documents and engineering design plans for construction, including timelines and design milestones. The selected DBF will be responsible for providing complete Construction Documents as required by the CITY.
2. The procurement of all permits required for construction and the placement of the pipelines and pump station in service from all local, state, and federal agencies. The DBF shall discuss potential issues during construction and proposed solutions.
3. The DBF shall include detailed description of any necessary phasing of the project, flow by-pass, potential service disruptions, access to residents and businesses, and a project schedule.

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4. Description of potential dewatering activities and handling of construction discharge.
5. Include potential pitfalls, emergencies, and provide contingency plan to address unforeseen conditions.
6. Appropriate Quality Control/Quality Assurance procedures.
7. The development of final record drawings.
8. Discuss approach of drilling under the SE 3rd Avenue bridge.

Detailed Description

Exhibit B includes technical specifications that describe the material quality standards and performance criteria for this Project. Exhibit C includes conceptual layouts that illustrate the project intent. These conceptual layouts are provided to convey sufficient information to allow the Respondent to prepare a response to the CITY's RFP.

Use of the horizontal directional drilling (HDD) method of pipe installation is proposed. However, it is also recognized that the existing utilities and site constraints of the Project present limitations for HDD installation and that certain precautionary measures during Open Cut (Trench) construction may be implemented which are fully protective of the environment and of the residential properties. Therefore, the CITY is requiring prospective DBFs to provide qualifications and price proposals for both HDD and open cut construction.

The overall length of the connections with existing utilities and the exact tie-in locations shall be determined as part of the scope of this design-build project. The selected DBF will be required to retain full responsibility for any necessary changes including the final design, permitting, and construction of all aspects of the project. The DBF shall develop a detailed project design based on the criteria set forth in this document and construct the work in accordance with the requirements set forth in this document and applicable permits procured for the project by the DBF.

The technical proposal should demonstrate an understanding of the following design issues:

1. Familiarity with local subsurface conditions and interpretation of geotechnical data.
2. Horizontal directional drilling for pipe installation
3. Open cut excavation and backfill for pipe installation
4. Maintenance of traffic

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5. Installation of proposed utilities
6. Landscaping, irrigation, and restoration
7. Response to

Residents'

Complaints Governing

Regulations

The services provided by the DBF shall be in compliance with all applicable City of Fort Lauderdale, OSHA Guidelines, Florida Department of Transportation Manuals and Guidelines, South Florida Water Management District Manuals and Guidelines, as well as State of Florida Department of Environmental Protection, Army Corps of Engineers, Broward County Environmental Protection and Growth Management Department regulations and guidelines, as applicable, except as explicitly noted within this document. In general, the most recent editions of the following documents shall be utilized for this Project:

1. Florida Department of Transportation Utility Accommodation Manual
2. South Florida Water Management District Volume V – Permit Information Manual, Criteria Manual for the Use of Works by the District.
3. Florida Department of Environmental Protection - Location of Public Water System Mains In Accordance With Rule 62-555.314, F.A.C.
4. OSHA Regulations for Construction – Title 29, Part 1926, Construction Safety and Health Regulations, Code of Federal Regulations (OSHA)
5. OSHA Standards – Title 29, Part 1910, Occupational Safety and Health Standards, Code of Federal Regulations (OSHA).
6. Florida Building Code

IV. SERVICES AND MATERIALS PROVIDED BY THE CITY

The CITY or its designee will provide the services set forth below:

1. A Project Manager shall be the technical representative of the CITY for the Project
2. Design review
3. Construction observation and inspection of the Project as deemed appropriate by

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the CITY

4. Participation in the City's tax saver program for the purchase of goods and supplies

V. EXISTING UNDERGROUND UTILITY INFORMATION

Limited information on existing underground utilities within the vicinity of the project area is available. Available information on CITY owned underground utilities is included as Exhibit D.

VI. CADD STANDARDS

All design drawings prepared under this project shall comply with the latest CITY document titled "City of Fort Lauderdale Public Works Engineering & Architectural Department CADD Specifications for Project Drawings" (hereinafter CADD Standards) in effect at the time of contract execution. A copy of the CITY CADD Standards is included in Exhibit E.

VII. PERMITS

The DBF is responsible to obtain all necessary permits for the project.

Anticipated permits include but are not limited to:

1. Waterway Crossing
 - Army Corps of Engineers
 - Broward County Environmental Protection and Growth Management Department
 - Florida Department of Environmental Protection
2. Right of Way
 - Broward County
3. Maintenance of Traffic
 - Broward County Highway Construction and Engineering Division
 - City of Fort Lauderdale
4. Pavement Markings and Signs
 - Broward County Traffic Engineering Division
5. Watermain Extension
 - Florida Department of Environmental Protection
6. Consumptive Water Use Permit for Dewatering during construction
 - South Florida Water Management District

VIII. TOPOGRAPHIC SURVEY

The obtention of a topographic survey will be the responsibility of the DBF to obtain accurate data for the design and establish pipeline alignment based upon the DBF's design.

IX. PROVISIONS FOR UTILITIES, STAGING AND PARKING

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The DBF shall pay for all utilities needed for the performance of the Project. DBF shall be responsible for coordinating with the CITY for parking and staging arrangements within CITY properties and ensure that the area remains free of garbage, trash, and litter.

X. BUDGET ESTIMATE

The budget for this project is estimated at \$1,626,459.00.

XI. CONSTRUCTION TIME FRAME

The CITY expects this Project to be completed as expeditiously as possible and has established the following schedule:

Milestone	Completion Date
Assumed Notice to Proceed Date	TBD
Substantial Completion	August 31, 2022
Final Completion of Project	September 30, 2022

Failure to achieve the milestones will result in liquidated damages as described in the CITY's general conditions.

The DBF shall be responsible to obtain all permits not already acquired by the CITY. The procurement of permits is a critical item on the schedule for this Project. The DBF shall expedite the procurement of the permits not already obtained by the CITY.

END OF SECTION 3*

Design Build Pump Station A-16 Upgrade - WATER
12601-125**SECTION 4 SUBMITTAL REQUIREMENTS****Section IV – Submittal Requirements****4.1 Instructions**

- 4.1.1** The City of Fort Lauderdale uses BIDSYNC (www.bidsync.com) to administer the competitive solicitation process, including but not limited to soliciting responses, issuing addenda, posting results and issuing notification of an intended decision. There is no charge to register and download the RFP from BIDSYNC. Offerors are strongly encouraged to read the various vendor Guides and Tutorials available in BIDSNYC well in advance of their intention of submitting a response to ensure familiarity with the use of BIDSYNC. The City shall not be responsible for an Offeror's inability to submit a response by the end date and time for any reason, including issues arising from the use of BIDSYNC.
- 4.1.2** Careful attention must be given to all requested items contained in this RFP. Consultants are invited to submit responses in accordance with the requirements of this RFP. Please read entire solicitation before submitting a proposal. Consultants must provide a response to each requirement of the RFP. Responses should be prepared in a concise manner with an emphasis on completeness and clarity. Consultant's notes, exceptions, and comments may be rendered on an attachment, provided the same format of this RFP text is followed.
- 4.1.3** All information submitted by DBF shall be typewritten or provided as otherwise instructed to in the RFP. DBFs shall use and submit any applicable or required forms provided by the City and attach such to their response. Failure to use the forms may cause the response to be rejected and deemed non-responsive.
- 4.1.4** Responses shall be submitted by an authorized representative of the firm. Responses must be submitted in the business entities name by the President, Partner, Officer or Representative authorized to contractually bind the business entity. Responses shall include an attachment evidencing that the individual submitting the response, does in fact have the required authority stated herein.
- 4.1.5** All responses will become the property of the City. In the event of Contract award, all documentation produced as part of the Contract shall become the exclusive property of the City. All proposals will become the property of the City. The Proposer's response to the RFP is a public record pursuant to Florida law, which is subject to disclosure by the City under the State of Florida Public Records Law, Florida Statutes Chapter 119.07 ("Public Records Law"). The City shall permit public access to all documents, papers, letters or other material submitted in connection with this RFP and the Contract to be executed for this RFP, subject to the provisions of Chapter 119.07 of the Florida Statutes. Any language contained in the Proposer's response to the RFP purporting to require confidentiality of any portion of the Proposer's response to the RFP, except to the extent that certain information is in the City's opinion a Trade Secret pursuant to Florida law, shall be void. If a Proposer submits any documents or other information to the City which the Proposer claims is Trade Secret information and exempt from Florida Statutes Chapter 119.07 ("Public Records Laws"), the Proposer shall clearly designate that

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it is a Trade Secret and that it is asserting that the document or information is exempt. The Proposer must specifically identify the exemption being claimed under Florida Statutes 119.07. The City shall be the final arbiter of whether any information contained in the Proposer's response to the RFP constitutes a Trade Secret. The city's determination of whether an exemption applies shall be final, and the Proposer agrees to defend, indemnify, and hold harmless the city and the city's officers, employees, and agent, against any loss or damages incurred by any person or entity as a result of the city's treatment of records as public records. In the event of Contract award, all documentation produced as part of the Contract shall become the exclusive property of the City.

IF THE CONTRACTOR HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO THE CONTRACTOR'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS CONTRACT. CONTACT THE CUSTODIAN OF PUBLIC RECORDS AT: (954-828-5002, PRRCONTRACT@FORTLAUDERDALE.GOV, CITY CLERK'S OFFICE, 100 NORTH ANDREWS AVENUE, FORT LAUDERDALE, FLORIDA 33301)

DBF shall:

1. Keep and maintain public records that ordinarily and necessarily would be required by the City in order to perform the service.
2. Upon request from the City's custodian of public records, provide the City with a copy of the requested records or allow the records to be inspected or copied within a reasonable time at a cost that does not exceed the cost provided in Chapter 119, Florida Statutes (2018), as may be amended or revised, or as otherwise provided by law.
3. Ensure that public records that are exempt or confidential and exempt from public records disclosure requirements are not disclosed except as authorized by law for the duration of the contract term and following completion of this contract if the DBF does not transfer the records to the City.
4. Upon completion of the Contract, transfer, at no cost, to the City all public records in possession of the DBF or keep and maintain public records required by the City to perform the service. If the Contractor transfers all public records to the City upon completion of this Contract, the Contractor shall destroy any duplicate public records that are exempt or confidential and exempt from public records disclosure requirements. If the Contractor keeps and maintains public records upon completion of this Contract, the Contractor shall meet all applicable requirements for retaining public records. All records stored electronically must be provided to the City, upon request from the City's custodian of public records, in a format that is compatible with the information technology systems of the City.

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4.1.6 Submittals

Please be advised that effective immediately, and until further notice, all Technical and Price Proposals offers to this Request For Proposal, shall be submitted “**electronically**” via BidSync and will be opened “**electronically**” via BIDSYNC.COM at the date and time indicated on the solicitation. **PAPER BID SUBMITTALS WILL NOT BE ACCEPTED. BIDS MUST BE SUBMITTED ELECTRONICALLY VIA BIDSYNC.COM**

The DBF should concisely follow the format set out herein and provide all the information requested:

It is the sole responsibility of the Proposer to ensure their proposal is received on or before the date and time stated, in the specified number of copies and in the format stated herein.

4.2 Contents of Qualification Statement/Submittals:

The following information and documents are required to be provided with DBF response to this RFP. Failure to do so may deem your Proposal non-responsive or non-responsible. The City deems certain documentation and information important in the determination of responsiveness/responsibility, and for the purpose of evaluating responses. Responses should seek to avoid information in excess of that requested, must be concise, and must specifically address the issues of this RFP. The following checklist is not inclusive of all the information that may be necessary to properly evaluate the response and meet the requirements of the scope of work and/or specifications. Additional documents and information should be provided as deemed appropriate by the Proposer in response to specific requirements stated herein or through the RFP.

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4.2.1 Proposal Contact Person Information

Indicate which firm/company is the Lead Design-Builder whose signature grants authority to bind submitter to the provisions of this RFP.

Identify the following:

- Legal name of proposer(s)
- Federal employee identification (FEIN) number
- Mailing address City State Zip
- Contact person’s name
- Title
- Email address
- Phone number
- Fax number

Any firm/company qualifying as a minority entity to this RFP should also be identified in the same manner. If there are multiple firms proposed as one team, each firm must be identified.

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1.2.2 QUALIFICATIONS OF THE FIRM

4.2.2.1 Minimum Qualifications

The Proposer shall have the following Minimum Qualifications to be considered eligible to submit a Proposal in response to this Solicitation. It is the responsibility of the Proposer to ensure and certify that it meets the Minimum Qualifications stated below.

A Proposer not meeting all of the following criteria will have their Proposal rejected:

- D&B team must have vast experienced in the abandonment of existing utilities and construction of sewage pump stations and all its components, including instrumentation and controls as stipulated and required by the specifications and plans. Successfully completed at least Two (3) collaborative delivery (Design-Build) projects in the last ten (10) years with a contract value of at least \$3,000,000.00 of similar Scope.
- The Proposer shall provide evidence of bonding capacity, in the form of a letter from a surety or insurance company, on its letterhead stating that the Proposer is capable of obtaining separate performance and payment bonds to cover a minimum amount of \$5,000,000.00.

Licensure

- The Proposer shall be licensed as a General Contractor in the State of Florida at the time of submittal of its RFP shall maintain licensure for the duration of the Design-Build Contract.
- The Proposer's Engineer shall be licensed as a Professional Engineer in the State of Florida and shall maintain licensure for the duration of the Design-Build Contract.

Business Structure

- Provide a brief introduction narrative letter highlighting the qualifications of the firm in providing the professional services as it relates specifically to the project;
- Corporations, Joint Ventures, LLC or Partnerships – submit a copy indicating when the corporation was organized as a legal entity in the State of Florida, corporation number.
- Any firm(s) involved in a joint venture in this Proposal will be evaluated individually. An executed copy of the joint venture agreement must be submitted with the proposal. Percentages of participation of fees must be clearly stated for each joint venture partner;
- Include copies of all active State of Florida professional licenses, including professional engineers, State of Florida certifications; State of Florida certified general contractors license with unlimited building classification, held by the Firm under Florida Law to provide the required services;
- Names of Key Personnel and Role in this project
- Name, title, name of firm, phone number, fax number, and email
- Demonstrate your firm's ability to comply with insurance requirements. Provide a previous certificate or other evidence listing the Insurance Companies names for both Professional Liability, General Liability, Automobile Liability, Worker's

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Compensation, and Professional Liability and/or Errors and Omissions, evidencing the dollar amounts of the coverage.

Workload of the Firm

For the prime DBF, or in the case of a Joint Venture (JV), list all completed and active projects that DBF or JV has managed within the past five years. In addition, list all projected projects and dollar value that DBF or JV will be working on in the near future.

Projected projects will be defined as a project(s) that DBF or JV has been awarded a contract, but the Notice to Proceed has not been issued. Identify any projects that DBF or JV is working on concurrently and dollar value of remaining work. Describe Vendor's approach in managing these projects. Were there or will there be any challenges for any of the listed projects? If so, describe how Vendor dealt with or will deal with the projects' challenges.

Joint Ventures

If applicant is a joint venture, provide a copy of the joint venture agreement that was filed with the State of Florida. All applicants must comply with Chapter 489 Florida Statutes, as well as the Florida Administrative Code **prior to the proposal submission.**

Firms Past Experience

Firms should submit any information they deem appropriate for evaluation of past performance with projects similar in nature to the one under consideration by the City.

- Title of example project;
- Location of example project;
- Client name/owner's representative name, address, phone number, and email;
- Date project started and completed or is anticipated to be completed; Point of contact name and organization which contracted the service who is very familiar with the project and the firm's performance and phone number and email;
- Brief description of Project relevance to this contract;
 - Original budget vs. Final cost
 - Principal elements and special features of the project.
 - Details of project value engineering; cost savings realized; innovative solutions; project time enhancement; value added efforts; etc.
 - Present status of project.

Key Personnel

The DBF shall provide a maximum of seven (7) resumes of the key staff to be assigned to perform the Work. The resumes provided shall identify the Project Manager, Design Manager, DBF or General Superintendent, Project Quality Control Manager, Scheduler/Project Controls Specialist, Project Health and Safety Manager. These Primary positions shall only serve in one (1) role.

NOTE: The Project Manager must be an employee from the DBF or JV submitting the Proposal and not a Subconsultant or not a Subcontractor. Persons whose

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resumes are submitted as a Team Member must actually perform the Work unless DBF/JV receives prior approval by the CITY Project Manager to use a backup Team Member.

Provide an organization chart for proposed Team Member key personnel staff, including subconsultants and subcontractors.

Concerning Subconsultants, suppliers, and Others

The amount of work that is sublet by the DBF, including Joint Ventures, shall be limited by the condition that the DBF, or in the case of a Joint Ventures, shall with his own organization, perform at least forty percent (40%) of the total dollar amount of the Work to be performed under the Agreement.

Safety

Most recent Experience Modification Rate (EMR) (provided on letterhead from current insurance provider) not greater than 1.0; Five-year average OSHA Total Recordable Incident Rates (TRIR) of less than 3.4; Five-year average OSHA Days Away, Restricted or Transferred (DART) Rate of less than 2.1; and Five-year average OSHA Days Away from Work Case (DAWC) rate of less than 1.0.

4.2.3 QUALIFICATIONS OF THE TEAM

The DBF must identify all design and construction disciplines and specialty consultants that the DBF intends to employ in the design and construction of this Project.

- Name and title of each proposed team member;
- Years' experience;
- Area of responsibility;
- Firm name and location;
- Education – provide information on the highest relevant academic degree(s) received and areas of specialization;
- Current professional registration; license(s)
- Provide information on any other professional qualifications relating to this team member such as publications, organizational memberships, certifications, training, awards, and foreign language capabilities;

For each key personnel, a minimum of three (3) alternate delivery projects on which they held a key delivery role should be included. Resumes should clearly identify and describe the role of the Key Personnel, in each project listed. Resumes shall also identify any specialty or technical process expertise. **Resumes shall not be more than two (2) pages each on 8.5" x 11" sized paper. No more than seven (7) resumes should be submitted.**

Sub-consultant(s)

DBF must clearly reflect in its Proposal any Sub-consultant including but not limited to the Project Manager, Design Manager, DBF or General Superintendent, Project Quality Control Manager, Scheduler/Project Controls Specialists, Project Health and Safety Manager (collectively, the "Team Members"), proposed to be utilized along with a summary of their background and qualifications, including but not limited to name of the sub-consultant, location of place of business, service(s) the sub-consultant will provide, license (if applicable), two (2) sub-consultant

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references, ownership, education, and experience. These Primary positions shall only serve in one (1) role. The City retains the right to accept or reject any Sub-consultant proposed.

4.2.4 Project Manager's Experience

Provide a comprehensive summary of the experience and qualifications of the individual(s) who will be selected to serve as the project managers overseeing the design and construction for the City. Individual(s) must have a minimum of five (5) years' experience in required discipline and have served as project manager on a minimum of three (3) previous occasions. Include their related work experience and qualification and copies of active licenses and certifications. Include the length of tenure with Firm.

All proposed team Project Managers must be committed for the duration of the Project and must have the City's approval prior to replacement.

Example Projects

- Illustrate proposed team member's qualifications preferably where multiple team members worked together in the past five (5) years on similar projects. including projects that involve design, permitting, and construction including:
 - Title and location of project
 - Year started and completed
 - Project owner, point of contact, point of contact phone number, and email
 - Initial cost of project and actual cost at completion
 - Brief description of project and relevance to this project.
- Provide organizational chart of proposed team:
 - Indicate names and titles of all team members and the firm they are associated with.
- Resumes of key team members proposed for this project.

4.2.5 Project Methodology & Approach

- Provide a statement of the firms understanding of the project and methodology and approach to managing the project. Include a plan for completing the specified work including ability to meet time and budget requirements;
- Provide a conceptual design for the proposed Project. Include design, construction, planning, coordination, scheduling, maintainability and any other areas that utilize new or time saving techniques to accomplish the work in a timely manner without sacrificing quality. Include the maintainability of the water main and force main;
- Describe approach to minimizing impact to surrounding neighbors, businesses, and travelling public;
- Describe approach for minimizing lane closures, lanes reductions, maintenance of traffic (MOT) plan, and reducing traffic impacts;
- Describe means and methods for expediting project schedule;
- Provide information on your firm's current workload and how this project will fit into your workload;
- Describe available facilities, technological capabilities and other available resources you offer for the project.

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4.2.6 **References**

The DBF shall have previous experience in the design, permitting, construction aspects of the project as describe in this RFP, of PROJECT DESCRIPTION, in the State of Florida within the last ten (10) years.

DBF shall submit proof of design, permitting, and construction experience for a minimum of three (3) projects or any information they deem appropriate for evaluation of past performance with projects similar in scope and scale (or larger) to the one under consideration; and shall, for each project listed, including but not limited to:

- Client Name, address, contact person telephone, fax numbers, and email addresses.
- Project name and overall scope.
- Dates of construction.
- Description of work that was self-performed.
- Details of project value engineering; cost savings realized; innovative solutions; project time enhancement; value added efforts; etc.
- Total cost of the construction, estimated and actual.

The DBF shall be responsible for verifying reference contact name, phone number, email addresses, and contact place of employment, submitted as proof of project experience.

Note: Do not include only the City of Fort Lauderdale work or staff references as a demonstration of your capabilities. The Committee is interested in details of work experience and references other than the City of Fort Lauderdale.

Proposer's shall mark any pages of the Submittal it considers proprietary or confidential accordingly. Proposer shall state what proprietary or confidential governing law the Proposer is stating to claim such relief. Information will be treated as such by the City; provided, however, that the City cannot ensure that this information would not be subject to release pursuant to a public disclosure request. If a request for such information is received, the City will promptly notify the Proposer of such request and it shall be the Proposer's sole burden and responsibility to immediately seek and obtain such injunctive or other relief from the Courts and to immediately serve notice of the same upon the party requesting the public records.

4.2.7 **Price Proposal Form**

Proposer must submit the Price Proposal Form included in this RFP. In addition to submitting the required Price Proposal Form, the Proposer must include a separate Schedule of Values for each phase or task of work. This Schedule of Values and Price Proposal form shall also be submitted in electronic Microsoft Excel format with detailed breakouts of pricing and supporting calculations and organizational structure. The price proposal shall be based upon and include any and all costs or

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expenses to be incurred by the DBF in implementing, fulfilling and completing all aspects of the design-build project. The price proposal, in addition to all direct costs and expenses, shall include all other indirect costs and expenses including but not limited to, such costs as the design-builder's general, administrative and overhead costs, project management and supervisory costs, all fees, changes and taxes, labor, direct and indirect payroll costs, insurance and bond costs, cost of equipment, materials, tools, transportation, and service fee (profit).

4.2.8 Contract Forms

All contract forms must be completed (with all blanks filled in), and executed.

a. Statement of Qualification Certification

Complete and attach the Statement of Qualification Certification.

b. Non-Collusion Statement

This form is to be completed, if applicable, and inserted in this section.

c. Contract Payment Method

This form must be completed and returned with your proposal. Proposers must presently have the ability to accept these credit cards or take whatever steps necessary to implement acceptance of a card before the start of the contract term, or contract award by the City.

d. Sample Insurance Certificate

Demonstrate your firm's ability to comply with insurance requirements. Provide a previous certificate or other evidence listing the Insurance Companies names for both Professional Liability and General Liability and the dollar amounts of the coverage.

e. Non-Discrimination Certification Form

f. Trench Safety

g. Prime DBF Identification

h. E-Verify Affirmation Statement

i. Bid Proposal Certification

j. Acknowledgment of Addenda

k. Proposal Bond

- 4.3** Before awarding a contract, the City reserves the right to require that a firm submit such evidence of his/her qualifications as the City may deem necessary. Further, the City may consider any evidence of the financial, technical, and other qualifications and abilities of a firm or principals, including previous experiences of same with the City and performance evaluation for services, in making the award in the best interest of the City.

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SECTION 5 EVALUATION AND SELECTION CRITERIA

5.1 Evaluation Criteria and Scoring (100 Percentage)

Design-Build Team's responses to this RFP will be evaluated and ranked by an RFP Evaluation Committee. Submittals shall be evaluated based upon the information and references contained in the Proposals as submitted.

UPDATE

Qualifications of the Firm & the Team	Percent
Project Methodology & Approach	Percent
Price Proposal	30 Percent
References	Percent

5.2 EVALUATION PROCEDURE

Committee

Evaluation of the submittals will be conducted by an Evaluation Committee, consisting of a minimum of three (3) members of City Staff, or other persons selected by the City Manager or designee. All committee members must be present at scheduled evaluation meetings. Submittals shall be evaluated based upon the information and references contained in the Proposals as submitted. Any firm(s) involved in a joint venture in its Proposal will be evaluated individually, as each firm of the joint venture would have to stand on its own merits.

Scoring and Ranking

The City uses a mathematical formula to determine the scoring for each individual responsive and responsible firm based on the weighted criteria stated herein. Each evaluation committee member will rank each firm by criteria, giving their first ranked firm as number 1, the second ranked firm as number 2, and so on. The lowest final ranking score will determine the recommendation by the evaluation committee to the City Manager.

Clarification

During the evaluation process, the City has the right to require any clarification it needs in order to understand the DBF's view and approach to the project scope of the work. Any clarifications to the Proposal made before executing the contract will become part of the final DBF contract.

Negotiations

The City Manager or designee reserves the right to conduct contract negotiations with the selected responsible, responsive DBF. If successful, the DBF and City will enter into a contract for the work. All proposers are considered fully informed as to the intentions of the City regarding the timeframe to prepare and complete contract negotiations.

If the City is unable to negotiate a satisfactory design-build contract with the design-build firm considered to be the most qualified, negotiations with that design-build firm shall be formally terminated. Upon termination of said negotiations, negotiations shall then be undertaken with the second ranked firm, with this process being repeated until an agreement is reached which is then recommended and formally approved by the City Commission or until the short-list is exhausted in which case a new RFP may be undertaken.

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The City may withdraw this RFP, reject qualifications or any portion thereof at any time prior to an award, and is not required to furnish a statement of the reason why a particular qualification was not deemed to be the most advantageous to the City.

Consult Design Criteria Professional

The City shall consult with the design criteria professional who prepared the package concerning evaluation of the proposals, approval of detail work and drawings for the project and compliance of project construction with the package.

Award

The City reserves the right to award a contract to that DBF who will best serve the interest of the City. The City reserves the right, based upon its deliberations and in its opinion, to accept or reject any or all submittals. The City also reserves the right to waive minor irregularities or variations of the submittal requirements and RFP process and any informality in any proposal and to reject any or all proposals. The City reserves the right to reduce or delete any of the proposal items.

Upon award of a Contract, in accordance with Florida Statutes, by the City Commission, the City Manager is authorized to execute the Contract on behalf of the City.

At time of award of contract, the City reserves the right to set a guaranteed maximum price limit that may be expended on this project. Contract quantities of any or all items may be increased, reduced, or eliminated to adjust the contract amount to coincide with the amount of work necessary or to bring the contract value to within the established limit.

Exceptions

Any Proposer that objects to any element of the solicitation documents including but not limited to the RFP, DCP, drawings, construction time frame, sample agreement, general terms and conditions, etc. should state those objections in the submittal.

****END OF SECTION 5****

PROPOSAL BID FORM

If this Proposal is accepted, the undersigned Bidder agrees to complete all work under this contract by September 30, 2020 (final completion. **UNIT PRICE PREVAILS OVER TOTAL PRICE.** All entries on this form must be typed or written in block form in ink. Quantities provided are for information purposes.

The Contractor must bid both proposals. The City will have the sole discretion to decide which method is to ultimately be used.

BASE BID (HDD ALONG SE 3RD AVE AND OPEN CUT ALONG SE 9TH ST)

No.	Description	Quantity	Unit	Unit Price	Total
1	Bonds and Insurance	1	LS		
2	Mobilization	1	LS		
3	Maintenance of Traffic	1	LS		
4	Furnish and Install 36-inch HDPE Water Main Pipe (HDD)	609	LF		
5	Furnish and Install 30-inch Ductile Iron Pipe Water Main (Open Cut)	375	LF		
6	Cut and Connect to Existing Water Main	2	EA		
7	Furnish and Install 30-inch Gate Valve and Box	2	EA		
8	Furnish and Install Air Release Valve	2	EA		
9	Furnish and Install Water Main Fittings	10	TON		
10	Line Stops and Bypass 30-inch Water Main	2	EA		
11	Tapping Sleeve and Valve	2	EA		
12	Remove and Dispose of Existing Asphalt Pavement	275	SY		
13	Remove Existing Limerock Base Material	275	SY		
14	Pavement Restoration	275	SY		
15	Mill Existing Asphalt Pavement	1672	SY		
16	Furnish and Place Asphalt Concrete Pavement - Second Lift (1")	1672	SY		
17	Asphalt Driveway Apron Restoration	65	SY		
18	Concrete Driveway Apron Restoration	27	SY		
19	Specialty Driveway Apron Restoration	91	SY		
20	Remove and Relocate Existing Trees	4	EA		
21	Abandon Existing 6-inch Water Main	1	EA		
22	Abandon Existing 30-inch Water Main	1	EA		
23	Furnish and Install Sample Points	3	EA		
24	Remove Sample Point after Certification	3	EA		
25	Design and Survey	1	LS		
26	Contingency	1	LS		

BASE BID TOTAL FOR COMPLETE PROJECT

TOTAL BASE BID IN WRITING

ALTERNATE BID (HDD ALONG SE 3RD AVE AND SE 9TH ST)

No.	Description	Quantity	Unit	Unit Price	Total
1.1	Bonds and Insurance	1	LS		
2.1	Mobilization	1	LS		
3.1	Maintenance of Traffic	1	LS		
4.1	Furnish and Install 36-inch HDPE Water Main Pipe (HDD)	889	LF		
5.1	Furnish and Install 30-inch Ductile Iron Pipe Water Main (Open Cut)	95	LF		
6.1	Cut and Connect to Existing Water Main	2	EA		
7.1	Furnish and Install 30-inch Gate Valve and Box	2	EA		
8.1	Furnish and Install Air Release Valve	2	EA		
9.1	Furnish and Install Water Main Fittings	18	TON		
10.1	Line Stops and Bypass 30-inch Water Main	2	EA		
11.1	Tapping Sleeve and Valve	2	EA		
12.1	Remove and Dispose of Existing Asphalt Pavement	165	SY		
13.1	Remove Existing Limerock Base Material	165	SY		
14.1	Pavement Restoration	165	SY		
15.1	Mill Existing Asphalt Pavement	5630	SY		
16.1	Furnish and Place Asphalt Concrete Pavement - Second Lift (1")	5630	SY		
17.1	Remove and Relocate Existing Trees	1	EA		
18.1	Abandon Existing 6-inch Water Main	1	EA		
19.1	Abandon Existing 30-inch Water Main	1	EA		
20.1	Furnish and Install Sample Points	3	EA		
21.1	Remove Sample Point after Certification	3	EA		
22.1	Design and Survey	1	LS		
23.1	Contingency	1	LS		

ALTERNATE BID TOTAL FOR COMPLETE PROJECT

TOTAL ALTERNATE BID IN WRITING

NOTES:

- REFER TO SECTION 01025 FOR ADDITIONAL DESCRIPTION OF ITEMS.
- SUBSTANTIAL COMPLETION TIME AND PROJECT CLOSEOUT TIME FOR THE CONTRACT SHALL BE ASDEFINED IN THE PROJECT SCHEDULE IN THE SUPPLEMENTARY GENERAL CONDITIONS.

3. THE BASE BID AND THE ALTERNATE BID ITEMS MUST BE PROVIDED FOR AN ACCEPTABLE BID. THE CITY HAS THE SOLE DISCRETION TO AWARD THE CONTRACT BASED ON THE EITHER THE BASE BID, THEALTERNATE BID, OR ANY COMBINATION THEREOF.

GENERAL CONDITIONS

Unless otherwise modified in the Projects Special Conditions, the following General Conditions shall be part of the Contract:

GC - 01 - DEFINITIONS - The following words and expressions, or pronouns used in their stead, shall wherever they appear in the Contract and the Contract Documents, be construed as follows:

"Addendum" or "Addenda" - shall mean the additional Contract provisions issued in writing, by the Engineer, prior to the receipt of bids.

"Bid" – shall mean the offer or proposal of the Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

"Bidder" – shall mean any person, firm, company, corporation or entity submitting a Bid for the Work.

"Bonds" –shall mean bid, performance and payment bonds and other instruments of security, furnished by Contractor and his surety in accordance with the Contract Documents.

"City" – shall mean the City of Fort Lauderdale, Florida, a Florida municipal corporation. In the event the City exercises its regulatory authority as a government body, the exercise of such regulatory authority and the enforcement of any rules, regulations, codes, laws and ordinances shall be deemed to have occurred pursuant to City's authority as a governmental body and shall not be attributable in any manner to the City as a party to this Contract. For the purpose of this Contract, "City" without modification shall mean the City Commission, and/or City Manager or his/her designee(s) as applicable.

"Construction Manager" - shall mean the Public Works Director or his/her designee.

"Construction Project Manager" - shall mean the Public Works Director or his/her designee.

"Consultant" – shall mean a person, firm, company, corporation or other entity employed by the City to perform the professional services for the project.

"Contract Work" - shall mean everything expressed or implied to be required to be furnished and furnished by the Contractor by any one or more of the parts of the Contract Documents referred to in the Contract hereof except Extra Work as hereinafter defined, it being understood that, in case of any inconsistency in or between any part or parts of this Contract, the Public Works Director shall determine which shall prevail.

"Design Documents" – shall mean the construction plans and specifications included as part of a Bid/Proposal Solicitation prepared either by the City or by the Consultant under a separate Agreement with the City.

"Engineer" - shall mean the Public Works Director or his/her designee.

"Extra Work" - shall mean work other than that required by the Contract.

"Inspector" – shall mean an authorized representative of the City assigned to make necessary inspections of materials furnished by Contractor and of the Work performed by Contractor.

"Notice" - shall mean written notice sent by certified United States mail, return receipt requested, or sent by commercial express carrier with acknowledgement of delivery, or via fax or email, or by hand delivery with a request for a written receipt of acknowledgment of delivery and shall be served upon the Contractor either personally or to its place of business listed in the Bid.

"Owner" - shall mean the City of Fort Lauderdale.

"Project Manager" - shall mean the Public Works Director or his/her designee.

"Public Works Director" – shall mean the Public Works Director of the City of Fort Lauderdale, Florida or his/her designee(s).

"Site" - shall mean the area upon or in which the Contractor's operations are carried out and such other areas adjacent thereto as may be designated as such by the Public Works Director.

"Sub-contractor" - shall mean any person, firm, company, corporation or other entity, other than employees of the Contractor, who or which contracts with the contractor, to furnish, or actually furnishes labor and materials, or labor and equipment, or labor, materials and equipment at the site.

"Surety" - shall mean any corporation or entity that executes, as Surety, the Contractor's performance and payment bond securing the performance of this Contract.

GC - 02 - SITE INVESTIGATION AND REPRESENTATION - The Contractor acknowledges that it has satisfied itself as to the nature and location of the Work under the Contract Documents, the general and local conditions of the Site, particularly those bearing upon availability of transportation, disposal, handling and storage of materials, availability of labor, water, electric power, and roads, the conformation and conditions at the ground based on City provided reports, the type 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 the Contract Documents.

The Contractor acknowledges that it has conducted extensive tests, examinations and investigations and represents and warrants a thorough familiarization with the nature and extent of the Contract Documents, the Work, locality, soil conditions, moisture conditions and all year-round local weather and climate conditions (past and present), and, in reliance on such tests, examination and investigations conducted by Contractor and the Contractor's experts, has determined that no conditions exist that would in any manner affect the Bid Price and that the project can be completed for the Bid Price submitted.

The Contractor, on its own, has made or caused to be made examinations, investigations, tests and studies of reports and related data in addition to those referred above, as Contractor deemed necessary to perform the Work at the Bid price set by the Contractor, within the contract time and in accordance with the other terms and conditions of the Contract Documents and the bid made by the Contractor; and no additional examinations, investigations, tests, reports or similar data are, or will be, required by Contractor to assure that the Work can be done at the Bid price set by the Contractor.

The Contractor further acknowledges that it has satisfied itself based on any geotechnical reports the City may provide and inspection of the project Site as to the character, quality, and quantity of surface and subsurface materials to be encountered from inspecting the site and from evaluating information derived from exploratory work that may have been done by the City or included in the Contract Documents and finds and has further determined that no conditions exist that would in any manner affect the Bid price and that the project can be completed for the Bid price submitted.

Any failure by the Contractor to acquaint itself with all the provided information and information obtained by visiting the project Site will not relieve Contractor from responsibility for properly estimating the difficulty or cost thereof under the Contract Documents. In the event that the actual subsurface conditions vary from the actual City provided reports, the Contractor shall notify the City and the Contract amount may be adjusted depending on the conditions, at the approval of the City.

GC - 03 - SUBSTITUTIONS - If the Contractor desires to use materials and/or products of manufacturer's names different from those specified in the Contract Documents, the Bidder requesting the substitution shall make written application as described herein. The burden of proving the equality of the proposed substitution rests on the Bidder making the request. To be acceptable, the proposed substitution shall meet or exceed all expressed requirements of the Contract Documents and shall be submitted upon the Contractor's letterhead, in addition to the "Contractor's Request for Substitution" form provided by the Public Works Director. The following requirements shall be met in order for the substitution to be considered:

1. Requests for substitution shall reach the Public Works Director no less than ten (10) Working Days prior to the date set for opening of Bids; and
2. Requests for substitution shall be accompanied by such technical data, as the party making the request desires to submit. The Public Works Director will consider reports from reputable independent testing laboratories, verified experience records from previous users and other written information valid in the circumstances; and
3. Requests for substitution shall completely and clearly indicate in what respects the materials and/or products differ from those indicated in the Contract Documents; and
4. Requests for substitution shall be accompanied by the manufacturer's printed recommendations clearly describing the installation, use and care, as applicable, of the proposed substitutions; and
5. Requests for substitution shall be accompanied by a complete schedule of changes in the Contract Documents, if any, which must be made to permit the use of the proposed substitution; and

If a proposed substitution is approved by the Public Works Director, an addendum will be issued to prospective bidders not less than three (3) working days prior to the date set for opening of bids. Unless substitutions are received and approved as described above, the successful Bidder shall be responsible for furnishing materials and products in strict accordance with the Contract Documents.

GC - 04 - CONTROL OF THE WORK - The Public Works Director shall have full control and direction of the Work in all respects. The Public Works Director and/or his authorized designee(s) shall, at all times, have the right to inspect the Work and materials. The Contractor shall furnish all reasonable facilities for obtaining such information, as the Public Works Director may desire respecting the quality of the Work and materials and the manner of conducting the Work. Should the Contractor be directed or permitted to perform night Work, or to vary the period which work is ordinarily carried on in the daytime, he shall give ample notice to the Public Works Director so that proper and adequate inspection may be provided. Such Work shall be done only under such regulations as are furnished in writing by the Public Works Director, and no extra compensation shall be allowed to the Contractor therefore. In the event of night work, the Contractor shall furnish such light, satisfactory to the Public Works Director, as will ensure proper inspection. Nothing herein contained shall relieve the Contractor from compliance with any and all City ordinances relating to noise or Work during prohibited hours.

The Contractor shall keep the Public Works Director informed, a reasonable time in advance, as to his need for grades and lines in order that the same may be furnished and all necessary measurements made for records and for payment with the minimum of inconvenience to the Public Works Director or of delay to the Contractor. The Contractor shall submit to the Public Works Director or Inspector on the job a written request outlining the streets, etc., for which the Contractor desires lines and grades. It is the intention not to delay the Work for the giving of lines and grades, but when necessary, work operations shall be suspended for such reasonable time as the Public Works Director may require for this purpose. However, such cost increases shall be authorized either by the City Manager and/or designee, or the City Commission based upon the purchasing threshold amounts provided for in Chapter 2 of the City of Fort Lauderdale's Code of Ordinances.

GC - 05 - SUB-CONTRACTOR - The Contractor shall not sublet, in whole or any part of the Work without the written consent and approval of the Public Works Director. Within ten (10) days after official notification of starting date, the Contractor must submit in writing, to the Public Works Director, a list of all Sub-contractors. No Work shall be done by any Sub-contractor until such Subcontractor has been officially approved by the Public Works Director. A sub-contractor not appearing on the original list will not be approved without written request submitted to the Public Works Director and approved by the Public Works Director. In all cases, the Contractor shall give his personal attention to the Work of the Sub-contractors and the Sub-contractor is liable to be discharged by the Contractor, at the direction of the Public Works Director, for neglect of duty, incompetence or misconduct.

Acceptance of any sub-contractor, other person, or organization by the Public Works Director shall not constitute a waiver of any right of Public Works Director to reject defective Work or Work not in conformance with the Contract Documents.

Contractor shall be fully responsible for all acts and omissions of his Sub-contractors and of persons and organizations directly or indirectly employed by them and of persons and organizations for whose acts any of them may be liable to the same extent that he is responsible for the acts and omissions of persons directly employed by him. Nothing in the Contract Documents shall create any contractual relationship between City and any sub-contractor or other person or organization having a direct contract with Contractor, nor shall it create any obligation on the part of City to pay or to see to the payment of any moneys due to any sub-contractor or other person, or organization, except as may otherwise be required by law.

GC - 06 - QUANTITIES - It is mutually agreed that the proposal shows the approximate amounts only along with the Plans and the general location. It is also mutually agreed that no change will be made involving any departure from the general scheme of the Work and that no such change involving a material change in cost, either to the City or Contractor, shall be made, except upon written permission of the City. However, the Public Works Director shall have the right to make minor alternations in the line, grade, plan, form or materials of the Work herein contemplated any time before the completion of the same. That if such alterations shall diminish the quantity of the Work to be done, such alterations shall not constitute a claim for damages or anticipated profits. That if such alterations increase the amount of the Work to be done, such increase shall be paid for according to the quantity actually performed and at the unit price or prices stipulated therefore in the Contract.

The City shall, in all cases of dispute, determine the amount or quantity of the several kinds of Work which are to be paid for under this Contract, and shall decide all questions relative to the execution of the same, and such estimates and decisions shall be final and binding.

Any Work not herein specified, which might be fairly implied as included in the Contract, of which the City shall judge, shall be done by the Contractor without extra charge. However, such cost increases shall be authorized either by the City Manager and/or designee, or the City Commission based upon the purchasing threshold amounts provided for in Chapter 2 of the City of Fort Lauderdale's Code of Ordinances.

GC - 07 - NO ORAL CHANGES - Except to the extent expressly set forth in the Contract, no change in, or modification, termination or discharge of the Contract in any form whatsoever, shall be valid or enforceable unless it is in writing and signed by the parties charged, therewith or their duly authorized representative.

GC - 08 - PERMITS AND PROTECTION OF PUBLIC – Permits on file with the City and or those permits to be obtained, shall be considered directive in nature, and will be considered a part of this Contract. A copy of all permits shall be given to the City and become part of the Contract Documents. Terms of permits shall be met prior to acceptance of the Work and release of the final payment.

The Contractor shall be required to observe all the ordinances in relation to obtaining permits for occupying, excavating, or in any way obstructing the streets and alleys. He shall erect and maintain barricades and sufficient safeguards around all excavations, embankments or obstructions; he shall place sufficient warning lights at or near the Work; keep the same burning from sunset to sunrise, employ watchmen, and strictly obey all laws and ordinances controlling or limiting those engaged in similar work.

Where there are telephones, light or power poles, water mains, conduits, pipes or drains or other construction, either public or private, in or on the streets or alleys, the Work shall be so conducted that no interruption or delay will be caused in the operation or use of the same. Proper written notice shall be given, and all the facilities, afforded the owners of such construction encountered or likely to be encountered, as will enable them to preserve the same from injury.

The Contractor shall not be permitted to interfere with public travel and convenience by grading or tearing up streets indiscriminately, but the Work of constructing the various items in this contract shall proceed in an orderly, systematic and progressive manner.

Contractor shall not load nor permit any part of any structure to be loaded with weights that will endanger the structure, nor shall he subject any part of the Work to stresses or pressures that will endanger it.

Where lifting operations involving the use of specialized cranes are required as part of construction, Contractor must undertake the following investigation and submit the results and documentation to the Engineer prior to commencing any lifting operations: marking a very specific area in the field for the placement of the crane; a drawing showing the limitations of the job operation (i.e. not over adjacent properties or pedestrian and high vehicular traffic areas); underground utility exploration in the vicinity of the crane location, which may include ground penetrating radar to identify voids or old pipe or other subsurface features that could lead to sudden failure; assessment of the underlying soil and roadway materials and a worst case analysis based on entire load being distributed on just one or two outriggers; provision of properly sized pads under the outriggers; loading charts from manufacturer showing allowable configurations/loads; and inspection to make sure crane operation is in accordance with the permit conditions.

GC - 09 - DISEASE REGULATIONS - The Contractor shall enforce all sanitary regulations and take all precautions against infectious diseases as the Public Works Director may deem necessary. Should any infectious or contagious diseases occur among his employees, he shall arrange for the immediate removal of the employee from the Site and isolation of all persons connected with the Work.

GC - 10 - CONTRACTOR TO CHECK PLANS, SPECIFICATIONS, AND DATA - The Contractor shall verify all dimensions, quantities, and details shown on the plans, supplementary drawings, schedules, or other data received from the Public Works Director, and shall notify the Public Works Director of all errors, omissions, conflicts and discrepancies found therein within three (3) working days of discovery. Failure to discover or correct errors, conflicts, or discrepancies shall not relieve the Contractor of full responsibility for unsatisfactory Work, faulty construction, or improper operation resulting therefrom nor from rectifying such condition at its own expense.

GC - 11 - SUPPLEMENTARY DRAWINGS - When, in the opinion of the Public Works Director, it becomes necessary to explain more fully the Work to be done, or to illustrate the work further, or to show any changes which may be required, drawings, known as supplementary drawings, with specifications pertaining thereto, will be prepared by the Public Works Director and copies will be given to the Contractor.

The supplementary drawings shall be binding upon the Contractor with the same force as the original Plans. Where such supplementary drawings require either less or more than the estimated quantities of work, credit to the City or compensations therefore to the Contractor shall be subject to the terms of the Contract.

GC - 12 - MATERIALS AND WORKMANSHIP - All material and workmanship shall, in every respect, be in conformity with approved modern practice and with prevailing standards of performance and quality. In the event of a dispute, the Public Works Director's decision shall be final. Wherever the Plans, Specifications, Contract Documents, or the directions of the Public Works Director are unclear as to what is permissible and/or fail to note the quality of any Work, that interpretation will be made by the Public Works Director, which is in accordance with approved modern practice, to meet the particular requirements of the Contract.

In all cases, new materials shall be used, unless this provision is waived by notice from the City in writing.

GC - 13 - SAFEGUARDING MARKS - The Contractor shall safeguard all points, stakes, grade marks, monuments, and bench marks made or established on the Work, bear the cost of re-establishing same if disturbed, or bear the entire expense of rectifying Work improperly installed due to not maintaining or protecting or for removing without authorization, such established points, stakes and marks. The Contractor shall safeguard all existing and known property corners, monuments and marks not related to the Work and, if required, shall bear the cost of having them re-established by a licensed surveyor if disturbed or destroyed during the course of construction.

GC - 14 - EXISTING UTILITY SERVICE - All existing utility service shall be maintained with a minimum of interruption at the expense of the Contractor.

GC - 15 - JOB DESCRIPTION SIGNS – Contractor, at Contractor's expense, shall furnish, erect, and maintain suitable weatherproof signs on jobs over \$100,000 containing the following information:

1. City Seal (in colors)
2. Project or Improvement Number
3. Job Description
4. Estimated Cost
5. Completion Date

Minimum size of sign shall be four feet high, eight feet wide and shall be suitably anchored. The entire sign shall be painted and present a pleasing appearance. Exact location of signs will be determined in the field. Two (2) signs will be required, one at each end of the job. All costs of this work shall be included in other parts of the work.

GC - 16 - FLORIDA EAST COAST RIGHT-OF-WAY - Whenever a City contractor is constructing within the Florida East Coast Railway Company's Right-of-Way, it will be mandatory that the contractor carry bodily injury and property damage insurance in amounts satisfactory to the Florida East Coast Company. This insurance requirement shall be verified by the contractor with the Florida East Coast Company prior to commencing work, and maintained during the life of the Contract.

GC - 17 - ACCIDENTS - The Contractor shall provide such equipment and facilities as are necessary and/or required, in the case of accidents, for first aid services to be provided to a person who may be injured during the project duration. The Contractor shall also comply with the OSHA requirements as defined in the United States Labor Code 29 CFR 1926.50.

In addition, the Contractor must report immediately to the Public Works Director every accident to persons or damage to property, and shall furnish in writing full information, including testimony of witnesses regarding any and all accidents.

GC - 18 - SAFETY PRECAUTIONS - Contractor must adhere to the applicable environmental protection guidelines for the duration of a project. If hazardous waste materials are used, detected or generated at any time, the Project Manager must be immediately notified of each and every occurrence. The Contractor shall comply with all codes, ordinances, rules, orders and other legal requirements of public authorities (including OSHA, EPA, DERM, the City, Broward County, State of Florida, and Florida Building Code), which bear on the performance of the Work.

The Contractor shall take the responsibility to ensure that all Work is performed using adequate safeguards, including but not limited to: proper safe rigging, safety nets, fencing, scaffolding, barricades, chain link fencing, railings, barricades, steel plates, safety lights, and ladders that are necessary for the protection of its employees, as well as the public and City employees. All riggings and scaffolding shall be constructed with good sound materials, of adequate dimensions for their intended use, and substantially braced, tied or secured to ensure absolute safety for those required to use it, as well as those in the vicinity. All riggings, scaffolding, platforms, equipment guards, trenching, shoring, ladders and similar actions or equipment shall be OSHA approved, as applicable, and in accordance with all Federal, State and local regulations.

GC - 19 - DUST PREVENTION - The Contractor shall, by means of a water spray, or temporary asphalt pavement, take all necessary precautions to prevent or abate a dust nuisance arising from dry weather or Work in an incomplete stage. All costs of this Work shall be included in cost of other parts of the Work.

Should the Contractor fail to abate a dust nuisance by the above methods, he will be required to immediately construct temporary patches per City standards.

GC - 20 - PLACING BARRICADES AND WARNING LIGHTS - The Contractor shall furnish and place, at his own expense, all barricades, warning lights, automatic blinker lights and such devices necessary to properly protect the work and vehicular and pedestrian traffic. Should the Contractor fail to erect or

maintain such barricades, warning lights, etc., the Public Works Director may, after 24 hours' notice to the Contractor, proceed to have such barricades and warning lights placed and maintained by City or other forces and all costs incurred thereof charged to the Contractor and may be retained by the City from any monies due, or to become due, to the Contractor.

GC - 21 - TRAFFIC CONTROL - The Contractor shall coordinate all Work and obtain, through the City's Transportation and Mobility Department, Broward County, Florida Department of Transportation, as applicable, any permits required to detour traffic or close any street before starting to work in the road. The following section: Part VI Traffic Controls for Street and Highway Construction and Maintenance Operations, MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, U.S. Department of Transportation Federal Highway Administration, 2009, or current edition, shall be used as a guide for requirement and placement of traffic control devices, signs and barricades. The Public Works Director shall determine requirements for the above. The above publication is available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. In the event that a Maintenance of Traffic (MOT) Plan is required, the Plan shall be prepared by an A.A.S.T.A. certified technician.

All traffic control devices, flashing lights, signs and barricades shall be maintained in working condition at all times.

GC - 22 - COORDINATION - The Contractor shall notify all utilities, transportation department, etc., in writing, with a copy to the Public Works Director before construction is started and shall coordinate its Work with them. The Contractor shall cooperate with the owners of any underground or overhead utility lines in their removal, construction and rearrangement operations in order that services rendered by these parties will not be unnecessarily interrupted.

The Contractor shall arrange its Work and dispose of his materials so as to not interfere with the operation of other contractors engaged upon adjacent work and to join its Work to that of others in a proper manner and to perform its Work in the proper sequence in relation to that of other contractors all as may be directed by the Public Works Director.

Each Contractor shall be responsible for any damage done by it or its agents to the work performed by another contractor.

The Contractor shall contact the Broward County Transportation Department and the Florida Department of Transportation, as applicable, to verify and obtain location of any and all traffic conduits, loops, and street light underground services.

GC - 23 - WATER - Bulk water used for construction, flushing pipelines, and testing shall be obtained from fire hydrants. Contractor shall make payment for hydrant meter at Treasury Billing Office, 1st Floor, City Hall, 100 N. Andrews Avenue. With the paid receipt, contractor can pick up hydrant meter at the utility location office. No connection shall be made to a fire hydrant without a meter connected.

GC - 24 - PROHIBITION AGAINST CONTRACTING WITH SCRUTINIZED COMPANIES - As to any contract for goods or services of \$1 million or more and as to the renewal of any contract for goods or services of \$1 million or more, subject to *Odebrecht Construction, Inc., v. Prasad*, 876 F.Supp.2d 1305 (S.D. Fla. 2012), *affirmed*, *Odebrecht Construction, Inc., v. Secretary, Florida Department of Transportation*, 715 F.3d 1268 (11th Cir. 2013), with regard to the "Cuba Amendment," the Contractor certifies that it is not on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, and that it does not have business operations in Cuba or Syria, as provided in section 287.135, Florida Statutes (2019), as may be amended or revised. As to any contract for goods or services of any amount and as to the renewal of any contract for goods or services of any amount, the Contractor certifies that it is not on the Scrutinized Companies that Boycott Israel List created pursuant to Section 215.4725, Florida Statutes (2019), and that it is not engaged in a boycott of Israel. The City may terminate this Agreement at the City's option if the Contractor is found to have submitted a false certification as provided under subsection (5) of section 287.135, Florida Statutes (2019), as may be amended or revised, or been placed on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List or the Scrutinized Companies that Boycott Israel List created pursuant to Section 215.4725, Florida Statutes (2019), or is engaged in a boycott of Israel or has been

engaged in business operations in Cuba or Syria, as defined in Section 287.135, Florida Statutes (2019), as may be amended or revised.

GC - 25 - LOCATION OF UNDERGROUND FACILITIES - If the Proposer, for the purpose of responding to this solicitation, requests the location of underground facilities through the Sunshine State One-Call of Florida, Inc. notification system or through any person or entity providing a facility locating service, and underground facilities are marked with paint, stakes or other markings within the City pursuant to such a request, then the Proposer shall be deemed non-responsive to this solicitation in accordance with Section 2-184(5) of the City of Fort Lauderdale Code of Ordinances.

GC - 26 - USE OF FLORIDA LUMBER TIMBER AND OTHER FOREST PRODUCTS - In accordance with Florida Statute 255.20 (3), the City specifies that lumber, timber, and other forest products used for this Project shall be produced and manufactured in the State of Florida if such products are available and their price, fitness, and quality are equal. This requirement does not apply to plywood specified for monolithic concrete forms, if the structural or service requirements for timber for a particular job cannot be supplied by native species, or if the construction is financed in whole or in part from federal funds with the requirement that there be no restrictions as to species or place of manufacture. The Bidder affirms by submitting a bid response to this solicitation that they will comply with section 255.20 (3) Florida Statutes.

GC - 27 - PUBLIC RECORDS/TRADE SECRETS/COPYRIGHT: The Proposer's response to the Solicitation is a public record pursuant to Florida law, which is subject to disclosure by the City under the State of Florida Public Records Law, Florida Statutes Chapter 119.07 ("Public Records Law"). The City shall permit public access to all documents, papers, letters or other material submitted in connection with this Solicitation and the Contract to be executed for this Solicitation, subject to the provisions of Chapter 119.07 of the Florida Statutes.

Any language contained in the Proposer's response to the Solicitation purporting to require confidentiality of any portion of the Proposer's response to the Solicitation, except to the extent that certain information is in the City's opinion a Trade Secret pursuant to Florida law, shall be void. If a Proposer submits any documents or other information to the City which the Proposer claims is Trade Secret information and exempt from Florida Statutes Chapter 119.07 ("Public Records Laws"), the Proposer shall clearly designate that it is a Trade Secret and that it is asserting that the document or information is exempt. The Proposer must specifically identify the exemption being claimed under Florida Statutes 119.07. The City shall be the final arbiter of whether any information contained in the Proposer's response to the Solicitation constitutes a Trade Secret. The City's determination of whether an exemption applies shall be final, and the proposer agrees to defend, indemnify, and hold harmless the City and the City's officers, employees, and agents, against any loss or damages incurred by any person or entity as a result of the City's treatment of records as public records. In addition, the proposer agrees to defend, indemnify, and hold harmless the City and the City's officers, employees, and agents, against any loss or damages incurred by any person or entity as a result of the City's treatment of records as exempt from disclosure or confidential. Proposals purporting to be subject to copyright protection in full or in part will be rejected. The proposer authorizes the City to publish, copy, and reproduce any and all documents submitted to the City bearing copyright symbols or otherwise purporting to be subject to copyright protection.

EXCEPT FOR CLEARLY MARKED PORTIONS THAT ARE BONA FIDE TRADE SECRETS PURSUANT TO FLORIDA LAW, DO NOT MARK YOUR RESPONSE TO THE SOLICITATION AS PROPRIETARY OR CONFIDENTIAL. DO NOT MARK YOUR RESPONSE TO THE SOLICITATION OR ANY PART THEREOF AS COPYRIGHTED.

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

Telephone Number: (954) 828-5002

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Mailing Address: **City Clerk's Office**
 100 N. Andrews Avenue
 Fort Lauderdale, Florida 33301-1016

E-mail: **prcontract@fortlauderdale.gov**

Contractor shall:

1. Keep and maintain public records required by the City in order to perform the service.
2. Upon request from the City's custodian of public records, provide the City with a copy of the requested records or allow the records to be inspected or copied within a reasonable time at a cost that does not exceed the cost provided in Chapter 119, Florida Statutes (2019), as may be amended or revised, or as otherwise provided by law.
3. Ensure that public records that are exempt or confidential and exempt from public records disclosure requirements are not disclosed except as authorized by law for the duration of the contract term and following completion of this contract if the Contractor does not transfer the records to the City.
4. Upon completion of the Contract, transfer, at no cost, to the City all public records in possession of the Contractor or keep and maintain public records required by the City to perform the service. If the Contractor transfers all public records to the City upon completion of this Contract, the Contractor shall destroy any duplicate public records that are exempt or confidential and exempt from public records disclosure requirements. If the Contractor keeps and maintains public records upon completion of this Contract, the Contractor shall meet all applicable requirements for retaining public records. All records stored electronically must be provided to the City, upon request from the City's custodian of public records, in a format that is compatible with the information technology systems of the City.

Rev. 5/8/2020

AGREEMENT

Between

CITY OF FORT LAUDERDALE

and

_____.

for

DESIGN/BUILD SERVICES FOR

TITLE

Project Number 12412

REQUEST FOR PROPOSAL NO. 12601-125

Sample Agreement

This Agreement made and entered into this 9th day of September, 2021, between the CITY OF FORT LAUDERDALE, FLORIDA, a municipal corporation of the State of Florida, hereinafter referred to as "CITY" and _____, a Florida Corporation authorized to transact business in Florida, its successors and assigns, hereinafter referred to as "DESIGN/BUILD FIRM," or collectively the "Party" or "Parties."

WITNESSETH, in consideration of the mutual terms and conditions, promises, covenants and payments hereinafter set forth, CITY and DESIGN/BUILD FIRM agree as follows:

ARTICLE 1- DEFINITIONS AND IDENTIFICATIONS

For the purposes of this Agreement and the various covenants, conditions, terms and provisions which follow, the definitions set forth below are assumed to be true and correct and are agreed upon by the Parties.

Agreement - This document, inclusive and including all exhibits and documents that are expressly incorporated by reference.

Applicable Laws - All federal, state, county, and local statutes, codes, laws, rules, regulations, ordinances, orders and standards applicable to the Project and any other such law hereafter enacted, and any rules adopted pursuant thereto, as all such laws may be amended from time to time to perform the Work.

Change Order - A written document ordering a change in the Not To Exceed Guaranteed Maximum Price or Contract Time or a material change in the Work.

CITY - The CITY (or Owner) shall mean the City of Fort Lauderdale, a Florida municipal corporation, having its principal offices at 100 North Andrews Avenue, Fort Lauderdale, Florida 33301, which is a Party hereto and/or for which this Agreement is to be performed. In all respects hereunder, CITY's performance is pursuant to CITY's position as the owner of a construction project. In the event CITY exercises its regulatory authority as a governmental body, the exercise of such regulatory authority and the enforcement of any rules, regulations, laws and ordinances shall be deemed to have occurred pursuant to the CITY's regulatory authority as a governmental body and shall not be attributable in any manner to CITY as a party to this Agreement.

CITY Commission - CITY Commission shall mean the governing and legislative body of the CITY.

CITY Manager - CITY Manager shall mean the Chief Administrative Officer of the CITY.

Construction Documents Phase - The phase in which DESIGN/BUILD FIRM will consult with Project Manager and prepare the Construction Documents for the Project, based upon the information provided in the Design Criteria Package (DCP), for review and approval of the CITY (including, without limitation, any and all applicable CITY departments) and any applicable regulatory agencies.

Construction Manager - The Construction Manager is the authorized individual or firm which is the representative of the DESIGN/BUILD FIRM, who/which will administer/manage the construction effort on behalf of the DESIGN/BUILD FIRM.

Construction Phase - The phase which constitutes DESIGN/BUILD FIRM's administration of the construction of the Project and all activities necessary for the completion of the Project.

Consultant - The person or entity who is a registered architect, professional engineer, professional land surveyor, and/or registered landscape architect having a contract with DESIGN/BUILD FIRM to provide professional services for the design of the Project, and who is licensed by the State of Florida to provide said services.

Contract Documents - This Agreement, as approved by the Mayor and CITY Commission and its exhibits, attachments and forms, any addenda, performance bond and payment bond, plans and specifications (as approved and permitted) as prepared by the DESIGN/BUILD FIRM in accordance with the information provided in the DCP, Notice of Award, Notice(s) to Proceed, and any and all agreed upon contract and/or design modifications, including but not limited to change orders; Project schedule; a schedule of values, and any additional documents the submission of which is required by this Agreement. When reference is made in the Contract Documents to publications, standards or codes issued by associations or societies, the intent shall be to specify the current or adopted edition of such publication or standard including revision and effect on the date of the issuance of all applicable permits.

Contract Time - The time between the Project Initiation Date specified in the Notice to Proceed and final completion, including any milestone dates thereof, established in the Agreement, as may be amended by Change Order.

Contract Price - The Not to Exceed Guaranteed Maximum Price agreed to between DESIGN/BUILD FIRM and the CITY. The Contract Price is not subject to increase, except as expressly allowed within the Contract Documents.

Design/Build Firm - VENDOR., its successors and assigns, is the DESIGN/BUILD FIRM selected to perform the Work pursuant to this Agreement, and is the person, firm or corporation liable for the acceptable performance of, and payment of, all legal debts pertaining to the Project. All references in the Contract Documents to third parties under contract or control of DESIGN/BUILD FIRM shall be deemed to be a reference to DESIGN/BUILD FIRM. The DESIGN/BUILD FIRM will be responsible for the provision, installation, and performance of all equipment, materials, services and Work. The DESIGN/BUILD FIRM is in no way relieved of the responsibility for the performance of all equipment furnished.

Design Criteria Package (DCP) - DCP shall mean those certain conceptual plans and specifications and performance-oriented drawings or specifications of the Project, as prepared and sealed by the Design Criteria Professional, and in compliance with the requirements of Section 287.055, Florida Statutes.

Design Criteria Professional - Design Criteria Professional shall mean the individual or entity who/which holds a current certificate as a registered engineer under Chapter 471 to practice engineering and who/which is employed by or retained by the CITY to provide professional services in compliance with the requirements of Section 287.055, Florida Statutes, and in connection with the preparation of the DCP who/which shall review and provide recommendations regarding the Construction Documents prepared by the DESIGN/BUILD FIRM for the Project, and evaluate compliance of Project construction with the DCP.

Field Order or Supplemental Instruction - A written order for minor changes or interpretations of the Contract Documents, but which does not involve a change in the Not To Exceed Price or Contract Time.

Final Completion - The date certified by the Project Manager that all conditions of the permits and regulatory agencies have been met; all construction, including corrective and punch list work, has been performed and accepted by the CITY; all administrative requirements of the Contract Documents have been completed; and CITY has received from DESIGN/BUILD FIRM all necessary documentation, as deemed required by the CITY including, but not limited to, the following: all final releases of liens, consent of surety, release of claims by DESIGN/BUILD FIRM, correct as-built drawings, a final bill of materials, executed final adjusted Change Orders, final invoice, copies of pertinent test results, correspondence, warranties, guarantees, operational manuals, spare parts, service contracts and tools.

NOT TO EXCEED PRICE (NTE) - THE MUTUALLY AGREED UPON CONTRACT PRICE TO BE PAID OF _____ TO THE DESIGN/BUILD FIRM, AND THAT THE DESIGN/BUILD FIRM GUARANTEES NOT TO EXCEED, FOR ALL LABOR, EQUIPMENT, AND MATERIALS TO DESIGN, PERMITS (AS REQUIRED BY THE CONTRACT DOCUMENTS), ADMINISTER, COORDINATE, INSPECT, CONSTRUCT AND INSTALL THE PROJECT WITHIN THE CONTRACT TIME. THE DOLLAR AMOUNT SHALL INCLUDE, BUT NOT BE LIMITED TO ALL PROFIT, OVERHEAD, ON-SITE AND OFF-SITE CONDITIONS (KNOWN AND UNKNOWN) AND ADMINISTRATIVE COSTS. THE NOT TO EXCEED GUARANTEED MAXIMUM PRICE IS NOT SUBJECT TO INCREASE EXCEPT AS EXPRESSLY ALLOWED.

Holidays - Those designated non-workdays as established by the CITY Commission of the CITY of Fort Lauderdale.

Notice to Proceed - One or more written notice(s) to DESIGN/BUILD FIRM issued by the Project Manager authorizing the commencement of specified Work.

Owners Representative - The individual or entity who/which holds a current certificate as a registered engineer under Chapter 471 to practice engineering and who/which is employed by or retained by the CITY to provide professional services in compliance with the requirements of Section 287.055, Florida Statutes, and who/which shall review and provide recommendations regarding the Construction Documents prepared by the DESIGN/BUILD FIRM for the Project, and evaluate compliance of Project construction with the requirements of this Agreement.

Plans and Specifications - The official graphic representations of the Project as prepared, signed and sealed by Architect/Engineer and which, upon written approval of CITY, shall become a part of the Contract Documents.

Project - The design/construction project described in the Contract Documents.

Project Manager/Contract Administrator - The employee of the CITY, or other designated individual who is herein referred to as the Project Manager, will assume all duties and responsibilities and will have the rights and authorities assigned to the Project Manager in the Contract Documents in connection with completion of the Work in accordance with this Agreement. The Project Manager, or designee, shall be the authorized agent for the CITY unless otherwise specified. The Term Project Manager and Contract Administrator are used interchangeably.

Punch List - The CITY's list of Work yet to be done or be corrected by the DESIGN/BUILD FIRM before the final completion date can be determined by the CITY.

Shop Drawings - Drawings, diagrams and schedules, and other data specially prepared by the DESIGN/BUILD FIRM or its subcontractors, sub-subcontractors, manufacturer, supplier or distributor to illustrate some portion of the Work.

Substantial Completion - The date, as certified by the Project Manager that all conditions of the permits and regulatory agencies have been met for the CITY's stated use of the Project, and all construction has been performed therein in accordance with the Contract Documents so CITY can beneficially enjoy, use or occupy and can operate it in all respects for its intended purpose.

Surety - The surety company or individual which is bound by the performance bond and payment bond with and for DESIGN/BUILD FIRM, who is primarily liable, and which surety company or individual is responsible for DESIGN/BUILD FIRM's acceptable performance of the Work under the Contract and for the payment of all debts pertaining thereto in accordance with Section 255.05, Florida Statutes.

Work - The totality of the obligations, including design, permitting, governmental entitlements, site plan approvals and construction and all other services required by the Contract Documents, whether completed or partially completed, including all labor, materials, equipment and services provided to or to be provided by DESIGN/BUILD FIRM to fulfill its obligations.

ARTICLE 2 - GENERAL PROVISIONS

- 2.1 DESIGN/BUILD FIRM hereby agrees to furnish all of the labor, materials, equipment, Work, services and incidentals necessary to complete the Project, in accordance with the Contract Documents, within the Contract Time and for the Not to Exceed Guaranteed Maximum Price.
- 2.2 Relationship of CITY and DESIGN/BUILD FIRM: The DESIGN/BUILD FIRM accepts the relationship of trust and confidence established between it and the CITY by this Agreement. The DESIGN/BUILD FIRM warrants and represents to CITY that it will furnish its best skill and judgment in performing the Work, and shall always act to further the interest of the CITY in the expeditious completion of the Project at the lowest cost to the CITY, and in strict accordance with the Contract Documents and prudent and customary construction practices.
- 2.3 By signing this Agreement, the DESIGN/BUILD FIRM accepts a fiduciary duty with the CITY and warrants and represents to the CITY that the DESIGN/BUILD FIRM: (a) has all licenses and certifications required by applicable laws; (b) is experienced in all aspects of pre-construction and construction planning for projects similar to the Project; (c) will act in the CITY's highest and best interests in performing the Work; and (d) that no employees or affiliates of the DESIGN/BUILD FIRM, including all Consultants, any sub-consultants, subcontractors, and suppliers, at any tier, have been convicted of a public entity crime, fraud, theft, and/or a property damage crime within the preceding thirty-six (36) months from the time this Agreement is executed, as required pursuant to Section 287.133, Florida Statutes.
- 2.4 Intention of Contract Documents: It is the intent of the Contract Documents to describe a functionally complete Project to be designed and constructed in accordance with the Contract Documents. Any Work, design, construction, other professional services, materials or equipment that may reasonably be inferred from the Contract Documents as being required to produce the intended result shall be supplied by the DESIGN/BUILD FIRM, whether or not

specifically called for by the Contract Documents. When words, which have a well-known technical or trade meaning are used to describe Work, such words shall be interpreted in accordance with that meaning. Reference to standard specifications, manuals, or codes of any technical society, organization or association, or to the laws or regulations of any governmental authority, whether such reference is specific or by implication, shall mean the latest standard specification, manual, code or laws or regulations in effect at the time of permit issuance. CITY shall have no duties other than those duties and obligations expressly set forth within the Contract Documents.

- 2.5 DESIGN/BUILD FIRM shall plan, record, and update, at least monthly, the design and construction schedule of the Project. The Project Schedule shall indicate the dates for the commencement and completion of the various stages of design and construction and shall be revised at least monthly and as required by the conditions of the Work. The Project Schedule shall encompass all of the work of all professions and trades necessary for the construction of the Project and shall be sufficiently complete and comprehensive to enable progress to be monitored on a weekly basis. DESIGN/BUILD FIRM shall be responsible to have available to it all materials, supplies, and appropriate personnel, trades, etc., necessary to complete the Work in accordance with the Project Schedule.

ARTICLE 3 - PROJECT MANAGER

- 3.1 The Project Manager is hereby designated by the CITY as Jorge Olguin, Project Manager, whose address is 100 North Andrews Avenue, Fort Lauderdale 33301. The Project Manager will assume all duties and responsibilities and will have the rights and authority assigned to the Project Manager in the Contract Documents in connection with completion of the Work in accordance with this Agreement.

ARTICLE 4 - CONTRACT DOCUMENTS

- 4.1 The Contract Documents shall be followed as to Work, materials and dimensions except with the Project Manager may authorize, in his/her sole discretion, and in writing, an exception.
- 4.2 Dimensions given in figures are to hold preference over scaled measurements from the drawings; however, all discrepancies shall be decided upon by the Consultant, with concurrent written notice to Contract Administrator/ Project Manager. DESIGN/BUILD FIRM shall not proceed when in doubt as to any dimension or measurement but shall seek clarification from the Consultant, with concurrent written notice to Project Manager.
- 4.3 DESIGN/BUILD FIRM shall maintain two (2) copies of the Contract Documents, one of which shall be preserved and always kept accessible at the site for the Project Manager, and/or authorized representatives.
- 4.4 The Contract Documents shall have the following order of precedence, beginning with the most important:
- A. This Agreement (Contract) and all exhibits, addendums, and amendments thereto;
 - B. Change Orders (to the extent permitted under this Agreement);

- C. The Specifications, as approved and permitted;
- D. The Plans, as approved and permitted;
- E. All other information provided in the DCP;
- F. CPM Project Schedule and Schedule of Values; and
- G. DESIGN/BUILD FIRM's response to the CITY's request;

ARTICLE 5 - SCOPE OF WORK

DESIGN/BUILD FIRM agrees to complete the Project generally described as TITLE (RFP) NO. 12600-125, submitted by the DESIGN/BUILD FIRM, to provide design-build services for the TITLE (Project).

PLACE SCOPE HERE

The Project shall be construed in accordance with the requirements and provisions of said Contract Documents and for the Not to Exceed Guaranteed Maximum Price.

- 5.1 DESIGN/BUILD FIRM agrees to meet with the Project Manager or his/her respective designees at reasonable times and with reasonable notice.
- 5.2 Prior to the Final Completion of construction services under this Agreement, and as a condition precedent to final payment, there shall be established a record set of plans on reproducible vellum and a record set of Specifications, both of which shall bear the written approvals of the DESIGN/BUILD FIRM and the CITY's Project Manager. Such approval shall be indicated by the written signature of both Parties. In addition, there shall be established electronic copies on USB drives of the record set plans, non-compressed, formatted in the latest version of AutoCAD and of the record set of Specifications.
- 5.3 DESIGN/BUILD FIRM herein represents that Construction Manager, at a minimum, will provide the following services:
 - 5.3.1 At least five (5) days prior to the commencement of the construction phase of the Project, the DESIGN/BUILD FIRM will identify and provide the qualifications of a suitably qualified and experienced Construction Manager, approved by the CITY, who will be on site full time at the Project. No more than twenty percent (20%) of the proposed team can be changed and such change will require CITY approval.
 - 5.3.2 DESIGN/BUILD FIRM will use reasonable efforts to have the same Construction Manager on the Project, full time, to its conclusion, and any new representative will first be approved in writing by Project Manager before permanent assignment. Approval shall not be unreasonably withheld.
 - 5.3.3 The Construction Manager will conduct weekly meetings with the DESIGN/BUILD FIRM and its subcontractors at regular times, as previously agreed upon and approved by the Project Manager and shall issue weekly reports on the progress of the Work and the minutes of the previous meeting.
 - 5.3.4 The Construction Manager will administer the DESIGN/BUILD FIRM's Work.

- 5.3.5 The Construction Manager shall coordinate the processing of shop drawings and material submittals.
- 5.3.6 The Construction Manager will achieve satisfactory performance by DESIGN/BUILD FIRM and, if required, will require corrections to DESIGN/BUILD Firm's Work including, but not limited to, maintaining punch lists and observing testing.
- 5.3.7 The Construction Manager will monitor the cost of the Project, including payment applications and the preparation thereof.
- 5.3.8 The Construction Manager will assist in the preparation of record drawings and shall transmit to the Consultant requests for additional information concerning the design. In addition, the Project Manager shall be copied on these requests for monitoring purposes.
- 5.3.9 The Construction Manager will observe testing, start-up activities, and commissioning of project scope as described in the DCP.
- 5.4.10 The Construction Manager will secure all equipment brochures and warranties from the DESIGN/BUILD FIRM.
- 5.4.11 The Construction Manager will coordinate the correction and completion of the Work including that required by the punch list.
- 5.4 DESIGN/BUILD FIRM herein represents that Consultant, at a minimum, will provide the following services:
- 5.4.1 Consultant shall perform all of the architectural and engineering services necessary to describe, detail and design the Project in accordance with the Contract Documents.
- 5.4.2 Consultant shall design the Project so as to comply with Applicable Laws.
- 5.4.3 Consultant shall prepare the Plans and Specifications, as well as obtain all required and necessary reviews and approvals (or take other appropriate action upon) for same, and/or other submittals including, but not limited to, shop drawings, product data, and samples.
- 5.4.4 Consultant shall also submit the Plans and Specifications to the Owners Representative, with a copy to Project Manager, for his/her review and written approval. Owners Representative shall expeditiously review and approve the Plans and Specifications in accordance with the accepted Project Schedule. Owners Representative's approval of the Plans and Specifications shall not constitute acceptance of any design work which does not comply with Applicable Laws, information provided in the DCP, and/or with the terms of this Agreement. Except as provided herein, and to the extent limited by, the preceding sentence, the approval of the Plans and Specifications by the Owners Representative shall constitute a representation by the Owners Representative that the Project, if constructed as required by the Contract Documents, will be sufficient for its purposes. The Plans and Specifications shall include technical drawings, schedules, diagrams, and specifications setting forth in detail the requirements for construction of the Project; provide information necessary for the use of

- DESIGN/BUILD FIRM subcontractors and those in the building trade; and include documents necessary for regulatory agencies and other governmental approvals.
- 5.4.5 Consultant shall prepare construction change directives, if necessary, at no additional cost to the CITY, and authorize minor changes in the Work, as provided in the Contract Documents.
- 5.4.6 Consultant shall receive and review for compliance with the Contract Documents, all written warranties and related documents required hereby to be assembled upon substantial completion and issue applications for payment performed in compliance with the requirements of the Contract Documents.
- 5.5 The approved and permitted Plans and Specifications shall constitute a representation by Consultant to CITY that the Project, if construed as required by the Contract Documents, will be sufficient for its purposes. The Plans and Specifications include technical drawings, schedules, diagrams, and specifications setting forth in detail the requirements for construction of the Project; provide information necessary for the use of DESIGN/BUILD FIRM, sub-contractors, and those in the building trade; and include documents necessary for regulatory agencies and other governmental approvals.
- 5.6 Project Manager will provide the following services:
- 5.6.1 The Project Manager shall review applications for payment and coordinate the processing thereof with the CITY.
- 5.6.2 The Project Manager shall monitor the schedule(s).
- 5.6.3 The Project Manager shall track, log and review all required Project related documents and subsequently address any and all concerns with DESIGN/BUILD FIRM.
- 5.6.4 The Project Manager shall review and observe the Work and testing thereof for conformance and compliance with the requirements of the Contract Documents.
- 5.6.5 The Project Manager shall attend all required meetings and maintain and distribute meeting minutes.
- 5.6.6 At all times, the Project Manager will act as liaison between the Parties to this Agreement and the CITY's Project Manager.

ARTICLE 6 - CONTRACT TIME AND COMPLETION DATE

- 6.1 Time is of the essence for the DESIGN/BUILD FIRM's performance of the Work pursuant to this Agreement. The DESIGN/BUILD FIRM agrees to complete the Work in accordance with the approved and accepted Project Schedule and to achieve substantial completion of the Work, in accordance with this Agreement, and within the Contract Time. The DESIGN/BUILD FIRM acknowledges that failure to achieve substantial completion will result in substantial damages to the CITY, such as loss of beneficial use and/or occupancy of the Project.

- 6.2 DESIGN/BUILD FIRM shall be instructed to execute the Agreement immediately. DESIGN/BUILD FIRM shall immediately commence scheduling activities, permit applications and other preconstruction Work after the Notice to Proceed.
- 6.3 The DESIGN/BUILD FIRM shall complete the Construction Documents Phase.
- 6.4 The DESIGN/BUILD FIRM shall meet the following construction duration:

MILESTONE	CALENDAR DAYS FROM NOTICE TO PROCEED (COMPLETION DATE)
Assumed Notice to Proceed Date	0
Substantial Completion of PROJECT	_____
Final Completion of PROJECT	_____

ARTICLE 7 - LIQUIDATED DAMAGES

- 7.1 Failure of the DESIGN/BUILD FIRM to substantially complete the Project in accordance with Section 6.4 above, or meet any of the milestones as indicated in Section 6.4 above, DESIGN/BUILD FIRM shall pay to the CITY the sum of Two Thousand Dollars (**\$2,000.00**) for each calendar day that the completion of the Work is delayed beyond the time after the time specified in Article 6 Section 6.4 above (plus any approved time extensions at the sole discretion of the CITY) that DESIGN/BUILD FIRM fails to meet time specified in Section 6.4 above.
- 7.2 The time frame for liquidated damages shall not commence and thus shall not be tolled until the Project Manager submits the punch list to the DESIGN/BUILD FIRM.
- 7.3 DESIGN/BUILD FIRM and CITY HEREBY MUTUALLY AGREE AND ACKNOWLEDGE THAT THE LIQUIDATED DAMAGES AMOUNT SET FORTH HEREIN are not penalties but are liquidated damages to CITY for its inability to obtain full beneficial occupancy and/or use of the Project. Liquidated damages are hereby fixed and agreed upon between the Parties, recognizing the impossibility of precisely ascertaining the amount of damages that will be sustained by the CITY as a consequence of such delay, and both parties desiring to obviate any question of dispute concerning the amount of said damages and the cost and effect of the failure of DESIGN/BUILD FIRM to complete the Contract on time. Liquidated damages shall apply separately to each portion of the Work for which a time of completion is given.
- 7.4 The CITY shall have the right to deduct from or retain any compensation which may be due or which may become due and payable to the DESIGN/BUILD FIRM the amount of liquidated damages, and if the amount retained by the CITY is insufficient to pay in full such liquidated damages, the DESIGN/BUILD FIRM shall pay all liquidated damages in full. The DESIGN/BUILD FIRM shall be responsible for reimbursing the CITY, in addition to liquidated damages or other damages for delay, for all costs of engineering fees and inspection and other costs incurred in administering the construction of the Project beyond the completion date specified or beyond an approved extension of time granted to the DESIGN/BUILD FIRM whichever is later.
- 7.5 CITY is authorized to deduct liquidated damages from monies withheld due to

DESIGN/BUILD FIRM for the Work under this Agreement or as much thereof as CITY may, in its sole discretion, deem just and reasonable.

ARTICLE 8 - CHANGE OF THE CONTRACT TIME

- 8.1 The Contract Time may only be changed by a Change Order. Any claim for an extension in the Contract Time shall be based on written notice delivered to the Project Manager within five (5) days of the occurrence of the event giving rise to the claim. Any change in the Contract Time resulting from any such claim shall be incorporated in a Change Order.
- 8.2 The Contract Time will be extended in an amount equal to time lost due to delays beyond the control of the DESIGN/BUILD FIRM if a claim is made there for as provided in paragraph 8.1. Such delays shall include but not be limited to, acts or neglect by the CITY, or to fires, floods, labor disputes, abnormal weather conditions, or acts of God.
- 8.3 All time limits stated in the Contract Documents are of the essence. The provisions of this Article shall not exclude recovery for damages for delay by the DESIGN/BUILD FIRM.
- 8.4 Delays caused by or resulting from entities, contractors or subcontractors who are not affiliated with DESIGN/BUILD FIRM shall not give rise to a claim by the DESIGN/BUILD FIRM for damages for increases in material and/or labor costs.

ARTICLE 9 - CONTRACT PRICE (NOT TO EXCEED PRICE) AND METHOD OF PAYMENT

9.1 The Contract Price is the Not To Exceed Guaranteed Maximum Price agreed to by the DESIGN/BUILD FIRM and the CITY under this Agreement, payable to complete the Work in accordance with the Agreement and DCP, and, to the extent permitted by this Agreement, as may be increased or decreased by Change Order.

9.2 The Contract Price for the Project, which is also the Not to Exceed Guaranteed Maximum Price is \$ _____. This includes bonds, allowances and material change. The CITY will reimburse actual cost of permit(s) upon submission of paid permit receipts.

_____ (\$ _____)

9.3 In the event that the DESIGN/BUILD FIRM’s total approved expenditures for the Project exceed the Not To Exceed Price Guaranteed Maximum Price, the DESIGN/BUILD FIRM shall pay such excess from its own funds. CITY shall not be required to pay any amount that exceeds the Not To Exceed Guaranteed Maximum Price and the DESIGN/BUILD FIRM shall have no claim against the CITY on account thereof.

9.4 METHOD OF BILLING AND PAYMENT

9.4.1 During the Construction Documents Phase, DESIGN/BUILD FIRM may submit a request for payment monthly based upon percentage of completion of the (final

construction) Plans and Specifications. During the Construction Phase, DESIGN/BUILD FIRM may submit a request for payment thirty (30) calendar days after beginning field operations, subject to the Notice to Proceed, and every thirty (30) calendar days thereafter. Payment during the Construction Phase will be based upon percentage of work completed for each item in the approved Schedule of Values. DESIGN/BUILD FIRM's requisition for payment shall show a complete breakdown of the Project components, and the amount due, together with such supporting evidence, as may be required by the Project Manager.

At a minimum, the requisition for payment shall be accompanied by a completed certification of Work; consent of surety in the applicable amount; list of subcontractors that performed Work during the payment application period being submitted; releases of liens from the DESIGN/BUILD FIRM for the previous period being billed; releases of liens from subcontractors that have performed Work during the previous billing period unless payment for the previous period has not been received by the DESIGN/BUILD FIRM; aerials and photographs of the areas of Work for the applicable billing period; an accepted, updated Project Schedule (as approved); and back up for all items being billed. The certification of Work will mean compliance by DESIGN/BUILD FIRM with the approved Project Schedule; that as-built drawings of improvements are current for the prior period; and Applicable Laws are being met and complied with. Each requisition for payment shall be submitted to the Project Manager for approval. Payment for Work performed will be made in accordance with the Florida Prompt Payment Act, Sections 255.0705 - 255.078, Florida Statutes, but not more frequently than once a month. The Contract Administrator shall verify completion of the various phases, as noted, and authorize payment accordingly. Should the Project fall behind schedule, as indicated in the Project Schedule, DESIGN/BUILD FIRM shall include a written plan demonstrating how the Final Completion date shall be maintained.

Material purchases can be invoiced to the CITY, upon receipt of invoice and documentation of order placement must be accompanied by a bill of sale from the manufacturer or supplier. The CITY will endeavor to pay material invoices earlier, albeit not later than thirty (30) days of receipt of a valid invoice. Any invoices that are not considered valid will be returned immediately for correction or additional documentation. No more than eight percent (8%) contractor's mark-up will be allowed for materials.

9.4.2 CITY agrees that it will pay DESIGN/BUILD FIRM in accordance with the Florida Prompt Payment Act, within thirty (30) calendar days of receipt of DESIGN/BUILD FIRM's proper requisition for payment, as provided above.

9.4.2.1 CITY will review DESIGN/BUILD FIRM's invoices and, if inaccuracies or errors are discovered in said invoice, CITY will inform DESIGN/BUILD FIRM within ten (10) working days by fax and/or by email of such inaccuracies or errors and request that revised copies of all such documents be re-submitted by DESIGN/BUILD FIRM to CITY.

9.4.2.2 Payments are scheduled to be made by CITY to DESIGN/BUILD FIRM using a credit card /CITY Procurement Card (P-Card).

9.4.2.3 Payment may be made to CONTRACTOR at:

_____.

_____.

_____.

_____.

- 9.4.3 The DESIGN/BUILD FIRM shall use the sums advanced to it solely for the performance of the Work and the construction, furnishing and equipping of the Work in accordance with the Contract Documents and payment of bills incurred by the DESIGN/BUILD FIRM in performance of the Work.
- 9.4.4 DESIGN/BUILD FIRM shall remain liable for subcontractors' work and for any unpaid laborers, material suppliers of subcontractors in the event it is after discovered that said work is deficient or that any subcontractors, laborers, or material suppliers did not receive payments due to them on the Project.
- 9.4.5 Undisputed amounts remaining unpaid thirty (30) calendar days after CITY's request of DESIGN/BUILD FIRM's proper requisition for payment for conforming Work shall bear interest at the rate set forth in Section 218.74(4), Florida Statutes. This Section shall not apply if the CITY has a right to withhold any portion of the payment under this Agreement.
- 9.4.6 Pursuant to Florida Statutes, Section 255.078, five percent (5%) of all monies earned by DESIGN/BUILD FIRM shall be retained by the CITY until the Project has obtained Final Completion and been accepted by the CITY. The CITY may incrementally reduce the rate of retainage pursuant to a schedule provided for in the agreement, or from releasing at any point or a portion of any retainage withheld by the CITY which is attributable to the labor, services, or materials supplied by the Consultant or by one or more subconsultant or suppliers, if applicable and determined to be in the City's best interest. If the City makes any payment of retainage to Consultant which is attributable to the labor, services, or materials supplied by one or more subconsultant or suppliers, the Consultant must timely remit payment of such retainage to those subconsultants and suppliers.
- 9.5 If, after the Project has been substantially completed, full completion thereof is delayed through no fault of DESIGN/BUILD FIRM, or by issuance of Change Orders affecting final completion, and the Project Manager so certifies. CITY shall, upon certification of the Project Manager, and without terminating the Agreement, make payment of the balance due for that portion of the Project fully completed and accepted. Such payment shall be made as required by law under the terms and conditions governing final payment, except that it shall not constitute a waiver of claims.
- 9.6 Upon receipt of written notice from DESIGN/BUILD FIRM that the Project is ready for final inspection and acceptance, the Project Manager shall, within seven (7) calendar days, make an inspection thereof. If the Project Manager finds the Project acceptable under the Contract Documents and the Project fully performed, a Final Certificate of Payment shall be issued by the Contract Administrator over his/her own signature, stating that the Work required by this Agreement has been completed and is accepted under the terms and

conditions thereof.

- 9.7 Before issuance of the Final Certificate for Payment, DESIGN/BUILD FIRM shall deliver to the Project Manager a complete release of all liens arising out of this Agreement, or receipts in full in lieu thereof, and an affidavit certifying that all suppliers, consultant, subcontractors, and subconsultants have been paid in full, and that all other indebtedness connected with the Project has been paid, and a consent of the surety to final payment. All as-builts, warranties, guarantees, operational manuals, and instructions in operation must be delivered to CITY at this time. The warranties provided after the initial warranty period of year one will be covered under the warranty bond attached as an Exhibit to this Agreement. DESIGN/BUILD FIRM shall submit a completed as-built drawings package signed and sealed by a land surveyor registered in the State of Florida and as approved by the CITY's Public Works Department, and proof that all permits have been closed, which shall be delivered prior to requesting final payment.
- 9.8 CITY may withhold final payment or any progress payment to such extent as may be necessary on account of:
- A. Defective Work not remedied;
 - B. Claims filed or written notices of nonpayment indicating probable filing of claims as may be prescribed by law by other parties against DESIGN/BUILD FIRM;
 - C. Failure of DESIGN/BUILD FIRM to make payments properly to Consultant, subcontractors or subconsultants, or for material or labor;
 - D. Damage to another subcontractor, subconsultant, supplier, material, person (as provided for in Florida Statute Chapter 713), party or person not remedied which are attributable to DESIGN/BUILD FIRM, its agents, servants, employees, contractor, consultant, subconsultants, subcontractors, sub-subcontractors, sub-subconsultants, material person and suppliers;
 - E. Liquidated damages pursuant to Article 7 herein;
 - F. As-built drawings not being in a current and acceptable state.
- 9.9 When the above grounds in 9.4.7 are removed or resolved, or DESIGN/BUILD FIRM provides a surety bond or a consent of surety satisfactory to CITY which will protect CITY in the amount withheld, payment may be made in whole or in part, as applicable.
- 9.10 If the Project Manager, in his/her reasonable judgment, determines that the portion of the Not To Exceed Price then remaining unpaid will not be sufficient to complete the Work in accordance with the Contract Documents, no additional payments will be due to the DESIGN/BUILD FIRM hereunder unless and until the DESIGN/BUILD FIRM, at its sole cost, performs a sufficient portion of the Work so that such portion of the Not To Exceed Price then remaining unpaid is determined by the Project Manager to be sufficient to so complete the Work.
- 9.11 The making and acceptance of the final payment shall constitute a waiver of all claims by CITY, other than those arising from faulty or defective Work, failure of the Project to comply with requirements of the Contract Documents, or terms of any warranties required by the Contract Documents. It shall also constitute a waiver of all claims by DESIGN/BUILD FIRM, except

those previously made in writing and identified by DESIGN/BUILD FIRM as unsettled at the time of the final application for payment.

- 9.12 The DESIGN/BUILD FIRM warrants to the CITY that all materials and equipment furnished under this Agreement will be new unless otherwise specified, and that all Work will be of good quality and in conformance with the Contract Documents. Any warranties that are extended to the CITY beyond the standard warranty are to be in writing with the servicing firm information attached as an Exhibit. All Work not conforming to these requirements, including substitutions not properly approved and authorized by Contract Administrator, may be considered defective. If required by the CITY, the DESIGN/BUILD FIRM shall furnish satisfactory evidence as to the origin, nature and quality of materials and equipment used for the Project. DESIGN/BUILD FIRM shall properly store and protect all construction materials. Materials which become defective through improper storage shall be replaced with new materials at no additional costs. The DESIGN/BUILD FIRM's warranty excludes damage or defect caused by abuse, modifications not executed by the DESIGN/BUILD FIRM, improper or insufficient maintenance, improper operation, or normal wear and tear under normal usage.

ARTICLE 10 - ADDITIONAL SERVICES AND CHANGES IN SCOPE OF WORK

- 10.1 Without invalidating the Agreement and without notice to any surety, CITY reserves and shall have the right to make such changes from time to time in the character and quantity of the Work as may be considered necessary or desirable to complete fully and acceptably the Project in a satisfactory manner. The CITY may order additions, deletions or revisions in the Work using agreed upon rates to be included in the Contract Documents and/or Schedule of Values. Upon receipt of a Change Order, the DESIGN/BUILD FIRM shall proceed with the Work involved. All Work shall be executed under the applicable conditions of the Contract Documents. If any Change Order causes an increase or decrease in the Contract Price or an extension or shortening of the Contract Time, an equitable adjustment will be made on the basis of a claim made by either party.
- 10.2 The Project Manager may authorize minor changes in the Work not involving an adjustment in the Contract Price or the Contract Time, which are consistent with the overall intent of the Contract Documents. Such changes must be in writing and signed by the CITY and DESIGN/BUILD FIRM.

ARTICLE 11 - DESIGN/BUILD FIRM'S RESPONSIBILITIES

- 11.1 The Parties acknowledge and agree that the DESIGN/BUILD FIRM will be responsible for the design, construction and construction management of the Project according to the DCP.
- 11.2 The DESIGN/BUILD FIRM will be responsible for security, with full cooperation of the CITY all permits for the Project, including without limitation, South Florida Water Management District, Broward County, Army Corps of Engineers and Florida Department of Environmental Protection. Except as provided in the preceding sentences, the DESIGN/BUILD FIRM shall be fully responsible for any and all other permits and approvals from all governmental authorities having jurisdiction over the Project. All permits and licenses require by federal, state or local laws, rules, and regulations necessary for the prosecution of the Project by DESIGN/BUILD FIRM pursuant to this Agreement shall be secured by the DESIGN/BUILD FIRM and paid for by the CITY. It is the DESIGN/BUILD FIRM's responsibility to have and maintain appropriate certificate(s) of competency, valid for the Work to be performed, and for all persons working on the Project for whom a certificate of competency is required.

- 11.3 DESIGN/BUILD FIRM shall be fully responsible for the actions of all its agents, servants, employees, including, but not limited to, the contractor, consultant, subcontractors, sub-consultants, sub-subcontractors, materials persons (pursuant to Chapter 713, Florida Statutes), and any and all other persons working for it in conjunction with the design and construction of the Project.
- 11.4 DESIGN/BUILD FIRM shall be fully responsible for all acts or omissions of its contractor, consultant, subcontractors, sub-consultants, sub-subcontractors, sub-sub-consultants, materials persons, and any and all other persons working for DESIGN/BUILD FIRM in conjunction with the design and construction of the Project; any and all persons working for contractor, consultant, subcontractors or sub-consultant; and any and all persons for whose acts any of the aforesaid may be liable, to the same extent DESIGN/BUILD FIRM is responsible for the acts and omissions of persons directly employed by DESIGN/BUILD FIRM. Nothing in this Agreement shall create any contractual relationship between CITY and consultant, or CITY and any subcontractor, sub-consultant, sub-subcontractor, sub-sub-consultant, or any other person working either for DESIGN/BUILD FIRM or for any of the afore-stated parties in conjunction with the design and construction of the Project, including, without limitation, any obligation on the part of the CITY to pay or to see the payment of any monies due to any of the afore-stated parties pursuant to this Section.
- 11.5 DESIGN/BUILD FIRM agrees to bind its consultant, subcontractors, and sub-consultants to the applicable terms and conditions of this Agreement for the benefit of the CITY.
- 11.6 Unless otherwise provided herein, DESIGN/BUILD FIRM shall provide and pay for all architecture, engineering, landscape architecture, land surveying services, materials, construction and other labor, water, tools, equipment, light, power, transportation, and other facilities and services necessary for the proper execution and completion of the design and construction of the Project, whether temporary or permanent, and whether or not incorporated or to be incorporated in the Project.
- 11.7 DESIGN/BUILD FIRM shall at all times enforce strict discipline and good order among its employees, consultants, subcontractors and sub-consultants at the Project site, and shall not employ on the Project any unfit person or anyone not skilled in the work and/or services assigned to him or her.
- 11.8 DESIGN/BUILD FIRM shall keep itself fully informed of, and shall take into account and comply with any and all Applicable Laws affecting those engaged or employed in the Project; or the materials used or employed in the design and construction of the Project; or in any way affecting the conduct of the Project, including, without limitation, all such orders and decrees of bodies or tribunals having any jurisdiction or authority over the same and of all provisions required by law to be made a part of this Agreement, all of which provisions are hereby incorporated by reference and made a part hereof. If any specification or contract for this Project is in violation of any such Applicable Laws, DESIGN/BUILD FIRM shall forthwith report the same to the Project Manager in writing. DESIGN/BUILD FIRM shall cause all its employees, agents, consultant, subcontractors, subconsultants, sub-subconsultants and sub-subcontractors to observe and comply with all Applicable Laws.
- 11.9 DESIGN/BUILD FIRM shall pay all applicable sales, consumer, use and other taxes required by law. DESIGN/BUILD FIRM is responsible for reviewing the pertinent state statutes involving state taxes and complying with all requirements.
- 11.10 If DESIGN/BUILD FIRM has knowledge that the Contract Documents do not comply with

Applicable Laws, in any respect, the DESIGN/BUILD FIRM shall promptly notify the Project Manager, in writing, and any necessary changes shall be adjusted by appropriate revisions. If the DESIGN/BUILD FIRM performs any Work not in accordance with Applicable Laws, and without such notice to the Project Manager, the DESIGN/BUILD FIRM shall assume full responsibility therefore and shall bear all costs attributable thereto. DESIGN/BUILD FIRM warrants to CITY that it has thoroughly reviewed and studied the DCP, and has determined that it is in conformance with Applicable Laws, and is complete and sufficiently coordinated to perform the Work for the Not To Exceed Price and the Contract Time. DESIGN/BUILD FIRM warrants to CITY that the DCP is consistent, practical, feasible and constructible. DESIGN/BUILD FIRM further warrants to CITY that the Work described in the DCP is constructible for the Not To Exceed Price and the Contract Time.

THE CITY DISCLAIMS ANY WARRANTY THAT THE DCP FOR THE PROJECT IS ACCURATE, PRACTICAL, CONSISTENT, AND/OR CONSTRUCTIBLE.

- 11.11 DESIGN/BUILD FIRM accepts the Project site in its observable and/or documented condition existing at the time of this Agreement, or conditions ordinarily encountered and generally recognized as inherent to the character of the Work to be provided for in this Project. By signing this Agreement, the DESIGN/BUILD FIRM represents to the CITY that it has: (a) visited the Project site to become familiar with the conditions under which the Work is to be performed; (b) become familiar with all information provided (without warranty) by the CITY pertaining to the Project site; and (c) correlated its observations with the information furnished by the CITY (without warranty), and the Contract Documents. The DESIGN/BUILD FIRM hereby waives additional time or compensation for additional work made necessary by observable and/or documented conditions existing at the Project site, or conditions ordinarily encountered and generally recognized as inherent to the character of the Work to be provided for in this Project.
- 11.12 The DESIGN/BUILD FIRM agrees specifically that no Change Orders shall be required by the DESIGN/BUILD FIRM or considered by the CITY for reasons involving conflicts in the Contract Documents; questions of clarity with regard to the Contract Documents; and incompatibility or conflicts between the Contract Documents and the existing Projectsite conditions excluding, without limitation, utilities and unforeseen underground conditions at the discretion of the CITY and will not be unreasonably withheld. The DESIGN/BUILD FIRM acknowledges that it has ascertained all correct locations for points of connection for all utilities required for this Project.
- 11.13 The DESIGN/BUILD FIRM shall comply with all conditions of any permits issued by government authorities.
- 11.14 All material and equipment shall be of good quality and new, except as otherwise provided in the Contract Documents. Suppliers shall be selected and paid by the DESIGN/BUILD FIRM; the CITY reserves the right to approve all suppliers and materials.
- 11.15 The DESIGN/BUILD FIRM shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work, or any invention, design, process, product or device which is the subject of patent rights or copyrights held by others. The DESIGN/BUILD FIRM hereby expressly binds itself to indemnify and save harmless the CITY from all such claims and fees and from any and all suits and actions of every name and description that may be brought against CITY on account of any such

claims, fees, royalties, or costs for any such invention or patent, and from any and all suits or actions that may be brought against said CITY for the infringement of any and all patents or patent rights claimed by any person, firm, corporation or other entity.

- 11.16 Except in connection with the safety or protection of persons, or the Work, or property at the site or adjacent thereto, and except as otherwise indicated in the Supplementary Conditions, all work at the site shall be performed during regular working hours between 7:00 am to 7:00 pm, Monday through Friday. The DESIGN/BUILD FIRM will not permit overtime work or the performance of work on Saturday, Sunday or any legal holiday (designated by the CITY of Fort Lauderdale) without the Project Manager's written consent at least seventy-two (72) hours in advance of starting such work. If the Project Manager permits overtime work, the DESIGN/BUILD FIRM shall pay for the additional charges to the CITY with respect to such overtime work. Such additional charges shall be a subsidiary obligation of the DESIGN/BUILD FIRM and no extra payment shall be made to the DESIGN/BUILD FIRM for overtime work. The cost to the DESIGN/BUILD FIRM to reimburse the CITY for overtime inspections is established at direct-labor and overtime costs for each person or inspector required. Incidental overtime costs for engineering, testing and other related services will also be charged to the DESIGN-BUILD FIRM at the actual rate accrued.

CITY Inspector Hours: 8:00 am to 4:30 pm

Overtime: 5:01 pm to 7:59 am

Inspection Overtime Cost: \$100/hr.

- 11.17 DESIGN/BUILD FIRM requests to work during other than regular hours that conform to the standard hours listed in the CITY's Noise Ordinance Section 17-8 (1), must be submitted to the DCP and CITY Project Manager with six (6) business days in advance of scheduled work. Request shall include the following information:

- Cover page with DESIGN/BUILD FIRM name, project name, and location
- Description of work to be performed outside of normal work hours
- Site plan and location map
- Legal description
- Justification for work and why extended work hours are being requested
- Commencement date and duration of work
- List of DESIGN/BUILD FIRM contacts, including those on site
- Details on type of equipment to be used during extended work hours
- Details on noise levels that may be produced by range of decibels, including current ambient levels at site and levels predicted from proposed construction impacts
- Details on vibratory control measures to be implemented
- Details on how neighbors in vicinity of work area will be notified
- Details on how complaints will be resolved and/or mitigated
- Maintenance of Traffic plans approved by CITY's Transportation and Mobility Department

(TAM) and any other agencies (if applicable).

11.17.1 If no lane closure or traffic impacts are necessary, the DESIGN/BUILD FIRM request must be submitted seven (7) business days in advance of scheduled work. If the Work requires lane closures, request should be submitted at least ten (10) business days in advance, along with MOT plans approved by CITY's TAM, and any other agencies if necessary, to allow time for CITY Manager consideration and approval, CITY MOT permit issuance, and notification to the public.

11.17.2 The DESIGN/BUILD FIRM will not be permitted overtime work or the performance of work on Saturday, Sunday or any legal holiday (designated by the CITY of Fort Lauderdale) without the CITY Manager's written consent at least seventy-two (72) hours in advance of the period proposed for such overtime work. Hours of work shall conform to the requirements of the CITY's Noise Ordinance.

11.17.3 If the DESIGN-BUILD FIRM requests to work outside regular hours that require a special exemption from the provisions of Section 17-7.4, it shall follow the CITY's Department of Sustainable Development's process for "Requesting Exemption from the Noise Ordinance," located at:

<https://www.fortlauderdale.gov/departments/sustainable-development/building-services/building-permit-general-info>

11.17.4 The DESIGN/BUILD FIRM will not permit overtime work or the performance of work on Saturday, Sunday or any legal holiday (designated by the City of Fort Lauderdale) without the approval from the CITY Manager or CITY Commission approval at least seventy-two (72) hours in advance of starting such work.

11.18 In the event of an emergency affecting the safety or protection of persons or the Work or property at the site or adjacent thereto, DESIGN/BUILD FIRM, without special instruction or authorization from the CITY is obligated to act to prevent threatened damage, injury or loss. DESIGN/BUILD FIRM shall give the Project Manager prompt written notice of any significant changes in the Work or deviations from the Contract Documents caused thereby.

11.19 Upon issuance of a hurricane watch by the National Weather Service, DESIGN/BUILD FIRM shall submit to the CITY a plan to secure the work area in the event a hurricane warning is issued. The plan shall detail how the DESIGN/BUILD FIRM will secure the premises, equipment and materials in a manner as to prevent damage to the Work and prevent materials and equipment from becoming a hazard to persons and property on and around the premises. The plan shall include a time schedule required to accomplish the hurricane preparations and a list of emergency contacts that will be available and in the CITY before, during and immediately after the storm.

Upon issuance of a hurricane warning by the National Weather Service, if the DESIGN/BUILD FIRM has not already done so, the DESIGN/BUILD FIRM shall implement its hurricane preparedness plan. Cost of development and implementation of the hurricane preparedness plan shall be considered as incidental to construction. Cost of any clean up and rework required after the storm will be considered normal construction risk within Florida and shall not entitle

the DESIGN/BUILD FIRM to any additional compensation. DESIGN/BUILD FIRM shall be entitled to request an extension of time for completion of the Work, in accordance with the provision of Article 8 of this Agreement, equal to the time it is shut down for implementation of the preparedness plan, the duration of the storm and a reasonable period to restore the Premises.

- 11.20 Force Majeure: No Party shall hold the other responsible for damages or for delays in performance caused by force majeure, acts of God, or other acts or circumstances beyond the control of the other party or that could not have been reasonably foreseen and prevented. For these purposes, such acts or circumstances shall include, but not be limited to, weather conditions affecting performance, floods, epidemics, war, riots, strikes, lockouts, or other industrial disturbances, or protest demonstrations. Should such acts or circumstances occur, the parties shall use their best efforts to overcome the difficulties arising therefrom and to resume the Work as soon as reasonably possible with the normal pursuit of the Work.

Inclement weather, continuous rain for less than three (3) days or the acts or omissions of subcontractors, third-party contractors, materialmen, suppliers, or their subcontractors, shall not be considered acts of force majeure.

No Party shall be liable for its failure to carry out its respective obligations under the Agreement during a period when such Party is rendered unable by force majeure to carry out its obligation, but the obligation of the Party or Parties relying on such force majeure shall be suspended only during the continuance of the inability and for no longer period than the unexpected or uncontrollable event.

The DESIGN/BUILD FIRM further agrees and stipulates, that its right to excuse its failure to perform by reason of force majeure shall be conditioned upon giving written notice of its assertion that a force majeure delay has commenced within 96 hours after such an occurrence. The DESIGN/BUILD FIRM shall use its reasonable efforts to minimize such delays. The DESIGN/BUILD FIRM shall promptly provide an estimate of the anticipated additional time required to complete the Project.

ARTICLE 12 - CITY'S RESPONSIBILITIES

- 12.1 CITY shall assist DESIGN/BUILD FIRM by placing at its disposal any available information pertinent to the Project including previous reports, laboratory tests and inspections of samples, materials and equipment, property, boundary, easement, rights-of-way, topographic and utility surveys; property descriptions; and known zoning, deed and other land use restrictions.
- 12.2 CITY shall arrange for access to and make all provisions for DESIGN/BUILD FIRM to enter upon public property as required for DESIGN/BUILD FIRM to perform its services.
- 12.3 CITY shall render decisions under this Agreement in a timely manner.

ARTICLE 13 - SUPERINTENDENCE AND SUPERVISION

- 13.1 The orders of the CITY are to be given through the Project Manager, whose instructions are to be strictly and promptly followed in every case, provided that they are in accordance with this Agreement and the other Contract Documents. Construction Manager shall keep on the Project during its progress, a full-time, competent, English speaking supervisor, who shall be the Construction Manager Representative and who shall serve as the superintendent, and

- any necessary assistants, all satisfactory to the Project Manager.
- 13.2 Construction Manager or Construction Manager Representative shall prepare, on a daily basis, and keep on the Project site, a bound log setting forth at a minimum, for each day: the weather conditions and how any weather conditions affected progress of the Work; time of commencement of Work for the day; the Work performed; materials, labor, personnel, equipment and subcontractors used for the Work; any idle equipment and reasons for idleness; visitors to the Project site; any special or unusual conditions or occurrences encountered; any materials delivered to the Project site; and the time of termination of Work for the day. The daily bound log shall be available for inspection by the CITY, or its authorized designee, at all times during the Project, without previous notice.
- 13.3 If DESIGN/BUILD FIRM, in the course of the Project, finds any discrepancy between the Contract Documents and the physical conditions of the site, or any errors or omissions in the Contract Documents including, but not limited to, the Plans and Specifications, it shall be DESIGN/BUILD FIRM's sole obligation and duty to immediately inform the Project Manager, in writing, and the Project Manager will promptly verify same. Any Work done prior to or after such discovery will be done at DESIGN/BUILD FIRM's sole risk. **NOTWITHSTANDING THE PRECEDING, OR ANY OTHER TERM OR CONDITION OF THIS AGREEMENT, DESIGN/BUILD FIRM HEREBY ACKNOWLEDGES AND AGREES THAT THIS IS A DESIGN/BUILD PROJECT AND, ACCORDINGLY, ANY ERRORS OR OMISSIONS SHALL BE CORRECTED AT THE SOLE COST AND EXPENSE OF DESIGN/BUILD FIRM AND WITHOUT A CLAIM FOR ADJUSTMENT IN THE CONTRACT TIME OR CONTRACT PRICE.**
- 13.4 DESIGN/BUILD FIRM shall coordinate, supervise and direct the Project competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform and complete the Project in accordance with the Contract Documents. DESIGN/BUILD FIRM shall be solely responsible for the design, preparation of Construction Documents, means, methods, techniques, safety, sequences and procedures of construction. DESIGN/BUILD FIRM shall give efficient supervision to the Work, using DESIGN/BUILD FIRM's best skill, attention and judgment.

ARTICLE 14 - RESOLUTION OF DISPUTES

- 14.1 Questions, claims, difficulties and disputes of whatever nature which may arise relative to the technical interpretation of the Contract Documents and fulfillment of this Agreement as to the character, quality, amount and value of any work done and materials furnished, or proposed to be done or furnished under or, by reason of, the Contract Documents which cannot be resolved by mutual agreement of CITY Project Manager and DESIGN/BUILD FIRM Project Manager shall be submitted to the City Manager or his designee and DESIGN/BUILD FIRM's representative for resolution. When either Party has determined that a disputed question, claim, difficulty or dispute is at an impasse, that Party shall notify the other party in writing and submit the question, claim, difficulty or dispute to the next level of the Parties' respective management levels for resolution. Each Party may determine in such Party's reasonable discretion as to who the "next level of management" is for purposes of resolving disputes.
- 14.2 All non-technical administrative disputes (such as billing and payment) shall be determined by the Project Manager.
- 14.3 During the pendency of any dispute and after a determination thereof, DESIGN/BUILD FIRM,

and CITY shall act in good faith to mitigate any potential damages including using construction schedule changes and alternate means of construction. During the pendency of any dispute arising under this Agreement, other than termination herein, DESIGN/BUILD FIRM shall proceed diligently with performance of this Agreement and CITY shall continue to make payments for undisputed amounts in accordance with the Contract Documents.

- 14.4 In the event a resolution of a dispute under this section cannot be resolved, the issue shall be submitted by the DESIGN/BUILD FIRM to the City Manager or designee, in writing within ten (10) days of the impasse. The notice must state the basis of the dispute and the DESIGN/BUILD FIRM's proposed resolution. The notice given by the DESIGN/BUILD FIRM must include a written notarized certification that any NTE adjustment claimed is the entire adjustment to which the DESIGN/BUILD FIRM has reason to believe it is entitled to as a result of the question, claim, difficulty or dispute. Resolution of such dispute shall be made by the City Manager or designee. The City Manager's decision shall be final and binding on the Parties subject to mediation and judicial review.
- 14.5 Prior to any litigation being commenced, for any disputes which remain unresolved, within sixty (60) days after Final Completion of the Work, the Parties shall participate in mediation to address all unresolved disputes to a mediator mutually agreed upon by the Parties. Should any objection not be resolved in mediation, the Parties retain all their legal rights and remedies provided under the laws of Florida. Failure by a Party to comply in strict accordance with the requirements of this Article, then said Party specifically waives all of its rights provided hereunder, including its rights and remedies under the laws of Florida.

ARTICLE 15 - CITY'S RIGHT TO TERMINATE AGREEMENT

- 15.1 If DESIGN/BUILD FIRM fails to begin the design and construction of the Project within the time specified, or fails to perform the Project with sufficient workers and equipment or with sufficient materials to insure the prompt completion of the Project, in accordance with the Contract Documents and schedules, or shall perform the Work unsuitably, or cause it to be rejected as defective and unsuitable; or shall discontinue the prosecution of the Project, except for excused delays in accordance with this Agreement; or if DESIGN/BUILD FIRM shall become insolvent or be declared bankrupt, or commit any act of bankruptcy or insolvency, or shall make an assignment for the benefit of creditors; or shall not carry on the Project in accordance with the Contract Documents, then the CITY shall give notice, in writing, to DESIGN/BUILD FIRM and its surety of such delay, neglect or default, specifying the same. If DESIGN/BUILD FIRM within a period of ten (10) calendar days after such notice, shall not proceed in accordance therewith, then CITY may, upon written notice from the Project Manager of the fact of such delay, neglect or default and DESIGN/BUILD FIRM's failure to comply with such notice, terminate the services of DESIGN/BUILD FIRM, exclude DESIGN/BUILD FIRM from the Project site, and take the prosecution of the Project out of the hands of DESIGN/BUILD FIRM, as appropriate, or use any or all materials and equipment on the Project site as may be suitable and acceptable, in the CITY's reasonable discretion. In such case, DESIGN/BUILD FIRM shall not be entitled to receive any further payment until the Project is finished. In addition, CITY may enter into an Agreement for the completion of the Project according to the terms and provisions of the Contract Documents, or use such other methods as in its opinion shall be required for the completion of the Project in an acceptable manner. All damages, costs and charges incurred by CITY shall be deducted from any monies due or which may become due to said DESIGN/BUILD FIRM. Actions will be instituted to recover on the posted bonds. In case the

damages and expense so incurred by CITY shall be less than the sum which would have been payable under this Agreement, if it had been completed by said DESIGN/BUILD FIRM, then DESIGN/BUILD FIRM shall be entitled to receive the difference. If such damages and costs exceed the unpaid balance, then DESIGN/BUILD FIRM shall be liable and shall pay to CITY the amount of said excess.

- 15.2 If, after Notice of Termination of DESIGN/BUILD FIRM's right to proceed, it is determined for any reason that DESIGN/BUILD FIRM was not in default, the rights and obligations of CITY and DESIGN/BUILD FIRM shall be the same as if the notice of termination had been issued pursuant to the Termination for Convenience clause, as set forth in Section 15.3 below.
- 15.3 Notwithstanding any other provision in this Agreement, the performance of work under this Agreement may be terminated in writing by CITY, for convenience and without cause, upon ten (10) business days from the date of DESIGN/BUILD FIRM's receipt of the written notice to DESIGN/BUILD FIRM of intent to terminate and the date on which such termination becomes effective. In such case, DESIGN/BUILD FIRM shall be paid for all Work and reimbursables executed, and expenses incurred, such as materials stored, cost of severance of leases/contracts directly associated with the Project, and demobilization prior to termination. PAYMENT SHALL INCLUDE REASONABLE PROFIT FOR SERVICES ACTUALLY PERFORMED IN FULL PRIOR TO TERMINATION DATE, BUT SHALL EXCLUDE ALL LOSS PROFITS, INDIRECT CONSEQUENTIAL, SPECIAL OR OTHER DAMAGES.
- 15.4 Upon receipt of Notice of Termination pursuant to Sections 15.1 and 15.2 above, DESIGN/BUILD FIRM shall, at its sole cost and expense (other than demobilization as a result of the Notice of Termination pursuant to Section 15.3 which shall be paid for by the CITY) and as a condition precedent to any further payment obligation by the CITY, promptly discontinue all affected work, unless the Notice of Termination directs otherwise, and deliver to CITY within seven (7) calendar days of termination, all data, drawings, specifications, reports, estimates, summaries and such other information as may have been required by the Contract Documents, whether completed or in process. Compensation shall be withheld until all documents are produced to CITY pursuant to this Article.

ARTICLE 16 - DESIGN/BUILD FIRM'S RIGHT TO STOP WORK OR TERMINATE CONTRACT

- 16.1 If the Project should be stopped under any order of any court or other public authority for a period of more than ninety (90) calendar days, through no act or fault of DESIGN/BUILD FIRM or of anyone employed by DESIGN/BUILD FIRM, or if the Project Manager should fail to review and approve or state in writing reasons for non-approval of any requisition for payment within twenty (20) business days after it is presented; or if CITY fails to pay DESIGN/BUILD FIRM within thirty (30) calendar days after submittal of a proper requisition for payment, as approved by the Project Manager, then DESIGN/BUILD FIRM may give written notice to CITY, of such delay, neglect or default, specifying same. If CITY, within a period of ten (10) business days after such written notice, shall not remedy the delay, neglect, or default upon which notice is based, then DESIGN/BUILD FIRM may stop work until payment is made, or terminate this Agreement and recover from CITY payment for all Work executed and reasonable expenses sustained, but excluding any claim for payments for loss profits, indirect, special, consequential or other damages.

ARTICLE 17 - NOTICES

17.1 Whenever either Party desires to give notice to the other, such notice must be in writing with proof of delivery or receipt. The notice shall be address to the Party for whom it is intended at the place last specified; and the place for giving of notice shall remain until itshall have been changed by written notice in compliance with the provisions of this paragraph. For the present, the Parties designate the following as the respective places for giving notice:

<p>FOR THE CITY: CITY Manager CITY of Fort Lauderdale 100 North Andrews Avenue Fort Lauderdale, Florida 33301</p> <p>with copies to: Project Manager and City Attorney City of Fort Lauderdale 100 North Andrews Avenue Fort Lauderdale, Florida 33301</p>	<p>FOR THE DESIGN/BUILD FIRM:</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>
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ARTICLE 18 – BONDS AND INSURANCE

18.1 DESIGN/BUILD FIRM shall furnish, or cause to be furnished, on or before seven (7) days after execution of this Agreement, the following:

Performance Bond and Payment Bond (Surety)

18.2 THE DESIGN/BUILD FIRM shall execute and record in the Public Records of Broward County, Florida, a payment and performance bond in an amount at least equal to the Contract Price guaranteeing to CITY the completion and performance of the Project covered in this Agreement as well as full payment of all suppliers, material persons, laborers, or sub-contractors employment pursuant to the Project. The Payment and Performance Bond shall be with a surety insurer authorized to do business in the state of Florida as surety (“Bond”), in accordance with Sec. 255.05, Fla. Stat., as may be amended or revised, as security for the faithful performance and payment of all of the Contractor’s obligations under the Contract Documents. The performance and payment bond shall remain in full force and effect during the Project and 60 days beyond the contract term for close out.

18.3 Insurance Requirements

As a condition precedent to the effectiveness of this Agreement, during the term of this Agreement and during any renewal or extension term of this Agreement, the Contractor, at its sole expense, shall provide insurance of such types and with such terms and limits as noted below. Providing proof of and maintaining adequate insurance coverage are material obligations of the Contractor. The Contractor shall provide the City a certificate of insurance evidencing such coverage. The Contractor’s insurance coverage shall be primary insurance for all applicable policies. The limits of coverage under each policy maintained by the Contractor shall not be interpreted as limiting the Contractor’s liability and obligations under this Agreement. All insurance policies shall be through insurers authorized or eligible to write policies in the State of Florida and possess an A.M. Best rating of A-, VII or better, subject to approval by the City’s Risk Manager.

The coverages, limits, and/or endorsements required herein protect the interests of the City, and these coverages, limits, and/or endorsements shall in no way be relied upon by the Contractor for assessing the extent or determining appropriate types and limits of coverage to protect the Contractor against any loss exposures, whether as a result of this Agreement or otherwise. The requirements contained herein, as well as the City's review or acknowledgement, are not intended to and shall not in any manner limit or qualify the liabilities and obligations assumed by the Contractor under this Agreement.

The following insurance policies and coverages are required:

Commercial General Liability

Coverage must be afforded under a Commercial General Liability policy with limits not less than:

- \$1,000,000 each occurrence and \$2,000,000 aggregate for Bodily Injury, Property Damage, and Personal and Advertising Injury
- \$1,000,000 each occurrence and \$2,000,000 aggregate for Products and Completed Operations

Policy must include coverage for contractual liability and independent contractors.

The City, a Florida municipal corporation, its officials, employees, and volunteers are to be covered as an additional insured with a CG 20 26 04 13 Additional Insured – Designated Person or Organization Endorsement or similar endorsement providing equal or broader Additional Insured Coverage with respect to liability arising out of activities performed by or on behalf of the Contractor. The coverage shall contain no special limitation on the scope of protection afforded to the City, its officials, employees, and volunteers.

Business Automobile Liability

Coverage must be afforded for all Owned, Hired, Scheduled, and Non-Owned vehicles for Bodily Injury and Property Damage in an amount not less than \$1,000,000 combined single limit each accident.

If the Contractor does not own vehicles, the Contractor shall maintain coverage for Hired and Non-Owned Auto Liability, which may be satisfied by way of endorsement to the Commercial General Liability policy or separate Business Auto Liability policy.

Contractors Pollution Liability Coverage

For sudden and gradual occurrences and in an amount not less than \$1,000,000 per claim arising out of this Agreement, including but not limited to, all hazardous materials identified under the Agreement.

Professional Liability and/or Errors and Omissions (if architectural or engineering services are provided)

Coverage must be afforded for Wrongful Acts in an amount not less than \$5,000,000 each claim and \$5,000,000 aggregate.

Contractor must keep insurance in force until the third anniversary of expiration of this Agreement or the third anniversary of acceptance of work by the City.

Workers' Compensation and Employer's Liability

Coverage must be afforded per Chapter 440, Florida Statutes. Any person or entity performing work for or on behalf of the City must provide Workers' Compensation insurance. Exceptions and exemptions will be allowed by the City's Risk Manager, if they are in accordance with Florida Statute.

The Contractor waives, and the Contractor shall ensure that the Contractor's insurance carrier waives, all subrogation rights against the City, its officials, employees, and volunteers for all losses or damages. The City requires the policy to be endorsed with WC 00 03 13 Waiver of our Right to Recover from Others or equivalent.

The Contractor must be in compliance with all applicable State and federal workers' compensation laws, including the U.S. Longshore Harbor Workers' Act and the Jones Act, if applicable.

Property Coverage (Builder's Risk)

Coverage must be afforded in an amount not less than 100% of the total project cost, including soft costs, with a deductible of no more than \$25,000 each claim. Coverage form shall include, but not be limited to:

- All Risk Coverage including Flood and Windstorm with no coinsurance clause
- Guaranteed policy extension provision
- Waiver of Occupancy Clause Endorsement, which will enable the City to occupy the facility under construction/renovation during the activity
- Storage and transport of materials, equipment, supplies of any kind whatsoever to be used on or incidental to the project
- Equipment Breakdown for cold testing of all mechanized, pressurized, or electrical equipment

For installation of property and/or equipment, Contractor must provide Builder's Risk Installation insurance to include coverage for materials or equipment stored at the project site, while in transit, or while stored at a temporary location. Coverage limit must be no less than replacement cost.

This policy shall insure the interests of the owner, contractor, and subcontractors in the property against all risk of physical loss and damage, and name the City as a loss payee. This insurance shall remain in effect until the work is completed and the property has been accepted by the City.

Umbrella/Excess Liability

The Contractor shall provide umbrella/excess coverage with limits of no less than \$2,000,000 excess of Commercial General Liability, Automobile Liability and Employer's Liability.

Insurance Certificate Requirements

- a. The Contractor shall provide the City with valid Certificates of Insurance (binders are unacceptable) no later than ten (10) days prior to the start of work contemplated in this Agreement.
- b. The Contractor shall provide to the City a Certificate of Insurance having a thirty (30) day notice of cancellation; ten (10) days' notice if cancellation is for nonpayment of premium.
- c. In the event that the insurer is unable to accommodate the cancellation notice requirement, it shall be the responsibility of the Contractor to provide the proper notice. Such notification

- will be in writing by registered mail, return receipt requested, and addressed to the certificate holder.
- d. In the event the Agreement term goes beyond the expiration date of the insurance policy, the Contractor shall provide the City with an updated Certificate of Insurance no later than ten (10) days prior to the expiration of the insurance currently in effect. The City reserves the right to suspend the Agreement until this requirement is met.
 - e. The Certificate of Insurance shall indicate whether coverage is provided under a claims-made or occurrence form. If any coverage is provided on a claims-made form, the Certificate of Insurance must show a retroactive date, which shall be the effective date of the initial contract or prior.
 - f. The City shall be named as an Additional Insured on all liability policies, with the exception of Workers' Compensation.
 - g. The City shall be granted a Waiver of Subrogation on the Contractor's Workers' Compensation insurance policy.
 - h. The title of the Agreement, Bid/Contract number, event dates, or other identifying reference must be listed on the Certificate of Insurance.

The Certificate Holder should read as follows:

City of Fort Lauderdale
100 N. Andrews Avenue
Fort Lauderdale, FL 33301

The Contractor has the sole responsibility for all insurance premiums and shall be fully and solely responsible for any costs or expenses as a result of a coverage deductible, co-insurance penalty, or self-insured retention; including any loss not covered because of the operation of such deductible, co-insurance penalty, self-insured retention, or coverage exclusion or limitation. Any costs for adding the City as an Additional Insured shall be at the Contractor's expense.

If the Contractor's primary insurance policy/policies do not meet the minimum requirements, as set forth in this Agreement, the Contractor may provide evidence of an Umbrella/Excess insurance policy to comply with this requirement.

The Contractor's insurance coverage shall be primary insurance as respects to the City, a Florida municipal corporation, its officials, employees, and volunteers. Any insurance or self-insurance maintained by the City, a Florida municipal corporation, its officials, employees, or volunteers shall be non-contributory.

Any exclusion or provision in any insurance policy maintained by the Contractor that excludes coverage required in this Agreement shall be deemed unacceptable and shall be considered breach of contract.

All required insurance policies must be maintained until the contract work has been accepted by the City, or until this Agreement is terminated, whichever is later. Any lapse in coverage shall be considered breach of contract. In addition, Contractor must provide to the City confirmation of coverage renewal via an updated certificate should any policies expire prior to the expiration of this Agreement. The City reserves the right to review, at any time, coverage forms and limits of Contractor's insurance policies.

The Contractor shall provide notice of any and all claims, accidents, and any other occurrences associated with this Agreement to the Contractor's insurance company or companies and the City's Risk Management office, as soon as practical.

It is the Contractor's responsibility to ensure that any and all of the Contractor's independent contractors and subcontractors comply with these insurance requirements. All coverages for independent contractors and subcontractors shall be subject to all of the applicable requirements stated herein. Any and all deficiencies are the responsibility of the Contractor.

Loss Control/Safety

Precaution shall be exercised at all times by the Contractor for the protection of all persons, including employees, and property. The Contractor shall comply with all laws, regulations, or ordinances relating to safety and health, and shall make special effort to detect hazardous conditions and shall take prompt action where loss control/safety measures should reasonably be expected.

The City may order work to be stopped if conditions exist that present immediate danger to persons or property. The Contractor acknowledges that such stoppage will not shift responsibility for any loss or damages from the Contractor to the City.

The Certificate Holder must read as follows:

City of Fort Lauderdale
100 N. Andrews Avenue
Fort Lauderdale, FL 33301

- 18.4 The DESIGN/BUILD FIRM has the sole responsibility for all insurance premiums and shall be fully and solely responsible for any costs or expenses as a result of a coverage deductible, co-insurance penalty, or self-insured retention; including any loss not covered because of the operation of such deductible, co-insurance penalty, self-insured retention, or coverage exclusion or limitation. Any costs for adding the CITY as an Additional Insured shall be at the DESIGN/BUILD FIRM's expense.

If the DESIGN/BUILD FIRM primary insurance policy/policies do not meet the minimum requirements, as set forth in this Agreement, the DESIGN/BUILD FIRM may provide an Umbrella/Excess insurance policy to comply with this requirement.

The DESIGN/BUILD FIRM's insurance coverage shall be primary insurance as respects to the CITY, a Florida municipal corporation, its officials, employees, and volunteers. Any insurance or self-insurance maintained by the CITY, a Florida municipal corporation, its officials, employees, or volunteers shall be non-contributory.

Any exclusions or provisions in any insurance policy maintained by the DESIGN/BUILD FIRM that excludes coverage required in this Agreement shall be deemed unacceptable and shall be considered breach of contract.

All required insurance policies must be maintained until the contract work has been accepted by the CITY, or until this Agreement is terminated, whichever is later. Any lapse in coverage shall be considered breach of contract. In addition, DESIGN/BUILD FIRM must provide to the CITY confirmation of coverage renewal via an updated certificate should any policies expire prior to the expiration of this Agreement. The CITY reserves the right to review, at any time, coverage forms and limits of DESIGN/BUILD FIRM's insurance policies.

The DESIGN/BUILD FIRM shall provide notice of any and all claims, accidents, and any

other occurrences associated with this Agreement to the DESIGN/BUILD FIRM's insurance company or companies and the CITY's Risk Management office, as soon as practical.

It is the DESIGN/BUILD FIRM's responsibility to ensure that any and all of the DESIGN/BUILD FIRM independent contractors and subcontractors comply with these insurance requirements. All coverages for independent contractors and subcontractors shall be subject to all of the applicable requirements stated herein. Any and all deficiencies are the responsibility of the DESIGN/BUILD FIRM.

Certificates will indicate no modification or change in insurance shall be made without thirty (30) days in advance notice to the certificate holder. Compliance with the foregoing requirements shall not relieve the DESIGN/BUILD FIRM of its liability and obligation under this section or under any other Section of this Agreement.

- 18.5 The DESIGN/BUILD FIRM shall be responsible for assuring that the insurance certificates required in conjunction with this Section remain in force for the duration of the Project. If insurance certificates are scheduled to expire during the contractual period, the DESIGN/BUILD FIRM shall be responsible for submitted new or renewed insurance certificates to the CITY at a minimum of thirty (30) calendar days in advance of such expiration. In the event that expired certificates are not replaced with new or renewed certificates that cover the contractual period, the CITY shall:
- A. Suspend the Agreement until such time as the new or renewed certificates are received by the CITY;
 - B. The CITY may, at its sole discretion, terminate the Agreement for cause and seek damages from the DESIGN/BUILD FIRM in conjunction with the violation of the terms and conditions of the Agreement.

ARTICLE 19 - SUBSTANTIAL COMPLETION

- 19.1 When DESIGN/BUILD FIRM considers that the Project, or a designated portion thereof, which is acceptable to CITY, in the event CITY chooses to accept same pursuant to the sole authority and discretion, is substantially complete, DESIGN/BUILD FIRM shall so notify the Project Manager, in writing, and shall prepare for submission to the Project Manager a thorough list of items to be completed or corrected, together with a schedule for completion of all items. The failure to include any items on such list does not alter the responsibility of DESIGN/BUILD FIRM to complete all Work in accordance with the Contract Documents. The Project Manager, and such other persons as they may deem necessary, shall conduct a joint inspection to determine that the Project (or designated portion thereof) is substantially complete.
- 19.2 The Project Manager will then instruct DESIGN/BUILD FIRM to prepare and deliver to the Contract Administrator a Certificate of Substantial Completion which shall establish the date of Substantial Completion for the Project (or that portion of the Project). After review of the certificate by the Contract Administrator, CITY shall either accept or reject the certificate. Acceptance of Substantial Completion by CITY shall be based upon compliance with the Contract Documents and Applicable Laws. DESIGN/BUILD FIRM shall have thirty (30) days to complete the items listed therein. Warranties required by the Contract Documents and submitted in appropriate form to the Project Manager along with the request for Substantial Completion shall commence on the date of Substantial Completion of the Project (or for that

portion of the Project). The Certificate of Substantial Completion shall be submitted to CITY through the Project Manager and DESIGN/BUILD FIRM for its written acceptance of the responsibilities assigned to it in such Certificate.

ARTICLE 20 - FINAL COMPLETION

- 20.1 When the DESIGN/BUILD FIRM considers that the Project, or a designated portion thereof, which is acceptable to CITY, in the event CITY chooses to accept same pursuant to the sole authority and discretion, is finally complete, DESIGN/BUILD FIRM shall so notify the Project Manager, in writing, that the work is complete, and that the DESIGN/BUILD FIRM has satisfied all prerequisites to Final Completion. The DESIGN/BUILD FIRM and the Project Manager and such other persons as they may deem necessary, shall conduct a final inspection. The DESIGN/BUILD FIRM will notify in writing of all particulars in which this inspection reveals that the Work is incomplete, non-conforming or defective. Construction Manager shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies and shall notify all Parties that the Project (or designated portion thereof) is finally complete.

After Project Manager will then instruct DESIGN/BUILD FIRM to prepare and deliver to the Project Manager a Certificate of Final Completion which shall establish the date of Final Completion for the Project (or that portion of the Project). After review of the certificate by the Project Manager, CITY shall either accept or reject the certificate. Acceptance of Final Completion by CITY shall be based upon compliance with the Contract Documents and Applicable Laws. DESIGN/BUILD FIRM shall have thirty (30) days to complete the items listed therein. Warranties required by the Contract Documents and submitted in appropriate form to the Project Manager along with the request for Final Completion shall commence on the date of Final Completion of the Project (or for that portion of the Project). The Certificate of Final Completion shall be submitted to CITY through the Project Manager and DESIGN/BUILD FIRM for its written acceptance of the responsibilities assigned to it in such certificate.

ARTICLE 21 - SHOP DRAWINGS AND SCHEDULE OF VALUES

- 21.1 DESIGN/BUILD FIRM shall submit Shop Drawings for all equipment, apparatus, machinery, fixtures, piping, wiring, fabricated structures and manufactured articles. The purpose of a Shop Drawing is to show the suitability, efficiency, technique of manufacture, installation requirements, details of the item and evidence of its compliance or noncompliance with the Contract Documents.
- 21.2 DESIGN/BUILD FIRM shall thoroughly review and check the Shop Drawings and each and every copy shall show DESIGN/BUILD FIRM's approval thereon.
- 21.3 If the Shop Drawings show or indicate departures from the Contract requirements, DESIGN/BUILD FIRM shall make specific mention thereof in its shop drawing submittal and a separate letter. Failure to point out such departures shall not relieve DESIGN/BUILD FIRM from its responsibility to comply with the Contract Documents. Project Manager shall determine acceptability of change and, in considering said change, may require data, technical comparisons, cost comparisons, quality comparisons and/or calculations to determine the equality of deviations. Contract Administrator is not obligated to accept deviations.

- 21.4 No acceptance will be given to partial submittal of Shop Drawings for items which interconnect and/or are interdependent. It is DESIGN/BUILD FIRM's responsibility to assemble the Shop Drawings for all such interconnecting and/or independent items, check them, and then make one (1) submittal to the Project Manager, along with DESIGN/BUILD FIRM's comments as to compliance, noncompliance, or features requiring special attention.
- 21.5 If catalog sheets or prints of manufacturers' standard drawings are submitted as Shop Drawings, any additional information or changes on such drawings shall be typewritten or lettered in ink. Catalog sheet with multiple options shall be highlighted to depict specific pertinent data including options.
- 21.6 DESIGN/BUILD FIRM shall submit to Project Manager five (5) copies. Re-submissions of Shop Drawings shall be made in the same quantity until final acceptance is obtained.
- 21.7 Project Manager's acceptance of the Shop Drawings, as approved by DESIGN/BUILD FIRM, will be for general compliance with the Plans and Specifications, and shall not relieve DESIGN/BUILD FIRM of responsibility for the accuracy of such Drawings, nor for the proper fittings and construction of the Work, nor for the furnishing of the materials or Work required by the Agreement and not indicated on the Drawings.
- 21.8 DESIGN/BUILD FIRM shall keep one (1) set of Shop Drawings, marked with the Project Manager's acceptance, as the Project site at all times.
- 21.9 The DESIGN/BUILD FIRM shall submit a Schedule of Values to the Project Manager as specified in the Technical Specifications. DESIGN/BUILD FIRM shall submit to the Project Manager a separate Schedule of Values for demolition, abatement, and site work ten (10) calendar days prior to commencing such portion of the Work. The schedule will be typed on 8 1/2" x 11" white paper listing: title of Project, location, Project number, Consultant, Contractor, Contract designation and date of submission. The schedule shall list the installed value of the component parts of the Work in sufficient detail to serve as a basis for computing values for progress payments during the construction. The table of contents of the specifications shall establish the format for listing the component items. Each line item will be identified by the number and title of the respective major section of the specifications. For each line item, DESIGN/BUILD FIRM shall list the sub-values of major products or operations under the item. Each item shall include the proportion of DESIGN/BUILD FIRM's overhead and profit. For any items for which progress payments will be requested for stored materials, the value will be broken down with:
- A. Schedule must include the following but is not limited to:
 - Separate identifiable activity on the critical path, an activity labeled "Other Conditions Allowance." This activity duration shall be thirty (30) calendar days and inserted at the end of the schedule prior to Substantial Completion. This allowance may or may not be used at the discretion of the CITY. Use of this activity shall be subject to the review and approval of the CITY and the Design Criteria Professional. The duration of the "Other Conditions Allowance" activity shall be reduced as other conditions are experienced and inserted in the schedule;
 - B. The cost of materials delivered, unloaded, properly stored and safeguard, with taxes paid; and
 - C. The total installed value review.

ARTICLE 22 - FIELD ENGINEERING

- 22.1 The DESIGN/BUILD FIRM shall provide and pay for field engineering services required for the Project. This Work shall include the following elements:
- A. Survey work required in execution of the Project;
 - B. Civil, structural or other professional engineering, architectural, landscape architectural, or land surveying services specified, or required to execute the DESIGN/BUILD FIRM's construction methods;
 - C. The survey completed by DESIGN/BUILD FIRM will identify the qualified engineer or registered land surveyor, acceptable to the CITY, and he or she shall be retained by the DESIGN/BUILD FIRM at the outset of this Project;
 - D. The survey will locate and protect control points prior to starting site work, and will preserve all permanent reference points during construction;
 - E. No changes or relocations will be made without prior written notice to the Project Manager;
 - F. A written report shall be made to the Project Manager when any reference point is lost or destroyed, or requires relocation because of necessary changes in grades or locations;
 - G. The surveyor shall be required to replace Project control points which may be lost or destroyed. The surveyor shall be duly registered as a surveyor or mapper, as required by state law;
 - H. Replacement shall be established based upon original survey control.
- 22.2 The survey completed by DESIGN/BUILD FIRM will identify the qualified engineer or registered land surveyor, acceptable to the CITY, and he or she shall be retained by the DESIGN/BUILD FIRM at the outset of this Project.
- 22.2.1 The survey will locate and protect control points prior to starting sitework, and will preserve all permanent reference points during construction.
 - 22.2.2 No changes or relocations will be made without prior written notice to the Project Manager.
 - 22.2.3 A written report shall be made to the Project Manager when any reference point is lost or destroyed or requires relocation because of necessary changes in grades or locations.
 - 22.2.4 The surveyor shall be required to replace Project control points which maybe lost or destroyed. The surveyor shall be duly registered as a surveyor or mapper, as required by state law.
 - 22.2.5 Replacements shall be established based upon original survey control.

ARTICLE 23 - FIELD LAYOUT OF THE WORK AND RECORD DRAWINGS

- 23.1 The entire responsibility for establishing and maintaining a line and grade in the field lies with DESIGN/BUILD FIRM. DESIGN/BUILD FIRM shall maintain an accurate and precise

horizontal and vertical record of the existing pavement conditions; final pavement conditions; and all pipelines, conduits, structures, underground utility access portals, handholes, fittings, etc. encountered or installed during construction. DESIGN/BUILD FIRM shall deliver these records in good order to the Contract Administrator as the Work is completed. These records shall serve as a basis for "as-built" drawings. The cost of all such field layout and recording work is included in the Contract Price.

- 23.2 DESIGN/BUILD FIRM shall maintain in a safe place at the site, one (1) record copy of the Plans and Specifications, addenda, written amendments, Change Orders and written interpretations and clarifications, in good order and annotated to show all changes made during construction. These record documents, together with all approved samples and a counterpart of all approved Shop Drawings, will be available to Contract Administrator for reference. Upon completion of the Project, these record documents, samples and Shop Drawings shall be delivered to Contract Administrator.
- 23.3 At the completion of the Project, the DESIGN/BUILD FIRM shall turn over to the CITY a set of reproducible drawings and a complete set of all drawings in the latest version of AutoCAD on Compact Disk, not compressed, which accurately reflect the "as-built" conditions of the new facilities. All changes made to the Construction Documents, either as clarifications or as changes, will be reflected in the plans. The changes shall be submitted at least monthly to the Project Manager. These "as-built" drawings are to be AutoCAD version 2018 and to CITY Standard Details and CADD Standards. Format media must be delivered and found to be acceptable prior to final payments.

ARTICLE 24 - NO DAMAGES FOR DELAY

- 24.1 NO CLAIM FOR DAMAGES OR ANY CLAIM OTHER THAN FOR AN EXTENSION OF TIME SHALL BE MADE OR ASSERTED AGAINST CITY BY REASON OF ANY DELAYS. DESIGN/BUILD FIRM shall not be entitled to an increase in the Contract Price or payment or compensation of any kind from CITY for direct, indirect, consequential, impact, or other costs, expenses or damages including, but not limited to, costs of acceleration or inefficiency arising because of delay, disruption, interference or hindrance from any cause whatsoever, whether such delay, disruption, interference, or hindrance be reasonable or unreasonable, foreseeable or unforeseeable, or avoidable or unavoidable; provided, DESIGN/BUILD FIRM hindrances or delays are not due solely to fraud, bad faith or active interference by the CITY, DESIGN/BUILD FIRM shall be entitled only to extensions of the Contract Time as the sole and exclusive remedy for such resulting delays, in accordance with and to the extent specifically provided above. The specific application of this Article to other provisions of this Agreement shall not be construed as a limitation of any sort upon the further application of this Article. Ten Dollars (\$10.00) of DESIGN/BUILD FIRM's fee is acknowledged as separate and independent consideration for the covenants contained in this Article.

ARTICLE 25- LIMITATION OF LIABILITY

- 25.1 The CITY desires to enter into this Agreement only if in so doing the CITY can place a limit on the CITY's liability for any cause of action arising out of this Agreement, so that the CITY's liability for any breach never exceeds the sum of \$1,000.00. For other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the DESIGN/BUILD FIRM hereby expresses its willingness to enter into this Agreement with the

knowledge that the DESIGN/BUILD FIRM's recovery from the CITY to any action or claim arising from the Agreement is limited to a maximum amount of \$1,000.00, which amount shall be reduced by the amount actually paid by the CITY to the DESIGN/BUILD FIRM pursuant to this Agreement, for any action or claim arising out of this Agreement. Nothing contained in this paragraph or elsewhere in this Agreement is in any way intended either to be a waiver of the limitation placed upon the CITY's liability beyond the limits established in Section 768.28, Florida Statutes; and no claim or award against the CITY shall include attorney's fees, investigative costs, expert fees, suit costs or pre-judgment interest.

ARTICLE 26 - GOVERNING LAW

- 26.1 This Agreement shall be interpreted and construed in accordance with and governed by the laws of the State of Florida. Any controversies or legal problems arising out of this Agreement and any action involving the enforcement or interpretation of any rights hereunder shall be submitted to the exclusive jurisdiction of the State courts of the Seventeenth Judicial Circuit of Broward County, Florida, the venue situs, and shall be governed by the laws of the State of Florida. To encourage prompt and equitable resolution of any litigation that may arise hereunder, DESIGN/BUILD FIRM SHALL SPECIFICALLY BIND ITS PROJECT TEAM MEMBERS AND ANY AND ALL SUBCONTRACTORS TO THE PROVISIONS OF THE AGREEMENT.

ARTICLE 27 - MISCELLANEOUS PROVISIONS

- 27.1 **OWNERSHIP OF DOCUMENTS:** All finished or unfinished documents, data, studies, surveys, drawings, maps, models, photographs, specifications, plans and reports prepared or provided by DESIGN/BUILD FIRM in connection with this Agreement shall become the property of CITY, whether the Project for which they are made is completed or not, shall become the property of CITY and shall be delivered by DESIGN/BUILD FIRM to Project Manager within fifteen (15) days of the receipt of the written notice of termination or upon completion of the Project. If applicable, CITY may withhold payments then due to DESIGN/BUILD FIRM until DESIGN/BUILD FIRM complies with the provisions of this section.
- 27.2 **AUDIT RIGHT AND RETENTION OF RECORDS:** CITY shall have the right to audit the books, records, and accounts of DESIGN/BUILD FIRM that are related to this Project. DESIGN/BUILD TEAM shall keep such books, records, and accounts as may be necessary in order to record complete and correct entries related to the Project. DESIGN/BUILD FIRM shall preserve and make available, at reasonable times for examination and audit by CITY, all financial records, supporting documents, statistical records, and any other documents pertinent to this Agreement for the required retention period of the Florida Public Records Act, Chapter 119, Florida Statutes, or, if the Florida Public Records Act is not applicable, for a minimum period of three (3) years after termination of this Agreement. If any audit has been initiated and audit findings have not been resolved at the end of the retention period or three (3) years, whichever is longer, the books, records, and accounts shall be retained until resolution of the audit findings. If the Florida Public Records Act is determined by CITY to be applicable to DESIGN/BUILD FIRM's records, DESIGN/BUILD FIRM shall comply with all requirements thereof; however, no confidentiality or non-disclosure requirement of either federal or state law shall be violated by DESIGN-BUILD FIRM. Any incomplete or incorrect entry in such books, records, and accounts shall be a basis for CITY's disallowance and recovery of any payment upon such entry.

- 27.3 **ARCHITECT/ENGINEER:** DESIGN/BUILD FIRM shall use the architect/engineer, including subconsultants, identified in the proposal that were a material part of the selection of the DESIGN/BUILD TEAM to provide the services for this Project. DESIGN/BUILD FIRM shall obtain written approval of CITY's Public Works Director prior to changing or modifying the list of subconsultants submitted by the DESIGN/BUILD FIRM. SEE APPENDICES attached hereto and made a part hereof.
- 27.4 **ASSIGNMENT AND PERFORMANCE:** Neither this Agreement nor any interest herein shall be assigned, transferred, or encumbered without the prior written consent of the other Party.
- 27.5 **ONE ORIGINAL AGREEMENT:** This Agreement will be executed in one original.
- 27.6 **ALL PRIOR AGREEMENTS SUPERSEDED:** This Agreement incorporates and includes all prior negotiations, correspondence, conversations, agreements or understandings applicable to the matters contained herein; and the Parties agree that there are no commitments, agreements or understandings concerning the subject matter of this Agreement that are not contained in this Agreement. Accordingly, the Parties agree that no deviation from the terms hereof shall be predicated upon any prior representations or agreements whether oral or written.
- 27.7 **AMENDMENTS:** No modification, amendment, or alteration in the terms or conditions contained herein shall be effective unless contained in a written document executed by both Parties with the same formality and of equal dignity herewith.
- 27.8 **INDEPENDENT CONTRACTOR:** DESIGN/BUILD FIRM is an independent contractor under this Agreement. Services provided by DESIGN/BUILD FIRM shall be subject to the supervision of DESIGN/BUILD FIRM. In providing the services, DESIGN/BUILD FIRM or its agents shall not be acting and shall not be deemed as acting as officers, employees, or agents of the CITY. No partnership, joint venture, or other joint relationship is created hereby. CITY does not extend to DESIGN/BUILD FIRM or its agents any authority of any kind to bind CITY in any respect whatsoever.
- 27.9 **THIRD PARTY BENEFICIARIES:** Neither DESIGN/BUILD FIRM or CITY intends to directly or substantially benefit a third party by this Agreement. The Parties expressly acknowledge that it is not their intent to create any rights or obligations in any third person or entity under this Agreement. Therefore, the Parties agree that there are no third party beneficiaries to this Agreement and that no third party shall be entitled to assert a claim against either of them based upon this Agreement.
- 27.10 **WAIVER OF BREACH AND MATERIALITY:** Failure by the CITY or DESIGN/BUILD FIRM to enforce any provision of this Agreement shall not be deemed a waiver of such provision or modification of this Agreement.
- 27.11 **MATERIAL TERM:** CITY and DESIGN/BUILD FIRM agree that each requirement, duty, and obligation set forth herein is substantial and important to the formation of this Agreement, and therefore, is a material term hereof.
- 27.12 **COMPLIANCE WITH LAWS:** DESIGN/BUILD FIRM shall comply with all federal, state, and local laws, codes, ordinances, rules and regulations in performing its duties, responsibilities, and obligations related to this Agreement.

- 27.13 **NONDISCRIMINATION, EQUAL EMPLOYMENT OPPORTUNITY, AND AMERICANS WITH DISABILITIES ACT:** DESIGN/BUILD FIRM shall not unlawfully discriminate against any person in its operations and activities in its use or expenditure of the funds or any portion of the funds provided by this Agreement and shall affirmatively comply with all applicable provisions of the Americans with Disabilities Act in the course of providing any services funded in whole or in part by CITY, including Titles 1 and 11 of the Act, and all applicable regulations, guidelines and standards.

DESIGN/BUILD FIRM's decisions regarding the delivery of work and services under this Agreement shall be made without regard to or consideration of race, age, religion, color, gender, sexual orientation, national origin, marital status, physical or mental disability, political affiliation, or any other factor which cannot be lawfully or appropriately used as a basis for service delivery.

DESIGN/BUILD FIRM shall comply with Title 1 of the Americans with Disabilities Act regarding nondiscrimination on the basis of disability in employment and further shall not discriminate against any employee or applicant for employment because of race, age, religion, color, gender, sexual orientation, national origin, marital status, political affiliation, or physical or mental disability. In addition, DESIGN/BUILD FIRM shall take affirmative steps to ensure nondiscrimination in employment against disabled persons. Such actions shall include, but not be limited to, the following: employment, upgrading, demotion, transfer, recruitment or recruitment advertising, layoff, termination, rates of pay, other forms of compensation, terms and conditions of employment, training (including apprenticeship) and accessibility.

DESIGN/BUILD FIRM shall take affirmative action to ensure that applicants are employed and employees are treated without regard to race, age, religion, color, gender, sexual orientation, national origin, marital status, political affiliation, or physical or mental disability during employment. Such actions shall include, but not be limited to, the following: employment, upgrading, demotion, transfer, recruitment or recruitment advertising, layoff, termination, rates of pay, other forms of compensation, terms and conditions of employment, training (including apprenticeship) and accessibility.

- 27.14 **PUBLIC ENTITY CRIMES ACT:** In accordance with the Public Entity Crimes Act, Sec. 287.133, Florida Statutes, a person or affiliate who is a contractor, consultant or other provider, who has been placed on the convicted vendor list following a conviction for a Public Entity Crime, may not submit a bid on a contract to provide any goods or services to the CITY, may not submit a bid on a contract with the CITY for the construction or repair of a public building or public work, may not submit bids on leases of real property to the CITY, may not be awarded or perform work as a contractor supplier, subcontractor or consultant under a contract with the CITY and may not transact any business with the CITY in excess of the threshold amount provided in Section 287.017, Florida Statutes, as amended, for category two purchases for a period of thirty-six (36) months from the date of being placed on the convicted vendor list. Violation of this Section shall result in cancellation of the CITY purchase and may result in debarment
- 27.15 .
- 27.16 **SEVERENCE:** In the event a portion of this Agreement is found by a court of competent jurisdiction to be invalid, the remaining provisions shall continue to be effective unless CITY elects to terminate this Agreement. The election to terminate this Agreement based upon this

provision shall be made within seven (7) days after the finding by the court becomes final.

- 27.17 **JOINT PREPARATION:** Preparation of this Agreement has been a joint effort of the CITY and DESIGN/BUILD FIRM and the resulting document shall not, solely as a matter of judicial construction, be construed more severely against one of the Parties than any other.
- 27.18 **PRIORITY OF PROVISIONS:** If there is a conflict or inconsistency between any term, statement, requirement, or provision of any exhibit attached hereto, any document or events referred to herein, or any document incorporated into this Agreement by reference and a term, statement, requirement, or provision of this Agreement, the term, statement, requirement, or provision contained in Articles 1 through 21 shall prevail and be given effect.
- In the event of a conflict among the Contract Documents, the most stringent requirement shall control.
- 27.19 **TAXES:** DESIGN/BUILD FIRM shall pay all applicable sales, consumer, use and other taxes as required by law. DESIGN/BUILD FIRM is responsible for reviewing the pertinent state statutes involving state taxes and complying with all requirements. All such taxes that are required as of the time of Agreement execution shall be included in the Not To Exceed Guaranteed Maximum Price.
- 27.20 **SCRUTINIZED COMPANIES:** Subject to *Odebrecht Construction, Inc., v. Prasad*, 876 F.Supp.2d 1305 (S.D. Fla. 2012), affirmed, *Odebrecht Construction, Inc., v. Secretary*, Florida Department of Transportation, 715 F.3d 1268 (11th Cir. 2013), with regard to the “Cuba Amendment,” the DESIGN/BUILD FIRM certifies that it is not on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List or the Scrutinized Companies that Boycott Israel List created pursuant to Section 215.4725, Florida Statutes (2020), as may be amended or revised, and that it is not engaged in a boycott of Israel, and that it does not have business operations in Cuba or Syria, as provided in Section 287.135, Florida Statutes (2020), as may be amended or revised. The CITY may terminate this Agreement at the CITY’s option if the DESIGN/BUILD FIRM is found to have submitted a false certification as provided under subsection (5) of Section 287.135, Florida Statutes (2020), as may be amended or revised, or been placed on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List or the Scrutinized Companies that Boycott Israel List created pursuant to Section 215.4725, Florida Statutes (2020), as may be amended or revised, or is engaged in a boycott of Israel or has been engaged in business operations in Cuba or Syria, as defined in Section 287.135, Florida Statutes (2020), as may be amended or revised.

27.21 PUBLIC RECORDS:

IF THE DESIGN/BUILD FIRM HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO THE DESIGN/BUILD FIRM’S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS CONTRACT, CONTACT THE

**CUSTODIAN OF PUBLIC RECORDS AT CITY CLERK'S OFFICE,
100 N. ANDREWS AVENUE, FORT LAUDERDALE, FLORIDA,
33301, EMAIL: PRRCONTRACT@FORTLAUDERDALE.GOV,
PHONE: 954-828- 5002.**

DESIGN/BUILD FIRM shall:

1. Keep and maintain public records required by the CITY in order to perform the service. Upon request from the CITY's custodian of public records, provide the CITY with a copy of the requested records or allow the records to be inspected or copied within a reasonable time at a cost that does not exceed the cost provided in Chapter 119, Florida Statutes (2020), as may be amended or revised, or as otherwise provided by law.
2. Ensure that public records that are exempt or confidential and exempt from public records disclosure requirements are not disclosed except as authorized by law for the duration of the contract term and following completion of this contract if the DESIGN/BUILD FIRM does not transfer the records to the CITY.
3. Upon completion of the Agreement, transfer, at no cost, to the CITY all public records in possession of the DESIGN/BUILD FIRM or keep and maintain public records required by the CITY to perform the service. If the DESIGN/BUILD FIRM transfers all public records to the CITY upon completion of this Agreement, the DESIGN/BUILD FIRM shall destroy any duplicate public records that are exempt or confidential and exempt from public records disclosure requirements. If the DESIGN/BUILD FIRM keeps and maintains public records upon completion of this Agreement, the DESIGN/BUILD FIRM shall meet all applicable requirements for retaining public records. All records stored electronically must be provided to the CITY, upon request from the CITY's custodian of public records, in a format that is compatible with the information technology systems of the CITY.
4. If the DESIGN/BUILD FIRM keeps and maintains public records upon completion of this Agreement, the DESIGN/BUILD FIRM shall meet all applicable requirements for retaining public records. All records stored electronically must be provided to the CITY, upon request from the CITY's custodian of public records, in a format that is compatible with the information technology systems of the CITY.

[THIS SPACE WAS INTENTIONALLY LEFT BLANK]

TITLE: Design Build Pump Station A-16 Upgrade - WATER
Project No. 12412

CITY

IN WITNESS OF THE FOREGOING, the Parties have set their hands and seals the day and year first written above.

CITY OF FORT LAUDERDALE, a Florida
municipal corporation

By: _____

CHRISTOPHER J. LAGERBLOOM
City Manager

Date: _____

ATTEST:

(CORPORATE SEAL)

By: _____

JEFFREY A. MODARELLI
City Clerk

Approved as to Legal Form:
Alain E. Boileau, City Attorney

By: _____

RHONDA MONTOYA HASAN
Assistant City Attorney

Sample Agreement

TITLE: Design Build Pump Station A-16 Upgrade - WATER
Project No. 12412

CONTRACTOR

WITNESSES:

_____,
a Florida Corporation.

By: _____,
_____, President

Print Name

Print Name

ATTEST:

(CORPORATE SEAL)

STATE OF _____:

COUNTY OF _____:

The foregoing instrument was acknowledged before me by means of physical presence or online notarization, this _____ day of _____, 2021, by Name., as Title, for Company., a Florida corporation.

(Signature of Notary Public - State of Florida)

(Print, Type, or Stamp Commissioned Name of Notary Public)

Personally Known _____ or Produced Identification _____

Type of Identification Produced: _____



EXHIBIT A

DESIGN CRITERIA PACKAGE TECHNICAL SPECIFICATIONS



**CONTRACT DOCUMENTS FOR THE CONSTRUCTION OF
CITY OF FORT LAUDERDALE PUBLIC WORKS DEPARTMENT
PUMPING STATION A-16 UPGRADE (COURT HOUSE) 30" WM DCP**

**BIDDING REQUIREMENTS, CONTRACT FORMS, CONDITIONS OF
THE CONTRACT AND TECHNICAL SPECIFICATIONS**

CONTRACT DOCUMENTS

**BIDDING REQUIREMENTS, CONTRACT FORMS, CONDITIONS OF THE
CONTRACT AND TECHNICAL SPECIFICATIONS**

BID SET

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Pumping Station A-16 Upgrade (Court House) 30" WM DCP
City of Fort Lauderdale Project 12412
CMA Project No. 047.057

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SECTION 01005
TECHNICAL PROVISIONS**PART 1 GENERAL****1.1 SCOPE**

- A. Work under this contract includes furnishing materials, labor, tools, equipment, supervision, and incidentals necessary to construct infrastructure improvements.

1.2 GENERAL

- A. TECHNICAL SPECIFICATIONS consists of this section, Section 01005, described as TECHNICAL PROVISIONS, pages 01005-1 to 01005-7 and the applicable sections of the City of Fort Lauderdale Design and Construction Standards, the Florida Building Code, Florida Department of Environmental Protection, Broward County Environmental Protection and Growth Management Department, Broward County Highway Engineering Construction, and the Florida Department of Transportation (FDOT) latest revision.
- B. In case of a conflict between the City of Fort Lauderdale Design and Construction Standards, the project drawings and these TECHNICAL PROVISIONS, the City of Fort Lauderdale Standards will govern.
- C. CITY, OWNER and CONTRACT ADMINISTRATOR are described as one in the same and used interchangeably throughout this document.
- D. DBF refers to Design Build Firm.

1.3 ITEMS SPECIFIED ON DRAWINGS

- A. Items of material, equipment, machinery, and the like may be specified on the Drawings and not in the Technical Specifications. The DBF shall provide such items in accordance with the General Notes on the Drawings.

1.4 FIELD LAYOUT OF THE WORK AND RECORD DRAWINGS

- A. After completion of construction, the DBF shall provide two sets of As-Built Drawings with all the As-Built information; all locations, coordinates, dimensions, and elevations of the constructed facilities, certified, signed and sealed thereon by a Professional Surveyor and Mapper per Florida Statute 472.001-472.037. All elevations shall refer to N.A.V.D. 88 (North American Vertical Datum of 1988) and all state plane coordinates shall be NAD 83 (with 1990 adjustment). The cost of such field layout and recording work shall be the responsibility of the DBF. The As-Built utility information shall meet the requirements of the City of Fort Lauderdale.

1.5 SALVAGE

- A. Any existing equipment or material, including but not limited to valves, pipes, fittings, couplings, etc., which is removed as a result of construction under this project may be designated as salvage by the CITY, and if so, shall be delivered clean to the CITY at a location directed by the CONTRACT ADMINISTRATOR. Any equipment or material not worthy of salvaging shall be disposed of by the DBF at a suitable location in accordance with all applicable regulations, ordinances and laws at no additional cost to the CITY.

SECTION 01005
TECHNICAL PROVISIONS**1.6 POWER**

- A. The DBF shall furnish and pay for all electrical power required for the construction, testing and trial operation, prior to final acceptance by the CITY.

1.7 WATER SUPPLY

- A. All water required for testing, flushing, and construction shall be furnished by the CITY and paid for by the DBF. The purchase price shall be the prevailing rate as published by the CITY. The quantity of water used shall be determined by reading the meter at the start and at the finish of construction. The DBF shall make all arrangements and incur all expense involved in having the CITY furnish and install the necessary water meters. Each water service line shall be provided with a vacuum relief or backflow preventer which shall meet the requirements of ASA A40.6, latest revision, and the local administrative authority.

1.8 MAINTENANCE

- A. The DBF shall fully cooperate at all times with the CITY in order to maintain the operation of the existing water and/or sewer system with the least amount of interference and interruption possible. The schedule, plans, and work of the DBF shall at all times be subject to alteration and revision if necessary for public health and safety considerations. The creation of a public nuisance will not be permitted.
- B. It may be necessary to interrupt the operation of the existing water and/or sewer system. In all cases where the DBF must cause an interruption, DBF shall prepare and submit to the CITY four (4) working days prior to commencing the work, a complete description of the proposed procedure and a time schedule, which DBF will be required to guarantee. At least forty-eight (48) hours prior to the time proposed for starting the work, the CITY will notify the DBF whether or not the work will be permitted as proposed.
1. The CITY reserves the right to require the DBF to work 24 hours per day in all cases where, in CITY'S opinion, interference with operation of the system may result in dangerous health hazards or offensive conditions.
 2. In no case will the DBF be permitted to interfere with the existing system until all materials, supplies, equipment, tools, and incidentals necessary to complete the work are on the site. Backup equipment on key equipment items shall be required on work necessitating interference with the existing system.

1.9 SITE RESTORATION

- A. The DBF shall remove all excess material and shall clean up and restore the site to its original condition or better. All damage, as a result of work under this Contract, done to existing structures, pavement, driveways, paved areas, curbs and gutters, sidewalks, shrubbery, grass, trees, utility poles, utility pipelines, conduits, drains, catch basins, flagstones, rocked, graveled, or stabilized areas of driveways, and including all obstructions not specifically named herein, shall be repaired, or replaced, as determined by the CITY. Site restoration shall be done in a timely manner as the work progresses. Site restoration work shall be completed on private property within 30 days after being disturbed.

SECTION 01005
TECHNICAL PROVISIONS**1.10 SANITARY FACILITIES**

- A. The DBF shall provide temporary facilities at the site as directed by the CITY.

1.11 STANDARDS

- A. Wherever in these TECHNICAL SPECIFICATIONS or in the drawings name and/or number refer to certain standards or regulations, the applicable publication shall be the latest revision thereof. Reference by abbreviation is made in accordance with the Section 01070, "Abbreviations of Institutions."

1.12 QUALITY OF ITEMS

- A. All material furnished for this project shall be new and unused. Any material, which has become excessively weathered or damaged since manufacture, shall not be considered as new. CITY shall be the sole judge as to what constitutes excessive weathering or damage.

1.13 TESTING

- A. The City of Fort Lauderdale may require that materials and equipment supplied meet given standards, and testing may be required to demonstrate conformance to the standards. The cost of these tests shall be the obligation of the DBF, and no extra charge shall be made to the CITY on account of such testing.
- B. The CITY can select a recognized, independent testing laboratory to perform tests on concrete, reinforcing steel, soils, and other materials for the construction phase, to determine conformity with the TECHNICAL SPECIFICATIONS. The DBF shall supply the necessary samples for this testing without cost to the CITY. The costs for actual testing shall be paid by the CITY except for tests which fail to meet the minimum specified tolerances set forth in the drawings and the TECHNICAL SPECIFICATIONS. The cost of the tests that fail will be charged to the DBF by deducting the cost from the Contract price or will be paid directly to the testing laboratory by the DBF.
- C. Construction in areas where installation and restoration must satisfy the additional requirements of a local, state, or federal authority may require testing to demonstrate conformance. The DBF shall ascertain the extent of testing required by regulatory agencies within these areas. The DBF is responsible for performing such tests, including but not limited to, tests of compaction, and all costs for these tests shall be the obligation of the DBF and no extra charge shall be made to the CITY on account of such testing.

1.14 UTILITY CROSSINGS

- A. It is intended that wherever existing utilities must be crossed that the pipe may be deflected up to 75% of the manufacturer's recommended limits but shall not exceed the allowable limits of the CITY. Adequate cover shall be used to adequately clear the obstruction. However, when in the opinion of the CITY, this procedure is not feasible CITY may direct the use of fittings to clear a utility crossing as detailed on the Drawings.
- The cost of such crossing including joint restraints shall be on the basis of the

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schedule of pay items applied.

- B. Deflections and adjustments of the proposed water and/or sewer mains to avoid all other existing utilities shall be verified/determined in the field during construction.

1.15 BASIS OF MEASUREMENT

- A. Where mains are to be paid for on a unit price per linear foot basis, the number of linear feet will be determined by measurement along the centerline of the pipe in place, including fittings. Square yardage will be determined by the actual number of square yards installed.

1.16 ADJUSTMENT AND RELOCATION OF EXISTING LINES

- A. See Paragraph 1.14 of this Section. This does not apply to connections to existing system, which is described in Paragraph 1.17, this Section.

1.17 CONNECTION TO EXISTING SYSTEM

- A. The DBF shall perform all work necessary to locate, excavate and prepare for connection to the existing mains as shown on the Drawings. The cost of this work and for the actual connection to the existing main shall be based upon the unit prices for installing the pipe and appurtenances and shall not result in any additional cost to the CITY. The cost of ductile iron sleeves shall be included in the fittings unit price.
- B. Additional valves used for the DBF's convenience shall not be considered as an extra cost payable by the CITY for the tie-in to the existing system.
- C. During all phases of the work, (i.e., installation, testing and restoration), the DBF shall ensure at all times the safe operation of the existing water and/or sewage systems. Service to the customers shall be maintained with the least amount of interference and interruption as possible.

1.18 RELOCATIONS

A. The DBF shall be responsible for the coordination and/or performance of relocated structures that are shown on the drawings, including, but not limited to, light poles, signs, fences, piping, conduits and drains that interfere with the proposed positioning of the water/sewer mains. The cost of all such relocations shall be included in the prices bid for the appropriate items.

1.19 UTILITIES

- A. Existing utilities are shown on the Drawings insofar as information is reasonably available; however, it will be the responsibility of the DBF to preserve all existing utilities whether shown on the Drawings or not. DBF is directed to pothole ahead of utility installation to avoid conflict and/or damage to existing facilities. If utility conflicts are encountered by the DBF during construction, DBF shall give sufficient notice to their owners so that they may make the necessary adjustments. Damage to any utility, which in the opinion of the CITY is caused by carelessness on the part of the DBF shall be repaired at the expense of the DBF.

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TECHNICAL PROVISIONS**1.20 GUARANTEE**

- A. The DBF shall guarantee the equipment, material and labor performed under the Contract against any and all failures in proper use and operation for a period of one (1) year from date of written acceptance by the CITY.
- B. The DBF shall also obtain warranties from manufacturers for each piece of equipment furnished so that the manufacturer's warranty fully covers the equipment for a period of one (1) year from the date of written acceptance by the CITY.

1.21 PERFORMANCE OF WORK

- A. The DBF shall provide all personnel and equipment required to complete all work specified herein and on the Drawings.
- B. DBF shall provide forty-eight (48) hours advance written notice to the CITY for approval of DBF'S intention to work overtime on weekdays or to work on the weekends.

1.22 BARRICADING (SAFETY)

- A. The DBF shall be responsible for the furnishing and maintaining of all required barricades, either the lighted or the reflector type, to ensure the public's safety during open trench work or for any other potentially unsafe or hazardous construction activities. Barricades shall be located and displayed in conformance with the most stringent regulations required by the governing agencies. All costs for barricading, including any permits, shall be the responsibility of the DBF.
- B. All work in public rights-of-way and on private property shall be done in strict compliance with these specifications. Failure to comply will result in cessation of operations and the removal of project related obstructions from the right-of-way until compliance is achieved.

1.23 EMERGENCY ACCESS AND SECURITY

- A. In order to provide protection to the workers and residents, the DBF shall maintain emergency access to all adjacent properties at all times during construction. If a road is required to be closed to vehicular traffic and the distance of the closure exceeds 150 feet between stabilized surfaces or prevents access to properties for a distance that exceeds 150 feet, the DBF shall provide a 10-foot-wide stabilized access way on one side of the trench capable of supporting a Fire Truck. The DBF shall also provide stabilized access ways across the trench or unstabilized area a minimum of 6 feet in width at a spacing not to exceed 100 feet capable of supporting foot traffic. These access ways shall be protected and delineated with lighted barricades, or other such devices as approved by the regulatory agency. Both ends of the emergency access way shall be blocked in accordance with the MOT permit approved by the CITY with signage indicating that this access way is to be used by emergency vehicles only.
- B. No trenches or holes shall be left open after working hours. In the event a trench must be left open after hours, it shall be done so only with the express written permission from the CITY, and it shall be the DBF'S responsibility to provide proper

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protection of the open trench or hole as required by the regulatory agency. In addition, the DBF shall provide a security guard at the site whenever the DBF'S personnel are not present, 24 hours per day/ 7 days per week. It shall be the Security Guard's responsibility to protect the open trench or hole from trespassers and to direct emergency personnel on site. The Security Guard shall not have any other responsibilities such as operating pumps or equipment but shall be dedicated to protecting the trench or open hole. The Security Guard shall be equipped with a wireless telephone capable of calling 911 to report an emergency and shall keep that telephone on their person at all times. In addition to this provision the DBF shall maintain trench safety and comply with current OSHA regulations and the Trench Safety Act. The DBF shall maintain and keep all safety barricades, signage, flashers, and detours, in operating condition. A copy of the approved MOT plans, and details, shall be on site at all times.

- C. Measurement and payment for security guard services shall be included in the utility pipe installation unit price.
- D. All roads are to be maintained during the described construction as to always allow Emergency Access. This item will be paid for under the bid item for Mobilization as named in the Bid Schedule.

1.24 DEWATERING

A. The DBF shall be aware that there may be contaminated sites, per Broward County Environmental Protection and Growth Management Department (EPD) Pollution Prevention and Remediation Division, located within a one-quarter (1/4) mile radius of the proposed work. Please see Section 02140 Dewatering and dewatering permit requirements. The DBF will be responsible for all costs associated with the means and methods of dewatering which are set forth by EPD dewatering permit including costs for cleaning existing drainage facilities if used for discharge, installation of injection or monitoring wells and groundwater monitoring testing costs.

1.25 VIBRATORY COMPACTION

A. The use of vibratory compaction equipment shall be limited to a total gross weight of three (3) tons. The use of vibratory equipment shall be limited to compacting backfill of utility trenches and subgrade of roadways only. If approved in writing by the CITY, larger vibratory compaction equipment may be allowed if operated in a static mode only.

1.26 REPORTING OF DAMAGE CLAIMS

- A. The DBF shall keep the CITY informed of any damage claims made against the DBF during the construction period. All claims for automobile damage, property damage/bodily injury will be reported within 24 hours of receipt of notice. DBF will conduct a timely investigation of the claim and determine if they will honor the claim and/or report to their insurance carrier. DBF will advise the CITY in writing of their decision/referral to carrier. The project is a watermain relocation project. As such,

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the DBF will have close contact with the community. The DBF shall notify the CITY of any and all community concerns or claims arising from the DBF's operations. The claims referenced herein are exclusive of damages or property claims as outlined.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

END OF SECTION 01005

SECTION 01010
SUMMARY OF WORK**PART 1 GENERAL****1.1 SCOPE**

- A. The WORK to be performed under this Contract shall consist of furnishing and installing all tools, equipment, materials, supplies, and manufactured articles and furnishing all labor, transportation, and services, including fuel, power, water, and essential communications, and performing all work, or other operations required for the fulfillment of the Contract in strict accordance with the Contract Documents. The WORK shall be complete, and all work, materials, and services not expressly indicated or called for in the Contract Documents which may be necessary for the complete and proper construction of the WORK in good faith shall be provided by the DBF as though originally so indicated, at no increase in cost to the OWNER.

1.2 WORK COVERED BY CONTRACT DOCUMENTS

- A. The work of this Contract comprises the construction of the infrastructure site work. The work will include but not be limited to site preparation, earthwork, water main system installation, roadway and walkway restoration and construction, landscape restoration, restoring existing irrigation systems, pavement marking restoration and site furnishings.
- B. The general location of the existing 30-inch internal diameter watermain is located on the proposed building property and crosses the Tarpon River. The courthouse property is bounded by SE 11th Street to the south, SE 3rd Street to the west, the Tarpon River to the north, and the Nissan dealership parking lot to the east. The project includes the design, permitting, construction, and related work to install, relocate and abandon watermain utilities within the described footprint. It is anticipated that the relocated pipe route will require installation under the Tarpon River utilizing Horizontal Directional Drilling. For more detail information about the project, refer to the conceptual layout in **Exhibit C**.

1.3 NOTICE OF BIDDERS

- A. The successful bidder, in order to be considered responsive, must possess the appropriate License as described in Volume 1 of this document.
- B. DBF shall have past experience with large scale utility projects in the right of way of existing residential communities.

1.4 STANDARD SPECIFICATION

- A. All materials and labor shall meet the requirements of Broward County Environmental Protection and Growth Management Department, and Broward County Highway Engineering Construction, "The Minimum Standards Applicable to Public Rights-of-Way under City of Fort Lauderdale Jurisdiction", (to be referred to as "Minimum Standards"), the Florida Department of Transportation "Roadway and Traffic Design Standards" latest revision, "Structures Standard Drawings," latest revision:
1. These Special Provisions are supplemental to the above Specifications and Standards.

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SECTION 01010
SUMMARY OF WORK**1.5 SITE INVESTIGATION**

- A. The DBF, by virtue of signing the Contract, acknowledges that DBF and all subcontractors have satisfied themselves to the nature and location of the work, the general and local conditions including, but not restricted to: those bearing upon transportation; demolition, disposal, handling and storage of materials; access roads to the site; the conformation and conditions of the work area; and the character of equipment and facilities needed preliminary to and during the performance of the work. Failure on the part of the DBF to completely or properly evaluate the site conditions shall not be grounds for additional compensation.
- B. The DBF, by virtue of signing the Contract, acknowledges that DBF and subcontractors are responsible for investigating and satisfying themselves as to the nature and extent of soil and (underground) water conditions on the project site. No additional payment will be made to the DBF because of differences between actual conditions and those shown by the boring logs.

1.6 WORKS BY OTHERS

- A. Concurrent Work by Other CONTRACTORS. The DBF'S attention is directed to the fact that other CONTRACTORS may conduct work at the site during the performance of the WORK under this Contract. The DBF shall conduct its operations so as to cause little or no delay to WORK of such other CONTRACTORS and shall cooperate fully with such CONTRACTORS to provide continued safe access to their respective portions of the site, as required to perform work under their respective contracts.
- B. Interference with Work On Utilities. The DBF shall cooperate fully with all utility forces of the OWNER or forces of other public or private agencies engaged in the relocation, altering, or otherwise rearranging of any facilities which interfere with the progress of the WORK, and shall schedule the WORK so as to minimize interference with said relocation, altering, or other rearranging of facilities.

1.7 WORK SEQUENCE

- A. The DBF shall schedule and perform the work in such a manner as to result in the least possible disruption to the public's use of roadways, driveways, and utilities. Utilities shall include but not be limited to water, sewerage, drainage structures and pipe, ditches and canals, gas, electric, television and telephone. Prior to commencing with the WORK, DBF shall perform a location investigation of existing underground utilities and facilities in accordance with Section 01530 entitled "Protection of Existing Facilities" and shall have obtained all required permits and permissions, DBF shall also deliver written notice to the CITY and property occupants (private and public) of all planned disruption to roadway, driveways, temporary displacement of fences, mailboxes, street signs and traffic signs, and utilities 72 hours in advance of disruption.
- B. Because other projects will be connected to portions of work constructed as part of this project, it will be necessary to sequence portions of this project. The DBF shall be responsible to coordinate construction activities with DBF of adjacent phases and sections.

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SECTION 01010
SUMMARY OF WORK**1.8 WORK SCHEDULE**

- A. Time is of the essence in completing this project. Because time is of the essence the DBF shall commit the necessary resources to this project to complete it in a timely manner. Those resources may include multiple working crews, working overtime, etc. Because time is of the essence, the DBF'S construction progress will be monitored closely on a weekly basis. The Construction progress will be measured with the construction schedule submitted by the DBF. If the CITY determines that the DBF does not meet the construction schedule, the DBF will be required to commit those resources necessary to ensure the completion of the project in a timely manner including working overtime, adding other work crews, etc. All costs incurred to implement measure to complete the work in timely manner will be borne by the DBF at no additional cost to the OWNER.
- B. SCHEDULE
- DBF shall submit scheduling information for the work as required by the city.
 - No separate payment shall be made for preparation and/or revision of the schedule.

1.9 COMPUTATION OF CONTRACT TIME

- A. It is the DBF'S responsibility to provide clear and convincing documentation to the CITY as to the effect additional work will have with respect to additional contract time extension that may be justified. If additional quantities of work can be carried out concurrent with other existing construction activities without disrupting the critical path of the project, then no contract time extension will be granted. The DBF is obligated to provide documentation to the CITY if additional elements of work affect the critical path of the project. If work set forth in the original scope of the project is deleted, the contract time may be reduced. This contract is a calendar day contract. While the DBF may be granted time to suspend work operations for vacations or holidays, contract time will not be suspended. During suspensions, the DBF shall be responsible for all maintenance of traffic and liability without additional compensation from the CITY.

1.10 DBF USE OF PREMISES

- A. The DBF's use of the project site shall be limited to its construction operations. The DBF will arrange for storage of materials. A copy of an agreement for use of other property shall be furnished to the CITY prior to its use.

1.11 PRE-CONSTRUCTION CONFERENCE

After the award of Contract, a Pre-construction Work Conference will be held between the DBF, the CITY, other interested Agencies, representatives of Utility Companies and others affected by the work. The CITY will set the time and place of this conference. The DBF shall bring to the conference a copy of the proposed work schedule for the approval by the CITY of the proposed methods and manner of executing the work including sequences of operation and time schedule. The work shall be performed in accordance with such schedule or approved amendments thereto.

SECTION 01010
SUMMARY OF WORK**1.12 UTILITY LOCATIONS**

- A. As far as possible, all existing utility lines in the project area have been shown on the plans. However, the City of Fort Lauderdale does not guarantee that all lines are shown, or that said lines are in their true location and the depicted size. It shall be the DBF'S responsibility to identify and locate all underground or overhead utility lines or equipment affected by the project. No additional payment will be made to the DBF because of discrepancies in actual and plan location of utilities and damages suffered as a result thereof.
- B. The DBF shall notify each utility company involved at least thirty (30) days prior to the start of construction to arrange for positive underground location, relocation or support of its utility where that utility may be in conflict with or endangered by the proposed construction. The DBF shall pay for relocation of water mains or other utilities for the convenience of the DBF. The DBF shall pay for all charges by utility companies for temporary support of its utilities. All costs of permanent utility relocations to avoid conflict shall be the responsibility of the DBF and the utility company involved.
- C. The DBF shall schedule and coordinate their work in such a manner that they are not delayed by the utility companies relocating or supporting their utilities. No compensation will be paid to the DBF for any loss of time or delay.
- D. All overhead, surface, and underground structures and/or utilities encountered are to be carefully protected from damage or displacement. All damage to said structures and/or utilities is to be completely repaired within a reasonable time; needless delay will not be tolerated. The CITY reserves the right to remedy any damage by ordering outside parties to make repairs at the expense of the DBF. All repairs made by the DBF are to be made to the satisfaction of the utility owner and shall be inspected by a representative of the utility owner and the CITY.
- E. The DBF should be aware of the Sunshine State One Call Center, which has a free locating service for CONTRACTORS and excavators. Within forty-eight hours before excavating, dial toll free 1-800-432-4770, and a locator will be dispatched to the work location. DBF shall reasonably notify other utility companies not notified by Sunshine State One Call Center.
- F. The DBF is responsible for compliance with any and all permit conditions. Permit conditions are attached as Exhibit H of this document, further information regarding permit conditions can be obtained from the CITY'S office.
- G. The DBF shall obtain construction permit and applicable building and other permits from each City jurisdictions within the project area, if required.

1.13 LINE AND GRADE

- A. DBF shall develop and make all detailed surveys needed for construction and shall establish all working points, lines, and elevations necessary to perform the work. A Professional Surveyor and Mapper per Florida Statute 472.001-472.037 shall supervise this surveying work.

1.14 PROTECTION AND RESTORATION OF SURVEY MONUMENTS

- A. The DBF shall carefully protect from disturbance all survey monuments, stakes and

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benchmarks, whether established by DBF, and shall not remove or destroy any surveying point until it has been properly witnessed by the CITY. All major survey monuments that have been damaged by the DBF such as section corners, 1/4 section corners, property corners or block control points shall be replaced at the DBF'S expense with markers of a size and type approved by the CITY. The replacement shall be under the supervision of a Professional Surveyor and Mapper per Florida Statute 472.001-472.037, where directed by the CITY.

1.15 EQUIPMENT

- A. All equipment necessary and required for the proper construction of all facilities shall be on the construction site, in first-class working condition.

1.16 STORAGE SITES

- A. The DBF shall furnish, at DBF's expense, properly zoned areas suitable for field office, material storage and equipment service and storage. No material may be stored in the public right of way without prior authorization by the agency having jurisdiction. The DBF shall keep these areas in a clean and orderly condition so as not to cause a nuisance or sight obstruction to motorists or pedestrians.

1.17 OWNERSHIP OF EXISTING MATERIAL

- A. All materials removed or excavated from the job site shall remain the property of the City of Fort Lauderdale until released by the CITY, at which time it shall become the property of the DBF, who shall dispose of it in a manner satisfactory to the CITY.

1.18 EXCESS MATERIAL

- A. Upon direction of the CITY, all vegetation, debris, concrete or other unsuitable materials shall be disposed of in areas provided by the DBF and approved by the CITY. Any excess material desired to be retained by the CITY shall be delivered by the DBF to a designated area within a 5-mile radius of the project, at no extra cost to the CITY.

1.19 ADJUSTING EXISTING VALVES, METERS, CATCH BASINS, AND MAS

- A. It shall be the DBF'S responsibility to coordinate and have all adjustments made to existing water meters, valves, and structures encountered during construction, in order to meet all final grades, unless otherwise instructed by the CITY or the respective utility owner. All valves and MAS shall be accessible during all phases of the work for emergency access. Omission of such structures from the Contract Plans does not relieve the DBF from making such adjustments as may be deemed necessary. The DBF shall take this provision into account when personally investigating the site. No additional payment shall be made for these adjustments.

1.20 CONFLICT STRUCTURES

- A. The DBF shall abide by the following criteria concerning conflicts between new drainage, water, or sewer construction and existing utilities.

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1. The DBF shall verify the location of all utilities suspected of being potential conflicts prior to ordering drainage or sewer structures for these locations and inform the CITY as to DBF'S findings.
2. The CITY shall have full authority to direct the placement of conflict structures, the relocation of structures shown in the plans, and the addition, deletion, or relocation of any pipe or structure shown in the plans in order to facilitate construction, expedite completion and avoid conflicts with existing utilities.
3. Where an existing utility is to pass through a conflict structure, the DBF shall protect the utility from damage by whatever means the utility owner and the CITY deem necessary.
4. In no case shall there be less than six (6) inches between any two (2)-pipe lines within the structure or between pipelines and the structure.

1.21 ENVIRONMENTAL PROTECTION

- A. The DBF shall furnish all labor and equipment and perform all work required for the prevention of environmental pollution during and as a result of the work under this contract. For the purpose of this contract, environmental pollution is defined as the presence of chemical, physical, or biological elements or agents which adversely affect human health or welfare; unfavorably alter ecological balances of importance to human life, affect other species of importance to humankind, or degrade the utility of the environment for aesthetic and recreational purposes. The control of environmental pollution requires consideration of air, water, land and involves noise, solid waste management and management of radiant energy and radioactive materials, as well as other pollutants. Environmental pollution prevention shall be in accordance with NPDES requirements with no additional cost to the CITY.
- B. The DBF shall take all steps necessary to protect water quality in the connected waters around the project and shall utilize such additional measures as directed by the CITY. Silt screens adjacent to outfall construction shall not be removed until the turbidity of the affected waters is equal to or lower than the ambient turbidity of undisturbed segments of the surface water body. Any discharge into existing drainage facilities shall require the approval of the owner of the system. This may require the DBF to obtain an engineered plan to be furnished at no additional cost to the CITY.

1.22 MAINTENANCE AND PROTECTION OF TRAFFIC

- A. The DBF shall provide all necessary traffic control devices in order to redirect, protect, warn or maintain existing vehicular and pedestrian traffic during the course of construction.
 1. **CONSTRUCTION PHASING REQUIREMENTS**
Following are general requirements for construction phasing to minimize resident disruption, yet maximize cost effectiveness of the construction scheduling.
 - a. No two adjacent roadways may be under construction at the same time

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(i.e., construction shall be on alternating roadways, and every other roadway shall remain open for access). In no case shall more than 35% of all roadways in a section be under construction at one time. At least 35% of all roadways shall have an asphalt surface, either original or new asphalt, at all times. The DBF shall make every effort to provide access to driveways at the end of the working day. If a driveway is not accessible, the homeowner should have access to a neighboring swale area for temporary parking. When vehicular access to homes is not possible for parking of vehicles, an area for parking shall be provided within one block of the furthest home effected. This condition is to be avoided whenever possible and shall last no longer than five (5) working days. The DBF, with the CITY's approval, shall coordinate the parking area location.

- b. The DBF shall lease the property from the landowner, and will provide a compacted, graded parking surface acceptable to the CITY.
 - 1) The DBF shall not begin construction on subsequent roadways until the initial roadways under construction are substantially complete. A roadway shall be considered substantially complete when all work is complete except for the last lift of asphalt. All work on private property and landscaping must also be complete before a road is considered substantially complete.
 - 2) Site restoration work shall be complete on private property within 30 days after being disturbed.
2. Construction within the right of way of affected roads shall be scheduled so that all improvements are completed at once, and the residents are only disrupted for one time period.
3. All affected residents and property owners shall be notified by the DBF in writing a minimum of two (2) weeks, or earlier if required by the CITY, prior to any disruption to or construction in road right-of-ways adjacent to their homes. The notification shall also indicate any special parking or traffic conditions that will affect residents.
4. All affected residents shall be notified by the DBF a minimum of forty-eight (48) hours, or earlier if required by the CITY, prior to a shut off of water supply. Any water supply interruptions shall be rescheduled to be as short as possible and not exceed twelve (12) hours.
5. All affected residents shall be notified by the DBF a minimum of forty-eight (48) hours, or earlier if required by the CITY, prior to work on the sanitary sewer main. Any sewer supply interruptions shall be rescheduled to be as short as possible and not exceed twelve (12) hours.
6. At any time, the entire length of two north-south streets and one east-west street shall remain unobstructed and open to through-traffic for the area around each project. Access for emergency vehicles shall be maintained at all times to all homes and businesses. Excavation must be back-filled or barricaded at the end of each workday to prevent hazardous conditions. If a trench, excavation or structure is to be left open, it must be covered with a

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steel plate and barricaded at the end of each workday or when work will be suspended for more than eight (8) hours.

7. Transportation provisions for handicapped or disabled residents shall be made by the DBF if construction prevents access to homes.
8. The DBF shall also make provisions with local bus, school bus, garbage collection, mail delivery and other agencies for continuation of service. A traffic maintenance plan indicating proposed street closings, schedules, and alternate routes, approved by the CITY, shall be submitted to all affected agencies for coordination and routing purposes.
9. Materials and equipment shall be stored in a fenced or otherwise enclosed area during non-working hours. Pipe and material shall not be strung out along installation routes for longer than two (2) weeks prior to installation.

B. TRAFFIC CONTROL

1. The DBF is required to submit a conceptual Traffic Control Plan at the Pre-Construction Conference. This preliminary plan should identify the phases of construction that the DBF plans to proceed with and identify traffic flows during each phase. The CITY will have ten (10) days to notify the DBF of any comments. Once the conceptual plan for maintaining traffic has been approved, the DBF will be required to submit a detailed plan showing each phase's Maintenance and Protection Plan prior to starting construction of any phase.
2. The "Maintenance of Traffic" plan shall include pedestrian traffic as well as vehicular traffic.
3. A safe walk route for all schools within the vicinity of the construction zone shall be maintained during the arrival and dismissal of school. DBF shall not block bus access to schools during school hours.
4. In the case that a designated crossing of any portion of the designated walk route cannot be maintained, then the DBF shall notify the City of Fort Lauderdale and the "School Safety Coordinator" at Broward County Traffic Engineering Division, (954) 484- 9600 a minimum of ten (10) working days prior to ceasing that route so that an alternate route can be established with the school and the enforcing agency.
5. It shall be the responsibility of the DBF for any necessary Construction, Pavement Marking and Signage or any Pedestrian Signalization and/or Signal Modification to accommodate an alternate safe walk route.
6. Thirty (30) days prior to the beginning of construction the DBF shall notify the City of Fort Lauderdale and the "School Safety Coordinator" at Broward County Traffic Engineering Division (954) 484-9600, to set up a pre-work meeting.
7. The DBF, at all times, shall conduct the work in such a manner as to insure the least obstruction to traffic as is practical. Convenience of the general public and of the residents adjacent to the work shall be provided for in a satisfactory manner, as determined by the CITY.
8. Sidewalks, gutters, drains, fire hydrants and private drives shall, insofar as

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- practical, be kept in condition for their intended uses. Fire hydrants on or adjacent to the work shall be kept accessible to fire apparatus at all times, and no material or obstruction shall be placed within twenty (20) feet of any such hydrant.
9. Construction materials stored upon the public street shall be placed so as to cause as little obstruction to the general public as is reasonably possible. Stored materials shall not impede pedestrian or vehicular traffic at any time.
 10. Streets may be closed only as permitted by the approved Maintenance of Traffic Plan, and as directed by the CITY and, whenever the street is not closed, the work must be conducted with the provision for a safe passageway for traffic at all times. The DBF shall make all necessary arrangements with the CITY concerning maintenance of traffic and selection of detours required.
 11. All existing stop and street name signs will be maintained as long as deemed necessary by the CITY.
 12. When permission has been granted to close an existing roadway, the DBF shall furnish and erect signs, barricades, lights, flags and other protective devices, which shall conform to the requirements, and be subject to the approval of the CITY. The DBF shall furnish and maintain proper protective devices at such location for the entire time of closure as the CITY may direct. Signage shall be affected one week before closure.
 13. The DBF shall furnish a sufficient number of protective devices to protect and divert the vehicular and pedestrian traffic from working areas closed to traffic, or to protect any new work. Failure to comply with this requirement will result in the CITY shutting down the work until the DBF provides the necessary protection.
 14. Any time traffic is diverted for a period of time that will exceed one-work day temporary pavement markings will be required. Existing pavement markings that conflict with the new work zone traffic pattern must be obliterated. Painting over existing pavement markings (black out) is not permitted.
 15. The DBF may be required to reposition existing traffic signal heads in order to maintain traffic flows at diverted intersections. If this should be necessary, the DBF must submit a plan for approval showing the course of work and the planned repositioning. The Broward County Traffic Engineering Division must approve the plan prior to implementation. No separate payment for repositioning the existing traffic signal heads will be made. The cost of this work shall be included in the bid item for Maintenance of Traffic.
 16. If there are schools within the project area: The DBF will be required to shut down all equipment during the school zone commute time periods (approximately 15 minutes prior to and after school is in session).

1.23 MAINTENANCE AND PROTECTION OF EXISTING DRAINAGE SYSTEM

- A. It shall be the responsibility of the DBF to maintain positive drainage on the surface and to ensure that the existing underground drainage system continues to function as intended during the construction of the new drainage system. The DBF shall submit a plan to maintain the existing drainage patterns and underground

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system for the approval of the CITY prior to beginning any work on the existing or new drainage systems. The cost of maintaining positive drainage and preparing the maintenance plan shall be included under maintenance of traffic and existing drainage system, of the Schedule of Prices Bid.

1.24 APPLICATION FOR PAYMENT FOR STORED MATERIALS

A. Application for payment for stored materials may not be made by DBF.

1.25 SPECIAL CONDITIONS FOR CONSTRUCTION BY OTHER AGENCIES

A. It will be the DBF's responsibility to coordinate construction schedules with other contractors so as to minimize disruptions, and inconveniences. The project site shall be safe at all times for construction workers and residents.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

END OF SECTION 01010

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- A. Payment for various items of the Bid Schedule (Item Response Form), as further specified herein, shall include all compensation to be received by the CONTRACTOR for furnishing all tools, equipment, supplies, and manufactured articles, and for all labor operations and incidentals appurtenant to the items of work being described, as necessary to complete the various items of the WORK all in accordance with requirements of the Contract Documents, including all appurtenances thereto, and including all costs of permits and cost of compliance with the regulations of public agencies having jurisdiction, including Safety and Health Requirements of the Occupational Safety and Health Administration of the U.S. Department of Labor (OSHA). No separate payment will be made for any item that is not specifically set forth in the Bid Schedule (Item Response Form), and all costs therefore shall be included in the prices named in the Bid Schedule (Item Response Form) for the various appurtenances needed to complete the items of work.
- B. Payment for the various items of the Bid Schedule (Item Response Form) shall constitute full compensation for CONTRACTOR's superintendent at the job site full-time during construction, for furnishing and installing all pipe and structures complete in place including but not limited to bends, tees, outlets, fittings, blind flanges and specials, including connections to existing pipelines shown on the Drawings; including surveying both horizontal and vertical control for construction of the roadways, structures, pipeline and appurtenances; including protecting and replacing if necessary existing monuments, control points, found iron rods, valves; including all earthwork, trench excavation as shown on the Drawings, removal and disposal of waste, unsuitable and excess material, furnishing and installing pipe bedding material, all backfill and compaction of native material, and dewatering as required; the restoration of interfering portions of existing service and utility lines that are not included in other bid items and shown on the Drawings; restraint of pipe shown on the Drawings and grouting of pipe joints; including providing the water for pressure testing, cleaning the pipe and disinfection, and disposal of the water as required when completed; furnishing, installation, and removal of test heads, cleanup; and restoration of all improvements incidental to construction for which there are no other bid items; including but not limited to, existing sprinkler systems, and all other work not included in other bid items. No additional payment will be made for performing required tests and the furnishing of accurate as-builts.
- C. Payment shall also include providing the necessary equipment and labor power to pothole and verify depths and locations of existing utilities sufficiently ahead of construction to avoid conflicts with the design alignment and grade of structures, culverts, storm drains and exfiltration trenches. Conflicts with utilities shown on the Drawings which result from the Contractor's negligence to pothole sufficiently ahead of construction (a minimum of two days ahead of construction of the pipeline or as approved by the ENGINEER) shall be resolved by the Contractor at no additional cost to the OWNER.
- D. Payment for all bid items shall constitute full compensation for the complete

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installation of each bid item including but not limited to excavation, dewatering, backfill and compaction. The work shall include for all bid items to be completed, tested and ready for acceptance by the appropriate government agency.

- E. No separate payment for pavement restoration will be made unless specifically shown on the plans, called out in the Bid Schedule (Item Response Form), or directed by the ENGINEER.

1.2 PAYMENT ITEMS (BASE BID)

- A. **BONDS AND INSURANCE (ITEM #1)**
1. Bonds and Insurance will be made at the lump sum price named in the Bid Schedule (Item Response Form). The CONTRACTOR may request payment for this bid item after the Initial Notice to Proceed has been issued.
 2. Performance and Payment Guarantee and Insurance are limited to 4% of the Total Bid Price. Any amount in excess of 4% will be moved to Line Item No. 3.
 3. However, the total bid amount will not change. The 4% ceiling on Bonds and Insurance is not responsiveness, just an instruction on the amount the CITY will pay for Bonds and Insurance.
- B. **MOBILIZATION (ITEM #2)**
1. See Section 01505, "Mobilization" for payment limitations.
 2. Payment for mobilization will be made at the lump sum price named in the Bid Schedule (Item Response Form). An initial lump sum partial payment of 40% of the Mobilization bid item amount shall be made upon completion of items #1-10 as outlined in Section 01505 Paragraph 1.01A. Payment of the remaining 60% for mobilization will be made in equal monthly lump sum amounts for the duration of the original contract time.
- C. **MAINTENANCE OF TRAFFIC (ITEM #3)**
1. See Section 01570 "Traffic Regulations" and all other references to traffic control and maintenance in this document and any regulatory requirements.
 2. Payment for maintenance of traffic will be made at the lump sum price named in the Bid Schedule (Item Response Form). Payment for maintenance of traffic will be made in equal monthly lump sum amounts for the duration of the original contract time.
- D. **FURNISH AND INSTALL 36" HDPE WATER MAIN PIPE VIA HDD (ITEM #4)**
1. Measurement for payment for furnishing and installing water main pipe will be based upon the number of linear feet of such pipe actually constructed as determined by measurement along the centerline of the pipe in place at 36 inches minimum cover or more to avoid other underground utilities, all in accordance with the requirements of the Contract Documents.
 2. Payment for furnishing and installing water main pipe will be made at the unit price per linear foot of pipe complete and in place including all clearing and grubbing, saw cut and removal of asphalt, remove and stockpile limerock, pipe, connections to existing pipe, unloading, sheeting, excavation, utility pole protection, trench protection and trench safety, dewatering, laying, backfilling, compaction, pressure testing, disinfection, flushing and temporary blow off with full cannon. As-builts for newly installed force mains must be provided

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before compensation for said force main will be approved. Restoration of roadway from subgrade stabilization, limerock base and placing of asphalt is not part of this line item.

- E. FURNISH AND INSTALL 30" DUCTILE IRON PIPE WATER MAIN VIA OPEN CUT (ITEM #5)
1. Measurement and payment for all labor, equipment and material for all work necessary and required for the installation of the water main, when necessary, via open cutting for each of the runs of water main. The price bid shall be full compensation for furnishing all materials, labor and equipment required for a complete and usable installation.
 2. Measurement will be based on the laying length of the pipe in linear feet actually placed as measured along the centerline of the completed and installed pipe, including the length of fittings between the limits shown on the final design provided by the DBF.
- F. CUT AND CONNECT TO EXISTING WATER MAIN (ITEM #6)
1. Measurement and payment for performing all connections to existing water mains will be based on the actual quantity, each, of such connection made all in accordance with the Contract Documents.
 2. Payment for connecting to existing water main shall be made at the unit price, each, named in the Bid Schedule (Item Response Form) which shall constitute full compensation for all materials (regardless of size) and labor needed to complete connection which shall include but is not limited to valves, fittings, spool pieces, corporation stops, saw cutting, removal and disposal of existing piping and fittings to prepare for connection and filling and flushing of main. All coordination needed for water main shut offs shall be responsibility of the CONTRACTOR and is included in the scope of this item.
- G. FURNISH AND INSTALL GATE VALVE AND AIR RELEASE VALVE (ITEM #7-8)
1. Measurement for payment to furnish and install gate valves will be based upon actual quantity, each, of such gate valves furnished and installed, all in accordance with the requirements of the Contract Documents. Test valves will not be compensated for under this line item.
 2. Payment for furnishing and installing gate valves will be made at the unit price, each, named in the Bid Schedule (Item Response Form) which price shall constitute full compensation for the completed installation of the valve, including valve, valve box and extension to surface, 2-inch brass ID disk with all restrain glands. No additional compensation will be granted for installation of side mounted valves as directed by the Engineer.
- H. FURNISH AND INSTALL WATER MAIN FITTINGS (ITEM #9)
1. Measurement for payment to furnish and install water main fittings, unless specifically listed separately in the Bid Schedule (Item Response Form), shall be at the unit bid price per ton for such fittings, including but not limited to crosses, tees, bends and elbows of all angles and radius, concentric and eccentric reducers, offsets, wyes, true wyes, sleeves, plugs, caps, restraining glands and gaskets, base bends, base tees, reducing flanges, mega lugs,

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- fillers and connecting pieces, furnished all in accordance with the Contract Documents.
2. Payment for furnishing and installing water main fittings complete and in place shall be at the unit bid price per ton and shall include furnishing, storing, transporting and installing the fittings.
- I. LINE STOPS AND BYPASS 30" WATER MAIN (ITEM #10)
1. Payment for all labor, equipment and material for all work necessary and required for bypass operations to meet all required submittals and approvals, including but not limited to, preparation of bypass plan, response to comments and revisions to bypass pumping plan to obtain final approvals from the City and the engineer retained by the DBF and jurisdictional agencies as necessary; maintenance of traffic submittals, permits and approvals including any permit fees (with the exception of City permit fees being paid for by the City), calculations for bypass pumping, noise attenuation, alarms and 24-hour monitoring of bypass pumping operations, phasing for bypass pumping operations, storage and transport and disposal of wastewater as needed for bypass operations, emergency procedures, protocol and compliance in the event of an emergency including all associated costs for any wastewater spills and fees from all associated regulatory agencies in the event of a wastewater spill or overflow or similar occurrence, coordination with City Operations staff and necessary to facilitate and implement all bypass operations performed by the Contractor, all piping, fittings and appurtenances, fuel, enclosures for noise attenuation, clean up and all other items to install, operate and maintain bypass operations, and throughout the duration of the project.
- J. TAPPING SLEEVE AND VALVE (ITEM #11)
1. Measurement for payment for tapping sleeve and valve shall be on the actual count of tapping sleeve and valves required to complete connections to existing mains.
 2. Payment shall be made at the Bid Form unit price, which will be full compensation for all labor, materials, and equipment necessary to perform the task. This shall include excavation, tapping the existing line, acquiring and preserving pipe coupons, asbestos abatement as necessary, maintaining service, completing and repairing the point the connection.
 3. Valve end connecting to tapping sleeve shall have a flange for bolting to the sleeve. The flange shall have a tongue which fits a recess in sleeve. Tongues shall meet the requirements of MSS SP-60. Resilient-seated gate valves having a port diameter equal to or exceeding 1/4 inch over nominal diameter shall not require a tongue. Flange dimensions and drilling shall meet the requirements of ANSI B16.1. Mechanical joints shall meet the requirements of ANSI/AWWA C111/A21.11. A full nominal diameter cutter shall be used for tapping.
- K. REMOVE AND DISPOSE OF EXISTING ASPHALT PAVEMENT (ITEM #12)
1. Measurement for payment for removing existing asphalt pavement will be based upon the number of square yards of such materials actually removed,

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- all in accordance with the requirements of the Contract Documents.
2. Payment for removal and disposal of existing asphalt pavement will be made at the unit price per square yard of pavement named in the Bid Schedule (Item Response Form) which price shall constitute full compensation for sawcutting (as necessary), the removal and disposal of such pavement and include the removal of sidewalks, aprons, collars, miscellaneous concrete, reflective pavement markers, traffic loops (including coordination with City of Fort Lauderdale Public Works), abandoned valves and valve boxes, the removal and salvage of brass valve tabs. Thickness of existing asphalt may vary, asphalt removal will be paid at the square yard cost, no additional compensation will be made for asphalt thickness.
- L. REMOVE EXISTING LIMEROCK BASE MATERIAL (ITEM #13)
1. Measurement for payment for removing existing lime rock base material will be based upon the number of square yards of such materials actually removed, all in accordance with the requirements of the Contract Documents.
 2. Payment for removing of existing limerock base material will be made at the unit price per square yard at the depth indicated and named in the Contract Documents, which price shall constitute full compensation for removing, and disposal of waste or unsuitable material.
- M. PAVEMENT RESTORATION (ITEM #14)
1. Measurement for payment for furnishing and installing limerock, first lift of asphalt, and stabilization of subgrade will be based upon the number of square yards actually installed, all in accordance with the requirements of the Contract Documents
- N. MILLING AND RESURFACING OF ASPHALT PAVEMENT (ITEM #15-16)
1. Measurement for payment for milling and resurfacing will be based upon the number of successful square yard milled and resurfaced completely, all in accordance with the requirements of the Contract Documents.
 2. Payment for all labor, equipment and material for all work necessary and required for milling and resurfacing of minimum of 1" of existing pavement of various thicknesses. Saw cutting, removal and disposal of existing pavement of all and varying thicknesses, any required field work by the Contractor to confirm existing pavement thicknesses prior to bidding, and replacement of a minimum of 1" of asphalt pavement to meet all Broward County or other jurisdictional ROW standards and specifications.
 3. Pavement thicknesses will be required to be replaced to match existing pavement thicknesses at no additional cost to the CITY. Also included in this item is any adjustments of valve boxes, valve covers, manhole frames and rims, and any other surface features to maintain a level driving surface. In addition, temporary and permanent (thermoplastic striping), reflective pavement markers, decorative asphalt painting, etc. is included in this pay item.
 4. Pavement impacted by the Contractor's work efforts outside of that shown on the plans is at the Contractor's expense. The price bid shall be full

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compensation for furnishing all materials, labor and equipment required for a complete and usable machine-laid asphaltic concrete surface course installation and removal and disposal of existing concrete and other materials, as required and all restoration efforts.

- O. ASPHALT DRIVEWAY APRON RESTORATION (ITEM #17)
1. Measurement for payment for restoration of asphalt driveway aprons will be based upon the actual number of square yards of such driveways constructed as shown in the drawings, all in accordance with the requirements of the Contract Documents.
 2. Payment for construction of asphalt driveway aprons will be made at the unit price per square yard named in the Bid Schedule (Item Response Form) which price shall constitute full compensation for completing said work, including saw cutting, removal and disposal of existing pavement and lime rock base, all earthwork and grading, subgrade compaction, limerock base, prime coat, and asphalt to the depth and thicknesses detailed and shown on the drawings, painting of driveway (when necessary to match existing condition), disposal of excess material, and the appurtenant items for which separate payment is not specifically included in the Bid Schedule (Item Response Form). All existing dirt and gravel driveway aprons shall be constructed with asphalt under this pay item.
 3. No payment will be made for reconstruction of driveways outside the limits shown on the drawings or not approved by the ENGINEER. Driveway must meet all requirements of the City of Fort Lauderdale to be eligible for payment.
- P. CONCRETE DRIVEWAY APRON RESTORATION (ITEM #18)
1. Measurement and payment for concrete sidewalk restoration will be based upon the actual number of square yards of such sidewalks constructed as shown in the drawings, all in accordance with the requirements of the Contract Documents.
 2. Payment for concrete sidewalk restoration will be made at the unit price per square yard named in the Bid Schedule (Item Response Form) and detailed on the drawings which price shall constitute full compensation for completing said work, including removing and disposing of existing concrete sidewalk, all earthwork, compaction of subgrade, backfilling of sidewalk, construction of the 6 inch thick concrete sidewalk, furnishing and setting for expansion joint material, furnishing and installing 1 inch PVC sleeve for existing irrigation connections as directed by ENGINEER, disposal of excess material, restoration/replacement of sod disturbed on private property to equal condition as existing, restoration of driveways disturbed due to sidewalk forms, and the appurtenant items for which separate payment is not specifically included in the Bid Schedule (Item Response Form). Readjusting water meter boxes that need to be raised or lowered to meet sidewalk elevation will also be included in compensation for the installation of sidewalk.
- Q. SPECIALTY DRIVEWAY APRON RESTORATION (ITEM #19)

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1. Measurement for payment for restoration of specialty driveways will be based upon the number of square yards of such driveways actually constructed to repair open cuts made to install pipeline as detailed in the drawing, all in accordance with the requirements of the Contract Documents.
 2. Payment for specialty driveway restoration will be made at the unit price per square yard for such driveways aprons constructed as named in the Item Response Form which price will constitute full compensation for furnishing and installing all materials necessary to restore driveway to conditions equal or better than pre-construction conditions and shall include the removal of existing material, all earthwork and grading, subgrade compaction, disposal of excess material and the appurtenant items for which separate payment is not specifically included in the Items Response Form.
 3. No payment will be made for reconstruction of driveways outside the limits shown on the drawings or not approved by the ENGINEER. Driveway must all requirements of Broward County Highway Construction and Engineering Division and City of Fort Lauderdale to be eligible for payment.
- R. REMOVE AND RELOCATE EXISTING TREES (ITEM #20)
1. Measurement for payment to remove and replace existing trees will be based upon the actual number of trees replaced, all in accordance with the Contract Documents.
 2. Payment for replacement of trees will be made at the unit price, each, as named in the Bid Schedule (Item Response Form) which price shall constitute full compensation for the removal and installation of new trees complete. No additional compensations will be made for watering and maintaining trees for the duration of the contract. Contractor is responsible for any trees or shrubs damaged during execution of Contractor's work and will have to replace damaged trees and shrubs with no additional compensation. Removal of shrubs shall be included in line item for clear and grade swales.
- S. ABANDON EXISTING 30 INCH WATER MAIN (ITEM #21-22)
1. Measurement for payment for abandonment of pipes will be made at the lump sum price named in the Bid Schedule .
- T. FURNISH, INSTALLATION, AND REMOVAL OF SAMPLE POINTS (ITEM #23-24)
1. Measurement for payment for installation, bacteriological sampling and removal of sample points shall be based upon the completion of entire work per location completed.
 2. Payment for the installation, bacteriological sampling and removal of each sample point complete, shall be made at the Bid Schedule Unit Price named. Payment shall constitute as full compensation for all labor, equipment, and material required to install and remove each sample point, inclusive of actual sampling and laboratory analysis
- U. DESIGN (ITEM #25)
1. DBF to perform design development, including but not limited to, preliminary design and final design efforts for the Work including utilities verifications and

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utility facility owner coordination, subsurface utility excavations, all necessary due diligence for design efforts, geotechnical evaluations and reports, dewatering design, sheeting, shoring and bracing design, conflict evaluations and conflict avoidance and resolution, design of conflict structures including all structural engineering, permitting with all necessary regulatory agencies having jurisdiction over the project limits, maintenance of traffic design, all permitting, permitting submittals and approvals including permit fees, bypass pumping and piping plan design, temporary sewer services design, survey, and all clearances and project close out.

1.3 PAYMENT ITEMS (ALTERNATE BID)

- A. **BONDS AND INSURANCE (ITEM #1)**
1. Bonds and Insurance will be made at the lump sum price named in the Bid Schedule (Item Response Form). The CONTRACTOR may request payment for this bid item after the Initial Notice to Proceed has been issued.
 2. Performance and Payment Guarantee and Insurance are limited to 4% of the Total Bid Price. Any amount in excess of 4% will be moved to Line Item No. 3.
 3. However, the total bid amount will not change. The 4% ceiling on Bonds and Insurance is not responsiveness, just an instruction on the amount the CITY will pay for Bonds and Insurance.
- B. **MOBILIZATION (ITEM #2)**
1. See Section 01505, "Mobilization" for payment limitations.
 2. Payment for mobilization will be made at the lump sum price named in the Bid Schedule (Item Response Form). An initial lump sum partial payment of 40% of the Mobilization bid item amount shall be made upon completion of items #1-10 as outlined in Section 01505 Paragraph 1.01A. Payment of the remaining 60% for mobilization will be made in equal monthly lump sum amounts for the duration of the original contract time.
- C. **MAINTENANCE OF TRAFFIC (ITEM #3)**
1. See Section 01570 "Traffic Regulations" and all other references to traffic control and maintenance in this document and any regulatory requirements.
 2. Payment for maintenance of traffic will be made at the lump sum price named in the Bid Schedule (Item Response Form). Payment for maintenance of traffic will be made in equal monthly lump sum amounts for the duration of the original contract time.
- D. **FURNISH AND INSTALL 36" HDPE WATER MAIN PIPE VIA HDD (ITEM #4)**
1. Measurement for payment for furnishing and installing water main pipe will be based upon the number of linear feet of such pipe actually constructed as determined by measurement along the centerline of the pipe in place at 36 inches minimum cover or more to avoid other underground utilities, all in accordance with the requirements of the Contract Documents.
 2. Payment for furnishing and installing water main pipe will be made at the unit price per linear foot of pipe complete and in place including all clearing and grubbing, saw cut and removal of asphalt, remove and stockpile limerock, pipe, connections to existing pipe, unloading, sheeting, excavation, utility pole

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protection, trench protection and trench safety, dewatering, laying, backfilling, compaction, pressure testing, disinfection, flushing and temporary blow off with full cannon. As-builts for newly installed force mains must be provided before compensation for said force main will be approved. Restoration of roadway from subgrade stabilization, limerock base and placing of asphalt is not part of this line item.

- E. FURNISH AND INSTALL 30" DUCTILE IRON PIPE WATER MAIN VIA OPEN CUT (ITEM #5)
1. Measurement and payment for all labor, equipment and material for all work necessary and required for the installation of the water main, when necessary, via open cutting for each of the runs of water main. The price bid shall be full compensation for furnishing all materials, labor and equipment required for a complete and usable installation.
 2. Measurement will be based on the laying length of the pipe in linear feet actually placed as measured along the centerline of the completed and installed pipe, including the length of fittings between the limits shown on the final design provided by the DBF.
- F. CUT AND CONNECT TO EXISTING WATER MAIN (ITEM #6)
1. Measurement and payment for performing all connections to existing water mains will be based on the actual quantity, each, of such connection made all in accordance with the Contract Documents.
 2. Payment for connecting to existing water main shall be made at the unit price, each, named in the Bid Schedule (Item Response Form) which shall constitute full compensation for all materials (regardless of size) and labor needed to complete connection which shall include but is not limited to valves, fittings, spool pieces, corporation stops, saw cutting, removal and disposal of existing piping and fittings to prepare for connection and filling and flushing of main. All coordination needed for water main shut offs shall be responsibility of the CONTRACTOR and is included in the scope of this item.
- G. FURNISH AND INSTALL GATE VALVE AND AIR RELEASE VALVE (ITEM #7-8)
1. Measurement for payment to furnish and install gate valves will be based upon actual quantity, each, of such gate valves furnished and installed, all in accordance with the requirements of the Contract Documents. Test valves will not be compensated for under this line item.
 2. Payment for furnishing and installing gate valves will be made at the unit price, each, named in the Bid Schedule (Item Response Form) which price shall constitute full compensation for the completed installation of the valve, including valve, valve box and extension to surface, 2-inch brass ID disk with all restrain glands. No additional compensation will be granted for installation of side mounted valves as directed by the Engineer.
- H. FURNISH AND INSTALL WATER MAIN FITTINGS (ITEM #9)
1. Measurement for payment to furnish and install water main fittings, unless specifically listed separately in the Bid Schedule (Item Response Form), shall be at the unit bid price per ton for such fittings, including but not limited to

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- crosses, tees, bends and elbows of all angles and radius, concentric and eccentric reducers, offsets, wyes, true wyes, sleeves, plugs, caps, restraining glands and gaskets, base bends, base tees, reducing flanges, mega lugs, fillers and connecting pieces, furnished all in accordance with the Contract Documents.
2. Payment for furnishing and installing water main fittings complete and in place shall be at the unit bid price per ton and shall include furnishing, storing, transporting and installing the fittings.
- I. LINE STOPS AND BYPASS 30" WATER MAIN (ITEM #10)
1. Payment for all labor, equipment and material for all work necessary and required for bypass operations to meet all required submittals and approvals, including but not limited to, preparation of bypass plan, response to comments and revisions to bypass pumping plan to obtain final approvals from the City and the engineer retained by the DBF and jurisdictional agencies as necessary; maintenance of traffic submittals, permits and approvals including any permit fees (with the exception of City permit fees being paid for by the City), calculations for bypass pumping, noise attenuation, alarms and 24-hour monitoring of bypass pumping operations, phasing for bypass pumping operations, storage and transport and disposal of wastewater as needed for bypass operations, emergency procedures, protocol and compliance in the event of an emergency including all associated costs for any wastewater spills and fees from all associated regulatory agencies in the event of a wastewater spill or overflow or similar occurrence, coordination with City Operations staff and necessary to facilitate and implement all bypass operations performed by the Contractor, all piping, fittings and appurtenances, fuel, enclosures for noise attenuation, clean up and all other items to install, operate and maintain bypass operations, and throughout the duration of the project.
- J. TAPPING SLEEVE AND VALVE (ITEM #11)
1. Measurement for payment for tapping sleeve and valve shall be on the actual count of tapping sleeve and valves required to complete connections to existing mains.
 2. Payment shall be made at the Bid Form unit price, which will be full compensation for all labor, materials, and equipment necessary to perform the task. This shall include excavation, tapping the existing line, acquiring and preserving pipe coupons, asbestos abatement as necessary, maintaining service, completing and repairing the point the connection.
 3. Valve end connecting to tapping sleeve shall have a flange for bolting to the sleeve. The flange shall have a tongue which fits a recess in sleeve. Tongues shall meet the requirements of MSS SP-60. Resilient-seated gate valves having a port diameter equal to or exceeding 1/4 inch over nominal diameter shall not require a tongue. Flange dimensions and drilling shall meet the requirements of ANSI B16.1. Mechanical joints shall meet the requirements of ANSI/AWWA C111/A21.11. A full nominal diameter cutter shall be used for tapping.

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- K. REMOVE AND DISPOSE OF EXISTING ASPHALT PAVEMENT (ITEM #12)
1. Measurement for payment for removing existing asphalt pavement will be based upon the number of square yards of such materials actually removed, all in accordance with the requirements of the Contract Documents.
 2. Payment for removal and disposal of existing asphalt pavement will be made at the unit price per square yard of pavement named in the Bid Schedule (Item Response Form) which price shall constitute full compensation for sawcutting (as necessary), the removal and disposal of such pavement and include the removal of sidewalks, aprons, collars, miscellaneous concrete, reflective pavement markers, traffic loops (including coordination with City of Fort Lauderdale Public Works), abandoned valves and valve boxes, the removal and salvage of brass valve tabs. Thickness of existing asphalt may vary, asphalt removal will be paid at the square yard cost, no additional compensation will be made for asphalt thickness.
- L. REMOVE EXISTING LIMEROCK BASE MATERIAL (ITEM #13)
1. Measurement for payment for removing existing lime rock base material will be based upon the number of square yards of such materials actually removed, all in accordance with the requirements of the Contract Documents.
 2. Payment for removing of existing limerock base material will be made at the unit price per square yard at the depth indicated and named in the Contract Documents, which price shall constitute full compensation for removing, and disposal of waste or unsuitable material.
- M. PAVEMENT RESTORATION (ITEM #14)
1. Measurement for payment for furnishing and installing limerock, first lift of asphalt, and stabilization of subgrade will be based upon the number of square yards actually installed, all in accordance with the requirements of the Contract Documents
- N. MILLING AND RESURFACING OF ASPHALT PAVEMENT (ITEM #15-16)
1. Measurement for payment for milling and resurfacing will be based upon the number of successful square yard milled and resurfaced completely, all in accordance with the requirements of the Contract Documents.
 2. Payment for all labor, equipment and material for all work necessary and required for milling and resurfacing of minimum of 1" of existing pavement of various thicknesses. Saw cutting, removal and disposal of existing pavement of all and varying thicknesses, any required field work by the Contractor to confirm existing pavement thicknesses prior to bidding, and replacement of a minimum of 1" of asphalt pavement to meet all Broward County or other jurisdictional ROW standards and specifications.
 3. Pavement thicknesses will be required to be replaced to match existing pavement thicknesses at no additional cost to the CITY. Also included in this item is any adjustments of valve boxes, valve covers, manhole frames and rims, and any other surface features to maintain a level driving surface. In addition, temporary and permanent (thermoplastic striping), reflective pavement markers, decorative asphalt painting, etc. is included in this pay

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- item.
4. Pavement impacted by the Contractor's work efforts outside of that shown on the plans is at the Contractor's expense. The price bid shall be full compensation for furnishing all materials, labor and equipment required for a complete and usable machine-laid asphaltic concrete surface course installation and removal and disposal of existing concrete and other materials, as required and all restoration efforts.
- O. REMOVE AND RELOCATE EXISTING TREES (ITEM #17)
1. Measurement for payment to remove and replace existing trees will be based upon the actual number of trees replaced, all in accordance with the Contract Documents.
 2. Payment for replacement of trees will be made at the unit price, each, as named in the Bid Schedule (Item Response Form) which price shall constitute full compensation for the removal and installation of new trees complete. No additional compensations will be made for watering and maintaining trees for the duration of the contract. Contractor is responsible for any trees or shrubs damaged during execution of Contractor's work and will have to replace damaged trees and shrubs with no additional compensation. Removal of shrubs shall be included in line item for clear and grade swales.
- P. ABANDON EXISTING 30 INCH WATER MAIN (ITEM #18-19)
1. Measurement for payment for abandonment of pipes will be made at the lump sum price named in the Bid Schedule .
- Q. FURNISH, INSTALLATION, AND REMOVAL OF SAMPLE POINTS (ITEM 20-21)
1. Measurement for payment for installation, bacteriological sampling and removal of sample points shall be based upon the completion of entire work per location completed.
 2. Payment for the installation, bacteriological sampling and removal of each sample point complete, shall be made at the Bid Schedule Unit Price named. Payment shall constitute as full compensation for all labor, equipment, and material required to install and remove each sample point, inclusive of actual sampling and laboratory analysis.
- R. DESIGN (ITEM #22)
1. DBF to perform design development, including but not limited to, preliminary design and final design efforts for the Work including utilities verifications and utility facility owner coordination, subsurface utility excavations, all necessary due diligence for design efforts, geotechnical evaluations and reports, dewatering design, sheeting, shoring and bracing design, conflict evaluations and conflict avoidance and resolution, design of conflict structures including all structural engineering, permitting with all necessary regulatory agencies having jurisdiction over the project limits, maintenance of traffic design, all permitting, permitting submittals and approvals including permit fees, bypass pumping and piping plan design, temporary sewer services design, survey, and all clearances and project close out.

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END OF SECTION 01025

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SECTION 01045
CUTTING AND PATCHING**PART 1 GENERAL****1.1 REQUIREMENTS INCLUDED**

- A. DBF shall be responsible for all cutting, fitting and patching, including attendant excavation and backfill, required to complete the work or to:
 - 1. Make its several parts fit together properly.
 - 2. Uncover portions of the work to provide for installation of ill-times work.
 - 3. Remove and replace defective work.
 - 4. Remove and replace work not conforming to requirements of Contract Documents.
 - 5. Remove samples of installed work as specified for testing.
 - 6. Provide routine penetrations of nonstructural surfaces for installation of piping and electrical conduit.

1.2 RELATED REQUIREMENTS

- A. All applicable sections of the Specifications.
- B. Conditions of the Contract.

1.3 SUBMITTALS

- A. Submit a written request to CITY well in advance of executing any cutting or alteration, which affects:
 - 1. Work of the OWNER or any separate DBF.
 - 2. Structural value of integrity of any element of the project.
 - 3. Integrity of effectiveness of weather-exposed or moisture-resistant elements or systems.
 - 4. Efficiency, operational life, maintenance or safety of operational elements.
 - 5. Visual qualities of sight-exposed elements.
- B. Request shall include:
 - 1. Identification of the project.
 - 2. Description of the affected work.
 - 3. The necessity for cutting, alteration or excavation.
 - 4. Effect on work of Owner or any separate DBF, or on structural or weatherproof integrity of project.
 - 5. Description of proposed work:
 - a. Scope of cutting, patching, alteration or excavation.
 - b. Trades who will execute the work.
 - c. Products proposed to be used.
 - d. Extent of refinishing to be done.
 - 6. Alternatives to cutting and patching.
 - 7. Cost proposal, when applicable.
 - 8. Written permission of any separate DBF whose work will be affected.
- C. Should conditions of work or the schedule indicate a change of products from original installation, DBF shall submit request for substitution as specified in Section 01600, Paragraph 1.08.
- D. Submit written notice to CITY designating the date and time the work will be

SECTION 01045
CUTTING AND PATCHING

uncovered.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Comply with specifications and standards for each specific product involved.

PART 3 EXECUTION

3.1 INSPECTION

- A. Inspect existing conditions of project, including elements subject to damage or to movement during cutting and patching.
- B. After uncovering the work, inspect conditions affecting installation of products, or performance of work.
- C. Report unsatisfactory or questionable conditions affecting installation of products, or performance of work.

3.2 PREPARATION

- A. Provide adequate temporary support as necessary to assure structural value or integrity of affected portion of work.
- B. Provide devices and methods to protect other portions of project from damage.
- C. Provide protection from elements for that portion of the project, which may be exposed by cutting and patching, work, and maintain excavations free from water.

3.3 PERFORMANCE

- A. Execute cutting and demolition by methods, which will prevent damage to other work, and will provide proper surfaces to receive installation of repairs.
- B. Execute excavating and backfilling by methods, which will prevent settlement or damage to other work.
- C. Employ installer or fabricator to perform cutting and patching for:
1. Weather-exposed or moisture-resistant elements.
 2. Sight-exposed finished surfaces.
- D. Execute fitting and adjustment of products to provide a finished installation to comply with
- specified product, functions, tolerances and finishes.
- E. Restore work which has been cut or removed; install new products to provide completed work in accordance with requirements of Contract Documents.
- F. Fit work airtight to pipes, sleeves, ducts, conduit and other penetrations through surfaces.
- G. Refinish entire surfaces as necessary to provide an even finish to match adjacent finishes:
1. For continuous surfaces, refinish to nearest intersection.
 2. For an assembly, refinish entire unit.

END OF SECTION 01045

SECTION 01060
REGULATORY REQUIREMENTS & PERMITS

PART 1 GENERAL**1.1 REQUIREMENTS INCLUDED**

- A. DBF shall comply with all building codes and regulations appropriate to the project, including those but not limited to:
 - 1. City of Fort Lauderdale
 - a. Florida Building Code (Latest Revision)
 - b. Broward County Traffic Engineering Division
 - c. Broward County Environmental Protection and Growth Management Department
 - d. Broward County Highway Construction and Engineering Department
 - e. Florida Department of Environmental Protection
 - f. South Florida Water Management District
 - g. Florida Department of Environmental Protection
 - h. OSHA
- B. DBF shall comply with these codes, laws, regulations, rules, directives of all agencies, boards, districts, and governmental bodies having jurisdiction. The most recent guidelines of the regulatory agencies shall be utilized for the design and construction of the project.
- C. DBF shall obtain and pay the cost of all building permits, fees, tie-in, or connection charges associated with the project.
- D. DBF is responsible for compliance with all agencies and shall obtain all the necessary permits to complete the project. In the event that the CITY must obtain permits in addition to those listed below, the DBF shall not have any claim for damages arising from any delay caused by the CITY'S obtaining said additional permits.

1.2 RELATED REQUIREMENTS

- A. All applicable sections of the Specifications.
- B. Conditions of the Contract.

PART 2 PRODUCTS (NOT APPLICABLE)**PART 3 EXECUTION (NOT APPLICABLE)****END OF SECTION 01060**

SECTION 01070
ABBREVIATIONS OF INSTITUTIONS

PART 1 GENERAL

1.26 GENERAL

Wherever in these Specifications references are made to the standards, specifications, or other published data of the various international, national, regional, or local organizations, such organizations may be referred to by their acronym or abbreviation only. As a guide to the user of these Specifications, the following acronyms or abbreviations, which may appear in these Specifications, shall have the meanings indicated herein.

1.27 ABBREVIATIONS

AAMA	Architectural Aluminum Manufacturer's Association
AAR	Association of American Railroads
AASHTO	American Association of State Highway and Transportation Officials
AATCC	American Association of Textile and Colorists
ACI	American Concrete Institute
AFBMA	Anti-Friction Bearing Manufacturer's Association, Inc.
AGA	American Gas Association
AGMA	American Gear Manufacturers Association
AHAM	Association of Home Appliance Manufacturers
AI	The Asphalt Institute
AIA	American Institute of Architects
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
AITC	American Institute of Timber Construction
AMCA	Air Moving and Conditioning Association
ANS	American Nuclear Society
ANSI	American National Standards Institute, Inc.
APA	American Plywood Association
API	American Petroleum Institute
APWA	American Public Works Association
ASA	American Standards Association
ASAE	American Society of Agricultural Engineers
ASCE	American Society of Civil Engineers
ASHRAE	American Society of Heating, Refrigerating, and Air Conditioning Engineers
ASLE	American Society of Lubricating Engineers
ASME	American Society of Mechanical Engineers
ASQC	American Society for Quality Control
ASSE	American Society of Sanitary Engineers
ASTM	American Society for Testing and Materials
AWPA	American Wood Preservers Association
AWPI	American Wood Preservers Institute
AWS	American Welding Society
AWWA	American Water Works Association
BBC	Basic Building Code, Building Officials and Code Administrators

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SECTION 01070
ABBREVIATIONS OF INSTITUTIONS

	International
BCEPD	Broward County Environmental Protection Department (now known as Broward County Environmental Protection and Growth Management Department)
BCHCED	Broward County Highway Construction & Engineering Division
BCHD	Florida Department of Health of Broward County
BCPHU	Broward County Public Health Unit
BCTED	Broward County Traffic Engineering Division
BCWRMD	Broward County Water Resource Management Division
BCWWS	Broward County Water & Wastewater Services Division
BHMA	Builders Hardware Manufacturer's Association
CBM	Certified Ballast Manufacturers
CEMA	Conveyors Equipment Manufacturer's Association
CGA	Compressed Gas Association
CLFMI	Chain Link Fence Manufacturer's Institute
CMA	Concrete Masonry Association
CRSI	Concrete Reinforcing Steel Institute
CSI	Construction Specification Institute
DIPRA	Ductile Iron Pipe Research Association
EIA	Electronic Industries Association
ETL	Electrical Test Laboratories
EPA	Environmental Protection Agency
FAC	Florida Administrative Code
FBC	Florida Building Code
FDEP	Florida Department of Environmental Protection
FDOT	Florida Department of Transportation
FM	Factory Mutual System
FPL	Florida Power & Light
FS	Federal Specifications
HI	Hydraulics Institute
IAPMO	International Association of Plumbing and Mechanical Officials
ICBO	International Conference of Building Officials
IEEE	Institute of Electrical and Electronics Engineers
IES	Illuminating Engineering Society
IME	Institute of Makers of Explosives
IP	Institute of Petroleum (London)
IPC	Institute of Printed Circuits
IPCEA	Insulated Power Cable Engineers Association
ISA	Instrument Society of America
ISO	International Organization for Standardization
ITE	Institute of Traffic Engineers
MBMA	Metal Building Manufacturer's Association
MPTA	Mechanical Power Transmission Association
MSS	Manufacturers Standardization Society
MTI	Marine Testing Institute

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ABBREVIATIONS OF INSTITUTIONS

NAAMM	National Association of Architectural Metal Manufacturer's
NACE	National Association of Corrosion Engineers
NBS	National Bureau of Standards
NCCLS	National Committee for Clinical Laboratory Standards
NEC	National Electrical Code
NEMA	National Electrical Manufacturer's Association
NFPA	National Fire Protection Association
NFPA	National Forest Products Association
N.I.C.	Not In Contract
NLGI	National Lubricating Grease Institute
NMA	National Microfilm Association
NSF	National Sanitation Foundation
NWMA	National Woodwork Manufacturers Association
NPDES	National Pollutant Discharge Elimination System
OSHA	Occupational Safety and Health Administration
PCA	Portland Cement Association
PPI	Plastics Pipe Institute
RCRA	Resource Conservation and Recovery Act
RIS	Redwood Inspection Service
RVIA	Recreational Vehicle Industry Association
RWMA	Resistance Welder Manufacturer's Association
SAE	Society of Automotive Engineers
SAMA	Scientific Apparatus Makers Association
SB	Southern Bell
SFWMMD	South Florida Water Management District
SMA	Screen Manufacturers Association
SMACCNA	Sheet Metal and Air Conditioning Contractors National Association
SPI	Society of the Plastics Industry, Inc.
SPIB	Southern Pine Inspection Bureau
SPR	Simplified Practice Recommendation
SSA	Swedish Standards Association
SSBC	Southern Standard Building Code, Southern Building Code Congress
SSPC	Steel Structures Painting Council
SSPWC	Standard Specifications for Public Works Construction
TAPPI	Technical Association of the Pulp and Paper Industry
TFI	The Fertilizer Institute
UL	Underwriters Laboratories, Inc.
WCLIB	West Coast Lumber Inspection Bureau
WCRSI	Western Concrete Reinforcing Steel Institute
WEF	Water Environment Federation
WIC	Woodwork Institute of California
WRI	Wire Reinforcement Institute, Inc.
WWED	Broward County Water and Wastewater Engineering Division
WWPA	Western Wood Products Association

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ABBREVIATIONS OF INSTITUTIONS

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

END OF SECTION 01070

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SECTION 01090
REFERENCE STANDARDS

PART 1 GENERAL

1.1 GENERAL

- A. Titles of Sections and Paragraphs: Captions accompanying specification sections and paragraphs are for convenience of reference only, and do not form a part of the Specifications.
- B. Applicable Publications: Whenever in these Specifications references are made to published specifications, codes, standards, or other requirements, it shall be understood that wherever no date is specified, only the latest specifications, standards, or requirements of the respective issuing agencies which have been published as of the date that the WORK is advertised for bids, shall apply; except to the extent that said standards or requirements may be in conflict with applicable laws, ordinances, or governing codes. No requirements set forth herein or shown on the Drawings shall be waived because of any provision of, or omission from, said standards or requirements.

1.2 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS

- A. Without limiting the generality of other requirements of the Specifications, all work specified herein shall conform to or exceed the requirements of applicable codes and the applicable requirements of the following documents.
- B. References herein to "Building Code" shall mean "Florida Building Code". References to "Mechanical Code" or "Uniform Mechanical Code," "Plumbing Code" or "Uniform Plumbing Code," "Fire Code" or "Uniform Fire Code," shall mean Uniform Mechanical Code, Uniform Plumbing Code and Uniform Fire Code of the International Conference of the Building Officials (ICBO). "Electric Code" or "National Electric Code (NEC)" shall mean the National Electric Code of the National Fire Protection Association (NFPA). "PPI" shall mean Plastic Pipe Institute. The latest edition of the codes as approved by the Municipal Code and used by the local agency as of the date that the WORK is advertised for bids, as adopted by the agency having jurisdiction, shall apply to the WORK herein, including all addenda, modifications, amendments, or other lawful changes thereto.
- C. In case of conflict between codes, reference standards, drawings and the other Contract Documents, the most stringent requirements shall govern. All conflicts shall be brought to the attention of the CITY for clarification and directions prior to ordering or providing any materials or furnishing labor. The DBF shall bid for the most stringent requirements.
- D. The DBF shall construct the WORK specified herein in accordance with the requirements of the Contract Documents and the referenced portions of those referenced codes, standards, and specifications listed herein.
- E. References herein to "OSHA Regulations for Construction" shall mean Title 29, Part 1926, Construction Safety and Health Regulations, Code of Federal Regulations (OSHA), including all changes and amendments thereto.
- F. References herein to "OSHA Standards" shall mean Title 29, Part 1910, Occupational Safety and Health Standards, Code of Federal Regulations (OSHA), including all changes and amendments thereto.
- G. References to "Minimum Standards" shall mean the City of Fort Lauderdale

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REFERENCE STANDARDS

Minimum Standards.

1.3 REGULATIONS RELATED TO HAZARDOUS MATERIALS

- A. The DBF is responsible that all work included in the Contract Documents, regardless if shown or not, shall comply with all EPA, OSHA, RCRA, NFPA, and any other Federal, State, and Local Regulations governing the storage and conveyance of hazardous materials, including petroleum products.
- B. Where no specific regulations exist, all chemical, hazardous, and petroleum product piping and storage in underground locations must be installed with double containment piping and tanks, or in separate concrete trenches and vaults, or with an approved lining which cannot be penetrated by the chemicals, unless waived in writing by the OWNER.
 - 1. The DBF may be required to reposition existing traffic signal heads in order to maintain traffic flows at diverted intersections. If this should be necessary, the DBF must submit a plan for approval showing the course of work and the planned repositioning. The Broward County Traffic Engineering Division must approve the plan prior to implementation. No separate payment for repositioning the existing traffic signal heads will be made. The cost of this work shall be included in the bid item for Maintenance of Traffic.
 - 2. If there are schools within the project area: The DBF will be required to shut down all equipment during the school zone commute time periods (approximately 15 minutes prior to and after school is in session).

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

END OF SECTION 01090

SECTION 01200
PROJECT MEETINGS**PART 1 GENERAL****1.1 REQUIREMENTS INCLUDED**

- A. DBF shall schedule and administer a preconstruction meeting, progress meetings at a minimum of once a month on a day established by the OWNER's Representative and specially called meetings throughout progress of the work.
 - 1. Prepare agenda meetings.
 - 2. Distribute written notice of each meeting five (5) days in advance of meeting date.
 - 3. Preside at meetings.
 - 4. Record the minutes; include significant proceedings and decisions.
 - 5. Reproduce and distribute copies of minutes within three (3) days after each meeting.
 - a. To participants in the meeting.
 - b. To parties affected by decisions made at the meeting.
 - c. Furnish digital copies of minutes to OWNER.
- B. DBF is to secure a meeting location for progress meetings that is in accordance with the requirements of the Contract Documents.
- C. Representative of DBF, subcontractor and suppliers attending meetings shall be qualified and authorized to act on behalf of the entity each represents.

1.2 RELATED REQUIREMENTS

- A. All applicable sections of the Specifications.
- B. Conditions of the Contract.

1.3 PRE-CONSTRUCTION MEETING

- A. Schedule after date of Notice to Proceed.
- B. Location: A central site, convenient for all parties, designated by OWNER's Representative.
- C. Attendance:
 - 1. The DBF and its superintendent.
 - 2. Resident Project Representative.
 - 3. Representative of the OWNER.
 - 4. Major subcontractors.
 - 5. Major Suppliers.
 - 6. Governmental representatives as appropriate.
 - 7. Others as requested by DBF, OWNER, or Engineer.
- D. Suggested Agenda:
 - 1. Distribution and discussion of:
 - a. List of major subcontractors and suppliers.
 - b. Projected Construction Schedules.
 - c. Shop Drawings and other submittals.
 - d. Traffic maintenance plan.
 - e. Community Public Relations.
 - 2. Critical work sequencing.

SECTION 01200
PROJECT MEETINGS

3. Procurement of major equipment and materials requiring a long lead time.
4. Project Coordination.
 - a. Designation of responsible personnel.
5. Procedures and processing of:
 - a. Field decisions.
 - b. Proposal requests.
 - c. Submittals.
 - d. Change orders.
 - e. Applications for Payment.
6. Adequacy of distribution of Contract Documents.
7. Procedures of maintaining Record Documents.
8. Use of premises:
 - a. Office, work, and storage areas.
 - b. OWNER requirements.
9. Construction facilities, controls, and construction aids.
10. Temporary utilities.
11. Safety procedures
12. Security procedures.
13. Housekeeping procedures.

1.4 PROGRESS MEETINGS

- A. Schedule regular monthly meetings on a day established by the OWNER's Representative as required.
- B. Hold called meetings as required by progress of the work.
- C. Location of meetings: Project field office or as designated by OWNER.
- D. Attendance
 1. OWNER's Representative and OWNER's professional consultants as needed.
 2. Subcontractors as active on the site.
 3. Suppliers as appropriate to the agenda.
 4. Governmental representatives as appropriate.
 5. Others, as requested by DBF, OWNER, or ENGINEER.
- E. Suggested Agenda:
 1. Review, approval of minutes of previous meeting.
 2. Review of work progress since previous meeting.
 3. Field observations, problems, and conflicts.
 4. Problems, which impeded Construction Schedule.
 5. Review of off-site, delivery schedules.
 6. Corrective measures and procedures to regain projected schedule.
 7. Revisions to Construction Schedules.
 8. Progress, schedule, during succeeding work period.
 9. Coordination of schedules.
 10. Community Public Relations.
 11. Review submittal schedules; expedite as required.
 12. Maintenance of quality standards.

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PROJECT MEETINGS

13. Pending changes and substitutions.
14. Review proposed changed for:
 - a. Effect on Construction Schedule and on completion date.
 - b. Effect on other contracts of the Project.
15. Other business.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

END OF SECTION 01200

SECTION 01300
SUBMITTALS**PART 1 GENERAL****1.1 SCOPE:**

- A. Summary of Work: This SECTION includes definitions, descriptions, transmittal, and review of "Compliance" and "Miscellaneous" Submittals.
- B. Related Work Specified Elsewhere:
 - 1. Contract Closeout: SECTION 01700

1.2 GENERAL INFORMATION:

- A. Definitions:
 - 1. Compliance Submittals include Shop Drawings, product data, and samples which are prepared by the DBF, Subcontractor, MANUFACTURER, or Supplier and submitted by the DBF to the as a basis for approval of the use of Equipment and Materials proposed for incorporation in the WORK or needed to describe installation, operation, maintenance, or technical properties.
 - a. Shop Drawings include custom-prepared data of all types including drawings, diagrams, performance curves, material schedules, templates, instructions, and similar information not in standard printed form applicable to other projects.
 - b. Product data includes standard printed information on materials, products and systems not custom-prepared for this Project, other than the designation of selections from available choices.
 - c. Samples include both fabricated and unfabricated physical examples of materials, products, and WORK; both as complete units and as smaller portions of units of WORK; either for limited visual inspection or (where indicated) for more detailed testing and analysis. Mock-ups are a special form of samples which are too large to be handled in the specified manner for transmittal of sample Submittals.
 - 2. Miscellaneous Submittals are those technical reports, administrative Submittals, certificates, and warranties not defined as Shop Drawings, product data, or samples.
 - a. Technical reports include laboratory reports, tests, technical procedures, technical records, DBF's design analysis and DBF's survey field notes for construction staking, before cross-sections and after cross-sections, and similar type Submittals.
 - b. Administrative Submittals are those nontechnical Submittals required by the Contract Documents or deemed necessary for administrative records. These Submittals include maintenance agreements, workmanship bonds, Project photographs, physical work records, statements of applicability, copies of industry standards, as-constructed data, security/protection/safety data, and similar type Submittals also listed in SECTION 01700 and elsewhere in the Contract Documents.
 - c. Certificates and warranties are those Submittals on Equipment and Materials where a written certificate or guarantee from the MANUFACTURER or Supplier is called for in the Specifications.

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- d. Reports as required by Contract describing DBF's means and methods for items such as dewatering, earth and water retaining, erosion/turbidity control, safety plans, and similar type Submittals.
 3. Refer to ARTICLE 1.3 and 1.4 of this Part for detailed lists of documents and specific requirements.
- B. Quality Requirements:
1. Submittals such as Shop Drawings and product data shall be of the quality for legibility and reproduction purposes. Every line, character, and letter shall be clearly legible. Drawings such as reproducible shall be useable for further reproduction to yield legible hard copy.
 2. Documents submitted to the CITY that do not conform to these requirements shall be subject to rejection by the CITY, and upon request by DBF shall resubmit conforming documents. If conforming Submittals cannot be obtained, such documents shall be retraced, redrawn, or photographically restored as may be necessary to meet such requirements. DBF's (or his Subcontractor's) failure to initially satisfy the legibility quality requirements will not relieve DBF (or his Subcontractors) from meeting the required schedule for Submittal of Shop Drawings and product data.
- C. Language and Dimensions:
1. All words and dimensional units shall be in the English language.
 2. Metric dimensional unit equivalents may be stated in addition to the English units.
- D. Submittal Completeness:
1. Submittals shall be complete with respect to dimensions, design criteria, materials of construction, and other information specified to enable the CITY to review the information effectively.
 2. Where standard drawings are furnished which cover variations of the general class of equipment, each such drawing shall be individually annotated to describe exactly which parts of the drawing apply to the equipment being furnished. Use hatch marks to indicate variations that do not apply to the Submittal. The use of "highlighting" is not an acceptable means of annotating Submittals. Such annotation shall also include proper identification of the Submittal permanently attached to the drawing.
 3. Reproduction or copies of Drawings or portions thereof will not be accepted as complete fabrication or erection drawings. The DBF may use a reproduction of the CITY-prepared Drawings for erection drawings such as to indicate information on erection or to identify detail drawing references. Where the Drawings are revised to show this additional DBF information, the CITY's title block shall be replaced with a DBF's title block and the CITY's professional seal shall be removed from the Drawing. The DBF shall revise these erection drawings for subsequent CITY revisions to the Drawings.

1.3 COMPLIANCE SUBMITTALS:

- A. Items shall include, but not be limited to, the following:

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1. MANUFACTURER's specifications
 2. Catalogs, or parts thereof, of manufactured equipment
 3. Shop fabrication and erection drawings
 4. General outline drawings of equipment showing overall dimensions, location of major components, weights, and location of required building openings and floor plates
 5. Detailed equipment installation drawings, showing foundation details, anchor bolt sizes and locations, baseplate sizes, location of CITY's connections, and all clearances required for erection, operation, and disassembly for maintenance
 6. Schematic diagrams for electrical items, showing external connections, terminal block numbers, internal wiring diagrams, and one-line diagrams
 7. Bills of material and spare parts list
 8. Instruction books and operating manuals
 9. Material lists or schedules
 10. Performance tests on equipment by MANUFACTURERs
 11. Concrete mix design information
 12. Samples and color charts
 13. All drawings, calculations, catalogs or parts thereof, MANUFACTURER's specifications and data, samples, instructions, and other information specified or necessary:
 - a. For CITY to determine that the Equipment and Materials conform with the design concept and comply with the intent of the Contract Documents.
 - b. For the proper erection, installation, operation and maintenance of the Equipment and Materials which the CITY will review for general content but not for substance.
 - c. For the CITY to determine what supports, anchorages, structural details, connections, and services are required for the Equipment and Materials, and the effects on contiguous or related structures and Equipment and Materials.
- B. Compliance Submittal Action Stamps or Designation: The CITY's review action stamp or designation, appropriately completed, will appear on all Compliance Submittals of DBF when returned by the CITY. Review status designations listed on CITY's action designation are defined as follows:
1. "ACCEPTED AS SUBMITTED": Signifies Equipment or Material represented by the Submittal conforms with the design concept and complies with the intent of the Contract Documents and is acceptable for incorporation in the WORK. DBF is to proceed with fabrication or procurement of the items and with related WORK.
 2. "ACCEPTED AS NOTED": Signifies Equipment and Material represented by the Submittal conforms with the design concept and complies with the intent of the Contract Documents and is acceptable for incorporation in the WORK subject to the condition that as constructed it shall be in accordance with all notations and/or corrections indicated. DBF is to proceed with fabrication or

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- procurement of the items and with related WORK in accordance with CITY's notations.
3. "RETURNED FOR REVISION": Means that deviations from the requirements of the Contract Documents exist in the Submittal. DBF is to resubmit revised information responsive to CITY's annotations on the returned Submittal or written in the letter of transmittal. Fabrication or procurement of items represented by the Submittal and related WORK is not to proceed until the Submittal is approved.
 4. "NOT ACCEPTABLE (SUBMIT ANEW)": Signifies Equipment and Material represented by the Submittal does not conform with the design concept or comply with the intent of the Contract Documents and is disapproved for use in the WORK. DBF is to resubmit Compliance Submittals responsive to the Contract Documents.
 5. "PRELIMINARY SUBMITTAL": Signifies Submittals of such preliminary nature that a determination of conformance with the design concept or compliance with the intent of the Contract Documents must be deferred until additional information is furnished. DBF is to submit such additional information to permit layout and related activities to proceed.
 6. "FOR REFERENCE ONLY": Signifies Submittals which are for supplementary information only; pamphlets, general information sheets, catalog cuts, standard sheets, bulletins and similar data, all of which are useful to the CITY in design, operation, or maintenance, but which by their nature do not constitute a basis for determining that items represented thereby conform with the design concept or comply with the intent of the Contract Documents. The CITY reviews such Submittals for general content but not for substance.
 7. Resubmit Compliance Submittals the number of times required for CITY's "ACCEPTED AS SUBMITTED" or "FOR REFERENCE ONLY". However, any need for more resubmittals than the number set forth in the accepted schedule, or any other delay in obtaining acceptance of Submittals, will not be grounds for extension of the Contract Time, provided the CITY completes its reviews within the times stated above.
- C. Schedule and Log of Compliance Submittals:
1. Prepare for the CITY, a schedule and log for submission of all Compliance Submittals specified or necessary for CITY's review of the use of Equipment and Materials proposed for incorporation in the WORK or needed for proper installation, operation or maintenance. Submit the schedule and log with the procurement schedule and WORK progress schedule. Schedule submission of all Compliance Submittals to permit review, fabrication, and delivery in time to not cause a delay in the WORK of DBF or his Subcontractors or any other contractors as described herein.
 2. In establishing schedule for Compliance Submittals, allow 15 working days in CITY's office for reviewing original Submittals that have been deemed complete and ten (10) working days for reviewing resubmittals of previously reviewed submittals.
 3. The schedule shall indicate the anticipated dates of original submission.

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4. Schedule all Compliance Submittals required prior to fabrication or manufacture for submission within [90] days of the Notice to Proceed [NTS: DBF should coordinate with the Project/Construction Manager to determine this timeframe]. Schedule Compliance Submittals pertaining to storage, installation and operation at the Site for CITY's acceptance prior to delivery of the Equipment and Materials.
- D. Transmittal of Compliance Submittals:
1. All Compliance Submittals of Equipment and Materials furnished by Subcontractors, MANUFACTURERS, and Suppliers shall be submitted to the CITY by DBF in electronic PDF format as indicated below. After checking and verifying all field measurements, transmit all Compliance Submittals to the CITY for acceptance as follows:
 - a. Identify each Compliance Submittal by Submittal Number, Project name and number, Contract title and number, and the Specification SECTION and article number marked thereon or in the letter of transmittal. Unidentifiable Submittals will be returned for proper identification.
 - b. Check and certify Compliance Submittals of Subcontractors, Suppliers, and MANUFACTURERS with DBF's approval prior to transmitting them to the CITY. DBF's certification of approval shall constitute a representation to the CITY that DBF has either determined and verified all quantities, dimensions, field construction criteria, materials, catalog numbers, and similar data, or he assumes full responsibility for doing so, and that he has coordinated each Compliance Submittal with the requirements of the WORK and the Contract Documents.
 - c. At the time of each submission, call to the attention of CITY in the letter of transmittal any deviations from the requirements of the Contract Documents.
 - d. Provide all Submittals in electronic format, compatible with Adobe Professional, Version 8 (or higher), and submitted as a single file, using PDF bookmarks and/or chapters to identify divisions within the Submittal package.
 - e. Make all modifications noted or indicated by CITY and return revised copies, or samples until accepted. Revised Submittals must be complete and conformed, including all pages/sheets with the required revisions and any additional or replacement pages/sheets. Direct specific attention in writing, or on revised Submittals, to changes other than the modifications called for by the CITY on previous Submittals. Subsequent review cycles for returned or revised Submittals shall replicate the process described in items d. through e. above.
 - f. If the CITY's review action is "ACCEPTED AS NOTED", the Submittal will be designated such, and electronically transmitted back to the DBF. Upon receipt of this notification from the CITY, The DBF shall resubmit one (1) conformed electronic copy in PDF file format to the CITY for final distribution. If the Submittal is required to be signed and sealed by a Professional Engineer registered in the State of Florida, this version of

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the submittal shall be signed and sealed. Submittal will not be considered final until all copies have been received by the CITY. Submittal will be designated "DISTRIBUTION COPY (PREVIOUSLY ACCEPTED)" by the CITY. Accepted Submittals transmitted for final distribution will not be further reviewed and are not to be revised. If errors are discovered during manufacture or fabrication, correct the Submittal and resubmit for review.

- g. Following completion of the WORK and prior to final payment, furnish those drawings necessary to indicate "AS CONSTRUCTED" conditions, including field modifications. Furnish additional copies for insertion in equipment instruction books as required. All such copies shall be clearly marked "AS BUILT DRAWING."
 - h. WORK requiring a Compliance Submittal shall not be commenced or shipped until the Submittal has been designated "ACCEPTED AS SUBMITTED" or "ACCEPTED AS NOTED" by the CITY.
 - i. Keep a legible copy or sample of each Compliance Submittal at the Site.
- 2. Copies of the equipment DBF's erection drawings and other Compliance Submittals required for the installation of equipment furnished by others under separate Contract for installation under this Contract will be transmitted to DBF by the CITY in the final distribution of such Submittals.
 - 3. Information to MANUFACTURER'S CITY Office: MANUFACTURERS and Suppliers of Equipment and Materials shall furnish copies of all agreements, drawings, specifications, operating instructions, correspondence, and other matters associated with this Contract to the MANUFACTURER'S CITY office servicing the CITY. Insofar as practicable, all business matters relative to Equipment and Materials included in this Contract shall be conducted through such local city offices.
- E. CITY's Review:
- 1. The CITY will review and return Compliance Submittals to DBF with appropriate notations. Instruction books and similar Submittals will be reviewed by the CITY for general content but not for substance.
 - 2. The CITY's acceptance of Compliance Submittals will not relieve DBF from his responsibility as stated in the Section 00700 – General Terms and Conditions.
- F. Instruction Books / Operation & Maintenance Manuals:
- 1. Equipment instruction books and manuals shall be prepared by the MANUFACTURER and shall include the following:
 - a. Index and tabs
 - b. Instructions for installation, start-up, operation, inspection, maintenance, parts lists and recommended spare parts, and data sheets showing model numbers
 - c. Applicable drawings
 - d. Name of contact person, phone number, and address of the nearest authorized service facility
 - e. Attached to the above shall be a notice of the exact warranty effective

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- dates, beginning and ending.
- f. All additional data specified
2. Information listed above shall be submitted electronically in a PDF file format.
 - a. Instruction Books/Operation & Maintenance Manuals shall contain the following:
 - 1) Equipment name
 - 2) MANUFACTURER's name
 - 3) Project name
 - 4) Contract number
 - 5) Reference to applicable Drawing No. & Technical Specifications Section
 - b. Format: The overall manual should be constructed around certain types of structures or equipment in the Project, and not merely assembled by technical specification section, so that all pertinent data needed by personnel to operate or maintain the equipment or structure is in one (1) manual (as far as is practical). The DBF shall coordinate with the CITY as to how the manuals are to be assembled (Bookmarked).
 - G. Samples: Office samples shall be of sufficient size and quantity to clearly illustrate the following:
 1. Functional characteristics of the product, with integrally related parts and attachment devices
 2. Full range of color, texture, and pattern

1.4 MISCELLANEOUS SUBMITTALS:

- A. Miscellaneous Submittals are comprised of technical reports, administrative Submittals, and warranties which relate to the WORK, but do not require CITY's approval prior to proceeding with the WORK. Miscellaneous Submittals may include but are not limited to (at CITY's discretion):
 1. Welder qualification tests
 2. Welding procedure qualification tests
 3. X-ray and radiographic reports
 4. Field test reports
 5. Concrete cylinder test reports
 6. Certification on Materials:
 - a. Steel mill tests
 - b. Paint lab tests
 - c. Cement tests
 7. Soil test reports
 8. Temperature records
 9. Shipping or packing lists
 10. Job progress schedules
 11. Equipment and Material delivery schedules
 12. Progress photographs
 13. Warranties

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14. Fire protection and hydraulic calculations
 15. Surveying field notes, preliminary and final Surveyor's Reports
 16. Pump tests
 17. Traffic control plan
 18. Technical Reports
 19. Written Certificates and Warranties
- B. Transmittal of Miscellaneous Submittals:
- a. All Miscellaneous Submittals furnished by Subcontractors, MANUFACTURERS, and Suppliers shall be submitted to CITY by DBF in an electronic PDF file format, unless otherwise specified.
 - b. Identify each miscellaneous Submittal by Project name and number, Contract title and number, and the specification section and article number marked thereon or in the letter of transmittal. Unidentifiable Submittals will be returned for proper identification.
 - c. Check and certify Miscellaneous Submittals of Subcontractors, Suppliers, and MANUFACTURERS with DBF's approval prior to transmitting them to the CITY. DBF's certification of approval shall constitute a representation to the CITY that DBF has either determined and verified all information, or he assumes full responsibility for doing so, and that he has coordinated Miscellaneous Submittal with the requirements of the WORK and the Contract Documents.
 - d. At the time of each submission, call to the attention of the CITY in the letter of transmittal any deviations from the requirements of the Contract Documents.
 - e. Make all modifications noted or indicated by CITY and return revised copies until accepted. Direct specific attention in writing, or on revised Submittals, to changes other than the modifications called for by the CITY on previous Submittals. After Submittals have been accepted, submit copies thereof for final distribution.
2. Test Reports:
- a. Responsibilities of DBF and CITY regarding tests and inspections of Equipment and Materials and completed WORK are set forth elsewhere in these Contract Documents.
 - b. The party specified responsible for testing or inspection shall in each case, unless otherwise specified, arrange for the testing laboratory or reporting agency to distribute test reports in an electronic PDF file format to the following parties, unless otherwise specified:
 - 1) CITY
 - 2) Resident Project Representative
 - 3) CONTRACTOR
 - 4) MANUFACTURER or supplier
- C. CITY'S Review:
1. CITY will review Miscellaneous Submittals for indications of WORK or material deficiencies within fifteen (15) working days in CITY's office for original Submittals and ten (10) working days for reviewing resubmittals.

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2. CITY will respond to DBF on those Miscellaneous Submittals which indicate WORK or material deficiency.

1.5 WEB BASED CONSTRUCTION DOCUMENT MANAGEMENT:

- A. The CITY, and DBF shall use the internet Web Based Project Construction Document Management tool (the Construction Document Management tool), e-Builder® ASP software, and protocols included in that software during this Project for submission of all documents specified in this SECTION and elsewhere in the Contract Documents. The use of Construction Document Management as herein described does not replace or change any contractual responsibilities of the DBF.
- B. The intent of using the Construction Document Management tool (i.e. e-Builder®) is to improve the Project work efforts by promoting timely initial communications and responses. This will also reduce the number of paper documents while providing improved record keeping by creation of electronic document files.
- C. The Construction Document Management tool is available through e-Builder® in the form and manner required by the CITY.
- D. The Construction Document Management tool is on-line and fully functional. User registration, electronic and computer equipment, and Internet connections are the responsibility of CITY, and DBF.
- E. CONTRACTOR's Responsibility:
 1. CONTRACTOR shall be responsible for the validity of their information placed in Construction Document Management tool and for the abilities of their personnel.
 2. Entry of information exchanged and transferred between the DBF and its subcontractors and suppliers on Construction Document Management tool shall be the responsibility of the DBF.
 3. Accepted users shall be knowledgeable in the use of computers, including Internet Browsers, email programs, cad drawing applications, and Adobe Portable Document Format (PDF) document distribution program.
 4. CONTRACTOR shall utilize the existing forms in Construction Document Management tool (i.e. e-Builder®) to the maximum extent possible. If a form does not exist in Construction Document Management tool, the DBF must include a form of their own (subject to review and acceptance by CITY) or provided by CITY as an attachment to a submittal.
 5. Adobe PDF documents shall be created through electronic conversion to be searchable, rather than optically scanned, whenever possible. DBF is responsible for the training of their personnel in the use of the Construction Document Management tool (outside training that is provided by CITY) and the other programs indicated above as needed.
 6. User Access Limitations:
 - a. Provide a list of DBF's key the Construction Document Management tool personnel for the CITY's acceptance. The CITY reserves the right to perform a security check on all potential users. The DBF will be allowed to add additional personnel and subcontractors to Construction Document Management tool.

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- b. The CITY will grant initial access to the Construction Document Management tool by creating user profiles to accepted DBF personnel.
- F. Authorized Users: The DBF shall:
1. Request the User Application form from the CITY Project Manager.
 2. Submit completed User Application Form to the CITY Construction Document Management tool (i.e. e-Builder®) Administrator.
 3. Authorized users will be contacted directly by the web site provider, e-Builder®, who will assign the temporary user password.
 4. Authorized users shall be responsible for the proper use of their passwords and access to data as agents of the company in which they are employed.
 5. Sharing usernames and passwords are strictly prohibited.
- G. Training: Group training sessions will be scheduled by the CITY on as needed bases. Users are required to attend the scheduled training sessions they are assigned to.
- H. Support: e-Builder® will provide on-going support through online help files. The second level of help will be to contact the CITY Construction Document Management Tool Administrator with the help of CITY Project Manager.
- I. Copyrights and Ownership: Nothing in this Specification or the subsequent communications supersedes the DBF's obligations and rights for copyright or document ownership as established by the Contract Documents. The use of CAD files, processes or design information distributed in this system is intended only for the Project specified herein.
- J. Communications: The use of fax, email and courier communication for this Project is discouraged in favor of using the Construction Document Management tool to send messages. Communication functions are as follows:
1. Document Integrity and Revisions:
 - a. Documents, comments, drawings and other records posted on the Construction Document Management tool will remain for the Project record. The authorship time and date will be recorded for each document submitted to the system. Submitting a new document or record with a unique ID, authorship, and time stamp will be the method used to make modifications or corrections.
 - b. The Construction Document Management tool will make it easy to identify revised or superseded documents and their predecessors.
 2. Document Security: The Construction Document Management tool will provide a method for communication of documents. Do not post private or your company confidential items in the database.
 3. Notifications and Distribution:
 - a. Document distribution to Project members shall be accomplished both within the Construction Document Management tool and via email as appropriate. Project document distribution to parties outside of the Construction Document Management tool shall be accomplished by secure email of outgoing documents and attachments, readable by a standard email client.
 - b. Minimum Equipment and Internet Connection: DSL, local cable

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- company's Internet connection or T1 connection is required.
4. Automated System Notification and Audit Log Tracking:
 - a. Review comments made (or lack thereof) by CITY on DBF submitted documentation shall not relieve DBF from compliance with requirements of the Contract Documents.
 - b. CONTRACTOR is responsible for managing, tracking, and documenting the Work to comply with the requirements of the Contract Documents. CITY's acceptance via the Construction Document Management tool notifications or audit logs extends only to the face value of the submitted documentation and does not constitute validation of the DBF's submitted information.

PART 2 PRODUCTS (NOT APPLICABLE)**PART 3 EXECUTION****3.1 SUBMITTAL LOG:**

- A. CONTRACTOR shall maintain an accurate Submittal Log and a Distribution List for the duration of the WORK, showing current status of all Submittals and Distributees at all times in a form acceptable to the CITY. DBF shall make the Submittal Log available to the CITY for its review on request and shall bring a copy of the Submittal Log to all Progress Meetings.

END OF SECTION 01300

SECTION 01340
SHOP DRAWINGS, PRODUCT DATA AND SAMPLES**PART 1 GENERAL****1.1 REQUIREMENTS INCLUDED**

- A. Submit Shop Drawings, Product Data and Samples required by the Contract Documents.

1.2 RELATED REQUIREMENTS

- A. All applicable sections of the Specifications.
- B. Conditions of the Contract.
- C. Designate in the construction schedule, or in a separate coordinated schedule, the dates for submission and the dates that reviewed Shop Drawings, Product Data and Samples will be needed.

1.3 SHOP DRAWINGS

- A. Drawings shall be presented in a readable and thorough condition.
 - 1. Drawing size shall be printable on 24 X 36 inch as appropriate for detail.
 - 2. Details shall be identified by reference to City of Fort Lauderdale Project Number, sheet, detail, specification section, equipment numbers, I.D. numbers and schedule numbers shown on Contract Drawings.

1.4 PRODUCT DATA

- A. Preparation
 - 1. Clearly mark each copy to identify pertinent products or models.
 - 2. Show performance characteristics and capacities.
 - 3. Show dimensions and clearances required.
 - 4. Show wiring or piping diagrams and controls.
- B. Manufacturer's standard schematic drawings and diagrams:
 - 1. Modify drawings and diagrams to delete information, which is not applicable to the work.
 - 2. Supplement standard information to provide information specifically applicable to the work

1.5 SAMPLES

- A. Office samples shall be of sufficient size and quantity to clearly illustrate:
 - 1. Functional characteristics of the product with integrally related parts and attachment devices.
 - 2. Full range of color, texture and pattern.

1.6 CONTRACTOR RESPONSIBILITIES

- A. Review Shop Drawings, Product Data and samples prior to submission.
- B. Determine and verify:
 - 1. Field measurements.
 - 2. Field construction criteria.
 - 3. Catalog numbers and similar data.
 - 4. Conformance with specifications.
- C. Coordinate each submittal with requirements of the work and of the Contract

SECTION 01340
SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

Documents.

- D. Notify the OWNER's Representative in writing, at time of submission, of any deviations in the submittals from requirements of the Contract Documents.

1.7 SUBMISSION REQUIREMENTS

- A. DBF shall furnish the CITY for review, 3 copies of each shop drawing submittal. The term "Shop Drawing" as used herein shall be understood to include detail design calculations, shop drawings, fabrication and installation drawings, erection drawings, lists, graphs, catalog sheets, data sheets, and similar items.
- B. Normally, a separate transmittal form shall be used for each specific item or class of material or equipment for which a submittal is required. Transmittal of a submittal of various items using a single transmittal form will be permitted only when the items taken together constitute a manufacturer's "package" or are so functionally related that expediency indicates review of the group or package as a whole. A multiple-page submittal shall be collated into sets, and each set shall be stapled or bound, as appropriate, prior to transmittal to the CITY. In any case, every separate item submitted for shop drawing approval will be uniquely numbered and dated, between the submittal and transmittal for proper tracking.
- C. Except as may otherwise be indicated herein, the CITY will return prints of each submittal to the DBF with its comments noted thereon, within twenty-one (21) calendar days following their receipt by the DBF. It is considered reasonable that the DBF shall make a complete and acceptable submittal to the CITY by the second submission of a submittal item. The CITY's maximum review period for each submittal, including all resubmittals, will be 15 days per submittal. In other words, for a submittal that required two resubmittals before it is complete, the maximum review period for that submittal could be 45 days.
- D. If 3 copies of a submittal are returned to the DBF marked "NO EXCEPTIONS TAKEN", formal revision and resubmission of said submittal will not be required.
- E. If 3 copies of a submittal are returned to the DBF marked "MAKE CORRECTIONS NOTED," formal revision and resubmission of said submittal will not be required.
- F. If a submittal is returned to the DBF marked "REVISE AND RESUBMIT" or "AMEND- RESUBMIT," the DBF shall revise said submittal and shall resubmit the required number of copies of said revised submittal to the CITY.
- G. If a submittal is returned to the DBF marked "REJECTED-RESUBMIT", the DBF shall revise said submittal and shall resubmit the required number of copies of said revised submittal to the CITY.
- H. Fabrication of an item shall be commenced only after the CITY has reviewed the pertinent submittals and returned copies to the DBF marked either 'NO EXCEPTIONS TAKEN" or 'MAKE CORRECTIONS NOTED.'" Corrections indicated on submittals shall be considered as changes necessary to meet the requirements of the Contract Documents and shall not be taken as the basis for changes to the contract requirements.
- I. All DBF shop drawing submittals shall be carefully reviewed by an authorized representative of the DBF, prior to submission to the CITY. Each submittal shall be dated, signed, and certified by the DBF, as being correct and in strict conformance

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SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

with the Contract Documents. In the case of shop drawings, each sheet shall be so dated, signed, and certified. No consideration for review by the CITY of any DBF submittals will be made for any items, which have not been so certified by the DBF. All non-certified submittals will be returned to the DBF without action taken by the CITY, and any delays caused thereby shall be the total responsibility of the DBF.

- J. The CITY's review of DBF shop drawing submittals shall not relieve the DBF of the entire responsibility for the correctness of details and dimensions. The DBF shall assume all responsibility and risk for any misfits due to any errors in DBF submittals. The DBF shall be responsible for the dimensions and the design of adequate connections and details.
- K. Submittals shall contain:
 - 1. The date of submission and the dates of any previous submissions.
 - 2. The project title and Project Number.
 - 3. Contract identification.
 - 4. The names of:
 - a. Contactor
 - b. Supplier
 - c. Manufacturer
 - 5. Identification of the product, with specification section number.
 - 6. Field dimensions clearly identified as such.
 - 7. Relation to adjacent or critical features of the work or materials.
 - 8. Applicable standards, such as ASTM or Federal Specification numbers.
 - 9. Identification of deviations from Contract Documents.
 - 10. Identification of revisions on resubmittals.
 - 11. DBF's stamp, initialed or signed, certifying to review of submittal, verification of products, field measurements and field construction criteria, and coordination of the information within the submittal with requirements of the work and of Contract Documents.

1.8 RESUBMISSION REQUIREMENTS

- A. Make any corrections or changes in the submittals required by OWNER's Representative and resubmit until approved.
- B. Shop Drawings and Product Data:
 - 1. Revise initial drawings or data and resubmit as specified for the initial submittal.
 - 2. Indicate any changes which have been made other than those requested by the OWNER's Representative.
- C. Samples: Submit new samples as required for initial submittal.

1.9 DISTRIBUTION

- A. Distribute reproduction of Shop Drawings and copies of Product Data, which carry the OWNER's Representative or ENGINEER's stamp of approval to:
 - 1. Job site file.
 - 2. Record Document File.

SECTION 01340
SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

3. DBF.
 4. Subcontractors.
 5. Supplier or Fabricator.
- B. Distribute samples which carry the OWNER's Representative or ENGINEER's stamp of approval as directed by the CITY.

1.10 OWNER'S REPRESENTATIVE OR ENGINEER DUTIES

- A. Review submittals with reasonable promptness and in accord with schedule.
- B. Affix stamp and initials or signature, and indicate requirements for submittals, or approval of submittal.
- C. Return submittals to DBF for distribution

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

END OF SECTION 01340

SECTION 01380
CONSTRUCTION PHOTOGRAPHS**PART 1 GENERAL****1.1 GENERAL**

- A. Employ competent photographer to take construction record photographs periodically, monthly at a minimum, during course of the work.

1.2 RELATED REQUIREMENTS

- A. Section 01010: Summary of Work.
- B. Section 01720: Project Record Documents.

1.3 PHOTOGRAPHY REQUIRED

- A. Provide photographs taken on cutoff date for each scheduled application for Payment.
- B. Provide photographs taken at each major stage of construction.
- C. Provide photographs taken of change order work.
- D. Provide five prints of each view.
- E. Digital Images:
 - 1. Remain property of photographer.
 - 2. Require that photographer maintain digital images for a period of two years from Date of Substantial Completion of entire Project.
 - 3. Photographer shall agree to furnish additional prints to the OWNER at commercial rates applicable at time of purchase.

1.4 COSTS OF PHOTOGRAPHY

- A. CONTRACTOR shall pay costs for specified photography and prints.
 - 1. Parties requiring additional photography or prints will pay photographer directly.

1.5 DIGITAL PHOTOGRAPHY

- A. At OWNER'S discretion, digital photography may be used for all construction photographs except aerial progress photographs.

PART 2 PRODUCTS**2.1 PRINTS**

- A. Color:
 - 1. Paper: Single weight, color print paper.
 - 2. Finish: Smooth surface, glossy.
 - 3. Size: 8-inch x 10-inch.
- B. Identify each print on back, listing:
 - 1. Name of Project.
 - 2. Specific Location.
 - 3. Date and time of exposure.
 - 4. Name and address of photographer.
 - 5. Photographer's numbered identification of exposure.

SECTION 01380
CONSTRUCTION PHOTOGRAPHS

PART 3 EXECUTION

3.1 TECHNIQUE

- A. Factual presentation.
- B. Correct exposure and focus.
 - 1. High resolution and sharpness.
 - 2. Maximum depth-of-field.
 - 3. Minimum distortion.

3.2 VIEWS REQUIRED

- A. Photograph from locations to adequately illustrate condition of construction and state of progress.

3.3 DELIVERY OF PRINTS

- A. Deliver prints to the CITY to accompany each Application for Payment.
- B. Distribution of prints as soon as processed, is anticipated to be as follows:
 - 1. OWNER (two sets).
 - 2. Project Record File (one set to be stored by DBF).
 - 3. CONTRACTOR (one set).

END OF SECTION 01380

SECTION 01400
QUALITY CONTROL**PART 1 GENERAL****1.1 DEFINITION**

- A. Specific quality control requirements for the WORK are indicated throughout the Contract Documents. The requirements of this Section are primarily related to performance of the WORK beyond furnishing of manufactured products. The term "Quality Control" includes inspection, sampling and testing, and associated requirements.

1.2 INSPECTION AT PLACE OF MANUFACTURE

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

1.3 SAMPLING AND TESTING

- A. Unless otherwise indicated, all sampling and testing shall be in accordance with the methods prescribed in the current standards of the ASTM, as applicable to the class and nature of the article or materials considered; however, the OWNER reserves the right to use any generally-accepted system of sampling and testing which, in the opinion of the CITY will insure the OWNER that the quality of the work is in full accord with the Contract Documents.
- B. Any waiver by the OWNER of any specific testing or other quality assurance measures, whether or not such waiver is accompanied by a guarantee of substantial performance as a relief from the specified testing or other quality assurance requirements as originally specified, and whether or not such guarantee is accompanied by a performance bond to assure execution of any necessary corrective or remedial WORK, shall not be construed as a waiver of any requirements of the Contract Documents.
- C. Notwithstanding the existence of such waiver, the CITY reserves the right to make independent investigations and tests, and failure of any portion of the WORK to meet any of the requirements of the Contract Documents, shall be reasonable cause for the CITY to require the removal or correction and reconstruction of any such work in accordance with the General Conditions.

1.4 INSPECTION AND TESTING LABORATORY SERVICE

- A. Inspection and testing laboratory service shall comply with the following:
1. OWNER will appoint, employ, and pay for services of an independent firm to perform inspection and testing or will perform inspection and testing itself.
 2. The OWNER or independent firm will perform inspections, testing, and other services specified in individual specification sections and as required by the CITY.
 3. Reports will be submitted to the CITY in duplicate, indicating observations

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QUALITY CONTROL

- and results of tests and indicating compliance or non-compliance with Contract Documents.
4. The DBF shall cooperate with the OWNER or independent firm and furnish samples of materials, design mix, equipment, tools, storage and assistance as requested.
 5. The DBF shall notify CITY 48 hours prior to the expected time for operations requiring inspection and laboratory testing services.
 6. Retesting required because of non-conformance to specified requirements shall be performed by the same independent firm on instructions by the CITY. The DBF shall bear all costs from such retesting at no additional cost to the OWNER.
 7. For samples and tests required for DBF'S use, the DBF shall make arrangements with an independent firm for payment and scheduling of testing. The cost of sampling and testing for the DBF'S use shall be included in the Contract Price.
 8. DBF shall bear all costs if materials for testing are not ready for testing at time specified by DBF for the test.

PART 2 PRODUCTS (NOT APPLICABLE)**PART 3 EXECUTION****1.1 INSTALLATION**

- A. Inspection: The DBF shall inspect materials or equipment upon the arrival on the job site and immediately prior to installation and reject damaged and defective items.
- B. Measurements: The DBF shall verify measurements and dimensions of the WORK, as an integral step of starting each installation.
- C. Manufacturer's Instructions: Where installations include manufactured products, the DBF shall comply with manufacturer's applicable instructions and recommendations for installation, to whatever extent these are more explicit or more stringent than applicable requirements indicated in Contract Documents.

END OF SECTION 01400

SECTION 01505
MOBILIZATION**PART 1 GENERAL****1.1 GENERAL**

- A. Mobilization shall include the obtaining of all permits; moving onto the site of all equipment; temporary buildings, and other construction facilities; and implementing security requirements; all as required for the proper performance and completion of the WORK. Mobilization shall include the following principal items:
1. Moving on to the site of all DBF's equipment required for first month operations.
 2. Installing temporary construction power, wiring, and lighting facilities.
 3. Developing construction water supply.
 4. Providing all on-site communication facilities, including cellular telephones and internet service.
 5. Providing on-site sanitary facilities and potable water facilities
 6. Arranging for and erection of DBF's work, site access, and storage.
 7. Obtaining all required permits.
 8. Having all OSHA required notices and establishment of safety programs.
 9. Having the DBF's superintendent at the job site full time.
 10. Submitting initial submittals.
 11. Project identification and signs as described in Section 01580.

PART 2 PRODUCTS (NOT APPLICABLE)**PART 3 EXECUTION****3.1 PAYMENT FOR MOBILIZATION**

- A. The DBF's attention is directed to the condition that no payment for mobilization, or any part thereof will be approved for payment under the Contract until all mobilization items listed in Paragraph 1.01.A. above have been completed as specified. Furthermore, if DBF does not have required trailer, sanitary and potable facilities in order within the first month of construction, a prorated amount of mobilization will be removed from the mobilization line item, for the extent of time taken to furnish said facilities.

END OF SECTION 01505

SECTION 01510
TEMPORARY UTILITIES

PART 1 GENERAL

1.1 GENERAL REQUIREMENTS

- A. The types of utility services required for general temporary use at the project site include the following:
1. Water service (potable for certain uses)
 2. Storm sewer
 3. Sanitary sewer
 4. Electrical power service
 5. Telephone service/Cellular service
 6. Internet service
 7. Gas service
- B. It shall be the DBF's responsibility to provide equipment that is adequate for the performance of the WORK under this Contract within the time specified. All equipment shall be kept in satisfactory operating condition, shall be capable of safety and efficiently performing the required WORK, and shall be subject to inspection and approval by the OWNER's representative at any time within the duration of the Contract. All work hereunder shall conform to the applicable requirements of the OSHA Standards for Construction.

1.2 JOB CONDITIONS

- A. Scheduled Uses: The DBF shall, in conjunction with establishment of job progress schedule, establish a schedule for implementation and termination of service for each temporary utility or facility; at earliest feasible time, and when acceptable to OWNER change over from use of temporary utility service to permanent service.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION

3.1 INSTALLATION OF POWER DISTRIBUTION SYSTEM

- A. Power: The DBF shall provide all necessary power required for its operations under the Contract and shall provide and maintain all temporary power lines required to perform the WORK in a safe and satisfactory manner.

3.2 INSTALLATION OF LIGHTING

- A. Construction Lighting: All WORK conducted at night or under conditions of deficient daylight shall be suitably lighted to insure proper WORK and to afford adequate facilities for inspection and safe working conditions.

3.3 WATER SUPPLY

- A. General: The OWNER will furnish reasonable quantities of water required by the DBF for performance of the WORK under the Contract; however, the DBF shall provide all facilities necessary to convey the water from the OWNER-designated source to the points of use in accordance with the requirements of the Contract Document. The DBF shall pay all permit and water charges.
- B. Potable Water: All drinking water on the site during construction shall be furnished

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by the DBF and shall be bottled water or water furnished in acceptable metal dispensers. Notices shall be posted conspicuously throughout the site warning the DBF's personnel that piped water may be contaminated.

- C. Water Connections: The DBF shall not make connection to, or draw water from, any fire hydrant or pipeline without first obtaining permission of the authority having jurisdiction over the use of said fire hydrant or pipeline and from the agency owning the affected water system. For each such connection made, the DBF shall first attach to the fire hydrant or pipeline a valve and a meter, if required by the said authority, of a size and type acceptable to said authority and agency. The DBF shall pay all permit and water charges.
- D. Removal of Water Connections: Before final acceptance of the WORK on the project, all temporary connections and piping installed by the DBF shall be entirely removed, and all affected improvements shall be restored to their original condition, or better, to the satisfaction of the CITY and to the agency owning the affected utility.

3.4 INSTALLATION OF SANITARY FACILITIES

- A. Toilet Facilities: Fixed or portable chemical toilets shall be provided wherever needed for the use of DBF's employees. Toilets at construction job sites shall conform to the requirements of Subpart D, Section 1926.51 of the OSHA Standards for Construction.
- B. Sanitary and Other Organic Wastes: The DBF shall establish a regular daily collection of all sanitary and organic wastes. All wastes and refuse from sanitary facilities provided by the DBF or organic material wasted from any other source related to the DBF's operations shall be disposed of away from the site in a manner satisfactory to the CITY and in accordance with all laws and regulations pertaining thereto.

3.5 INSTALLATION OF FIRE PROTECTION

- A. Fire Protection: The construction of the WORK shall be connected with the DBF's water supply system and shall be adequately protected against damage by fire. Hose connections and hose, water casks, chemical equipment, or other sufficient means shall be provided for fighting fires in the temporary structures and other portions of the WORK, and responsible persons shall be designated and instructed in the operation such fire apparatus so as to prevent or minimize the hazard of fire. The DBF's fire protection program shall conform to the requirements of Subpart F of the OSHA Standards for Construction.

3.6 INSTALLATION OF COMMUNICATIONS

- A. Telephone and Internet Services: The DBF shall provide and maintain at all time during the progress of the WORK not less than one telephone and one internet connection in good working order, at CITY's field office and its own field construction office which shall be located at or near the site of the WORK included in the Contract.
- B. Telephone Use: The DBF shall permit the CITY, the OWNER, or their authorized

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representatives or employees free and unlimited use of said telephone facilities for all calls that do not involve extended long -distance charges.

END OF SECTION 01510

SECTION 01520
CONSTRUCTION AIDS**PART 1 GENERAL****1.1 REQUIREMENTS INCLUDED**

- A. Furnish, install and maintain required construction aids, remove on completion of work.

1.2 RELATED REQUIREMENTS

- A. All applicable sections of the Specifications.
- B. Conditions of the Contract.

PART 2 PRODUCTS**2.1 MATERIALS, GENERAL**

- A. Materials may be new or used, suitable for the intended purpose, but must not violate requirements of applicable codes and standards.

2.2 CONSTRUCTION AIDS

- A. Provide construction aids and equipment required by personnel and to facilitate execution of the work; scaffolds, staging, ladders, stairs, ramps, runways, platforms, railings, hoists, cranes, chutes and other such facilities and equipment.
 - 1. Refer to respective sections for particular requirements for each trade.
 - 2. Provide protective coverings for finished surfaces.
- B. Maintain facilities and equipment in first-class condition.

PART 3 EXECUTION**3.1 PREPARATION**

- A. Consult with OWNER's Representative, review site conditions and factors which affect construction procedures and construction aids including adjacent properties and public facilities which may be affected by execution of the work.

3.2 GENERAL

- A. Comply with applicable requirements specified in sections of Division 2 and Division 3 (as applicable).
- B. Relocate construction aids as required by progress of construction, by storage or work requirements, and to accommodate legitimate requirements of OWNER and other Contractors employed at the site.

3.3 REMOVAL

- A. Completely remove temporary materials, equipment and services:
 - 1. When construction needs can be met by use of permanent construction.
 - 2. At completion of project.
- B. Clean, repair damage caused by installation or by use of temporary facilities.
 - 1. Remove foundations and underground installations for construction aids.
 - 2. Grade areas of site affected by temporary installations to required elevations and slopes and clean the area.
- C. Restore permanent facilities used for temporary purposes to specified condition.

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CONSTRUCTION AIDS

END OF SECTION 01520

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SECTION 01530
PROTECTION OF EXISTING FACILITIES

PART 1 GENERAL

1.1 GENERAL

- A. The DBF shall protect all existing utilities and improvements not designated for removal and shall restore damaged or temporarily relocated utilities and improvements to a condition equal to or better than they were prior to such damage or temporary relocation, all in accordance with requirements of the Contract Documents.
- B. The DBF shall verify the exact locations and depths of all utilities shown and the DBF shall make exploratory excavations of all utilities that may interfere with the WORK. All such exploratory excavations shall be performed as soon as practicable after award of the contract and, in any event, a sufficient time in advance of construction to avoid possible delays to the DBF's work. When such exploratory excavations show the utility location as shown to be in error, the DBF shall so notify the CITY.
- C. The number of exploratory excavations required shall be that number which is sufficient to determine the alignment and grade of the utility.

1.2 RIGHTS-OF-WAY

- A. The DBF shall not do any work that would affect any oil, gas, sewer, or water pipeline; any telephone, cable or electric transmission line; any fence; or any other structure, nor shall the DBF enter upon the rights-of-way involved until notified that the OWNER has secured authority from the proper party. After authority has been obtained, the DBF shall give said party due notice of its intention to begin work, if required by said party, and shall remove, shore, support or otherwise protect such pipeline, transmission line, ditch, fence, or structure or replace the same. When two or more contracts are being executed at one time on the same or adjacent land in such manner that work on one contract may interfere with that on another, the OWNER shall determine the sequence and order of the WORK. When the territory of one contract is the necessary or convenient means of access for the execution of another contract, such privilege of access or any other reasonable privilege may be granted by the OWNER to the DBF so desiring, to the extent, amount, in the manner, and at the times permitted. No such decision as to the method or time of conducting the WORK or the use of territory shall be made the basis of any claim for delay or damage, except as provided for temporary suspension of the WORK in the General Conditions of the Contract.

1.3 PROTECTION OF STREET OR ROADWAY MARKERS

- A. The DBF shall not destroy, remove, or otherwise disturb any existing survey markers or other existing street or roadway markers without proper authorization. No pavement breaking, or excavation shall be started until all survey or other permanent marker points that will be disturbed by the construction operations have been properly referenced. All survey markers or points disturbed by the DBF shall be accurately restored after all street or roadway resurfacing has been completed.

1.4 RESTORATION OF PAVEMENT

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- A. General: All paved areas including asphaltic concrete berms cut or damaged during construction shall be replaced with similar materials and of equal thickness to match the existing adjacent undisturbed areas, except where specific resurfacing requirements have been called for in the Contract Documents or in the requirements of the agency issuing the permit. All temporary and permanent pavement shall conform to the requirements of the affected pavement OWNER. All pavements which are subject to partial removal shall be neatly saw cut in straight lines.
- B. Temporary Resurfacing: Wherever required by the public authorities having jurisdiction, the DBF shall place temporary surfacing promptly after backfilling and shall maintain such surfacing for the period of time fixed by said authorities before proceeding with the final restoration of improvements.
- C. Permanent Resurfacing: In order to obtain a satisfactory junction with adjacent surfaces, the DBF shall saw cut back and trim the edge so as to provide a clean, sound, vertical joint before permanent replacement of an excavated or damaged portion of pavement. Damaged edges of pavement along excavations and elsewhere shall be trimmed back by saw cutting in straight lines. All pavement restoration and other facilities restoration shall be constructed to finish grades compatible with adjacent undisturbed pavement.
- D. Restoration of Sidewalks or Private Properties: Wherever sidewalks or private properties and driveways have been removed for purposes of construction, the DBF shall place suitable temporary sidewalks or driveways promptly after backfilling and shall maintain them in satisfactory condition for the period of time fixed by the authorities having jurisdiction over the affected portions before proceeding with the final restoration or, if no such period of times is so fixed, the DBF shall maintain said temporary sidewalks or driveways until the final restoration thereof has been made. The DBF shall restore all private properties within thirty (30) days after a complaint is received by the OWNER.

1.5 EXISTING UTILITIES AND IMPROVEMENTS

- A. General: The DBF shall protect all Underground Utilities and other improvements which may be impaired during construction operations. It shall be the DBF's responsibility to ascertain the actual location of all existing utilities and other improvements that will be encountered in its construction operations, and to see that such utilities or other improvements are adequately protected from damage due to such operations. The DBF shall take all possible precautions for the protection of unforeseen utility lines to provide for uninterrupted service and to provide such special protection as may be necessary.
- B. Utilities to be Moved: In the case it shall be necessary to move the property of any public utility or franchise holder, such utility company or franchise holder will, upon request of the DBF, be notified by the OWNER to move such property within a specified reasonable time. When utility lines that are to be removed are encountered within the area of operations, the DBF shall notify the CITY a sufficient time in advance for the necessary measures to be taken to prevent interruption of service.

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PROTECTION OF EXISTING FACILITIES

- C. Where the proper completion of the WORK requires the temporary or permanent removal and/or relocation of an existing utility or other improvement which is indicated, the DBF shall remove and, without unnecessary delay, temporarily replace or relocate such utility or improvement in a manner satisfactory to the OWNER of the facility. In all cases of such temporary removal or relocation, restoration to former location shall be accomplished by the DBF in a manner that will restore or replace the utility or improvement as nearly as possible to its former locations and to as good or better condition than found prior to removal.
- D. OWNER's Right of Access: The right is reserved to the OWNER and to the OWNERS of public utilities and franchises to enter at any time upon any public street, alley, right-of-way, or easement for the purpose of making changes in their property made necessary by the WORK of this Contract.
- E. Underground Utilities Indicated: Existing utility lines that are indicated or the locations of which are made known to the DBF prior to excavation and that are to be retained, and all utility lines that are constructed during excavation operations shall be protected from damage during excavation and backfilling and, if damaged, shall be immediately repaired or replaced by the DBF at no cost to the CITY.
- F. Underground Utilities Not Indicated: In the event that the DBF damages any existing utility lines that are not indicated or the locations of which are not made known to the DBF prior to excavation, a written report thereof shall be made immediately to the CITY. If directed by the CITY, repairs shall be made by the DBF under the provisions contained in these Contract Documents.
- G. All costs of locating, repairing damage not due to failure of the DBF to exercise reasonable care, and removing or relocating such utility facilities not shown in the Contract Documents with reasonable accuracy, and for equipment on the project which was actually working on that portion of the work which was interrupted or idled by removal or relocation of such utility facilities, and which was necessarily idled during such work will be paid for in accordance with the provisions of the Contract Documents.
- H. Approval of Repairs: All repairs to a damaged utility or improvement are subject to inspection and approval by an authorized representative of the utility or improvement OWNER before being concealed by backfill or other work.
- I. Maintaining in Service: All oil and gasoline pipelines, power, and telephone or the communication cable ducts, gas and water mains, irrigation lines, sewer lines, storm drain lines, poles, and overhead power and communication wires and cables encountered along the line of the WORK shall remain continuously in service during all the operations under the Contract, unless other arrangements satisfactory to the CITY are made with the owner of said pipelines, duct, main, irrigation line, sewer, storm drain, pole, or wire or cable. The DBF shall be responsible for and shall repair all damage due to its operations, and the provisions of this Section shall not be abated even in the event such damage occurs after backfilling or is not discovered until after completion of the backfilling.
- J. Existing Water Services: DBF shall protect and provide temporary support for existing water services. Any water service damaged by the DBF, shall be replaced at the DBF's expense, with a new water service complete with new water main tap.

SECTION 01530
PROTECTION OF EXISTING FACILITIES

1.6 TREES WITHIN STREET RIGHTS-OF-WAY AND PROJECT LIMITS

- A. General: The DBF shall exercise all necessary precautions so as not to damage or destroy any trees or shrubs, including those lying within street rights-of-way and project limits, and shall not trim or remove any trees unless such trees have been approved for trimming or removal by the jurisdictional agency or OWNER. All existing trees and shrubs which are damaged during construction shall be trimmed or replaced by the DBF or a certified tree company under permit from the jurisdictional agency and/or the OWNER. Tree trimming and replacement shall be accomplished in accordance with the following paragraphs.
- B. Trimming: Symmetry of the tree shall be preserved; no stubs or splits or torn branches left; clean cuts shall be made close to the trunk or large branch. Spikes shall not be used for climbing live trees. All cuts over 1-1/2 inches in diameter shall be coated with an asphaltic emulsion material. There shall be no additional compensation for trees that require trimming due to damage by the DBF's operation.
- C. Replacement: The DBF shall immediately notify the jurisdictional agency and/or the OWNER if any tree is damaged by the DBF's operations. If, in the opinion of said agency or the OWNER, the damage is such that replacement is necessary, the DBF shall replace the tree at DBF's own expense. The tree shall be of a like size and variety as the tree damaged, or, if of a smaller size, the DBF shall pay to the OWNER of said tree a compensatory payment acceptable to the tree OWNER, subject to the approval of the jurisdictional agency or OWNER. The size of the trees shall be not less than 1-inch diameter, nor less than 6 feet in height.

1.7 NOTIFICATION BY THE DBF

- A. Prior to any excavation in the vicinity of any existing underground facilities, including all water, sewer, storm drain, gas, petroleum products, or other pipelines; all buried electric power, communications, or television cables; all traffic signal and street lighting facilities; and all roadway and state highway rights-of-way the DBF shall notify the respective authorities representing the OWNERS or agencies responsible for such facilities not less than 3 days nor more than 7 days prior to excavation so that a representative of said OWNERS or agencies can be present during such work if they so desire. The DBF shall also notify the Sunshine State One Call Center 1-800-432-4770 at least 2 days, but no more than 14 days, prior to such excavation.

PART 2 PRODUCTS

2.1 MATERIALS, GENERAL

- A. Materials may be new or used, suitable for the intended purpose, but must not violate requirements of applicable codes and standards.

2.2 FENCING

- A. Materials to DBF's option, minimum fence height = 6 feet.

2.3 BARRIERS

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- A. Materials to DBF's option, as appropriate to serve required purpose.

PART 3 EXECUTION

3.1 GENERAL

- A. Install facilities with a neat and reasonable uniform appearance, structurally adequate for required purposes.
- B. Maintain barriers during entire construction period.
- C. Relocate barriers as required by progress of construction.

3.2 TREE AND PLANT PROTECTION

- A. Preserve and protect existing trees and plants adjacent to work areas.
- B. Consult with OWNER's Representative and remove agreed-on roots and branches which interfere with work.
1. Employ qualified tree surgeon to remove branches, and to treat cuts.
- C. Protect root zones of trees and plants.
1. Do not allow vehicular traffic and parking.
2. Do not store materials or products.
3. Prevent dumping of refuse or chemically injurious materials or liquids.
4. Prevent puddling or continuous running water.
5. Provide temporary tree protection in accordance with City/County requirements.
- D. Carefully supervise all work to prevent damage.
- E. Replace trees and plants which are damaged or destroyed due to work operations under this contract.

3.3 REMOVAL

- A. Completely remove barricades, including foundations, when construction has progressed to the point that they are no longer needed, and when approved by OWNER's Representative.
- B. Clean and repair damage caused by installation, fill and grade areas of the site to required elevations and slopes, and clean the area

END OF SECTION 01530

SECTION 01550
SITE ACCESS AND STORAGE**PART 1 GENERAL****1.1 HIGHWAY LIMITATIONS**

- A. The DBF shall make its own investigation of the condition of available public and private roads and of clearances, restrictions, bridge load limits, and other limitations affecting transportation and ingress and egress to the site of the WORK. It shall be the DBF's responsibility to construct and maintain any haul roads required for its construction operations.

1.2 TEMPORARY CROSSINGS

- A. General: Continuous, unobstructed, safe, and adequate pedestrian and vehicular access shall be provided to fire hydrants, commercial and industrial establishments, churches, schools, parking lots, service stations, motels, fire and police stations, and hospitals. Safe and adequate public transportation stops and pedestrian crossings at intervals not exceeding 300 feet shall be provided. The DBF shall cooperate with parties involved in the delivery of mail and removal of trash and garbage so as to maintain existing schedules for such services. Vehicular access to residential driveways shall be maintained to the property line except, when necessary, construction precludes such access for reasonable periods of time.
- B. Temporary Bridges: Wherever necessary, the DBF shall provide suitable temporary bridges or steel plates over unfilled excavations, except in such cases as the DBF shall secure the written consent of the individuals or authorities concerned to omit such temporary bridges or steel plates, which written consent shall be delivered to the CITY prior to excavation. All such bridges or steel plates shall be maintained in service until access is provided across the backfilled excavation. Temporary bridges or steel plates for street and highway crossing shall conform to the requirements of the authority having jurisdiction in each case, and the DBF shall adopt designs furnished by said authority for such bridges or steel plates, or shall submit designs to said authority for approval, as may be required.
- C. Street Use: Nothing herein shall be construed to entitle the DBF to the exclusive use of any public street, alleyway, or parking area during the performance of the WORK hereunder, and it shall so conduct its operations as not to interfere unnecessarily with the authorized work of utility companies or other agencies in such streets, alleyways, or parking areas. No street shall be closed to the public without first obtaining permission of the CITY and proper governmental authority. Where excavation is being performed in primary streets or highways, one lane in each direction shall be kept open to traffic at all times unless otherwise indicated. Toe boards shall be provided to retain excavated material if required by the CITY or the agency having jurisdiction over the street or highway. Fire hydrants on or adjacent to the WORK shall be kept accessible to fire-fighting equipment at all times. Temporary provisions shall be made by the DBF to assure the use of sidewalks and the proper functioning of all gutters, storm drain inlets, and other drainage facilities.
- D. Traffic Control: For the protection of traffic in public or private streets and ways, the DBF shall provide, place, and maintain all necessary barricades, traffic cones,

SECTION 01550
SITE ACCESS AND STORAGE

warning signs, lights, and other safety devices in accordance with the requirements of The City of Fort Lauderdale and the "Manual of Uniform Traffic Control Devices, Part VI - Traffic Controls for Street and Highway Construction and Maintenance Operations," published by U.S. Department of Transportation, Federal Highway Administration (ANSI D6.1).

- E. The DBF shall take all necessary precautions for the protection of the WORK and the safety of the public. All barricades and obstructions shall be illuminated at night, and all lights shall be kept burning from sunset until sunrise. The DBF shall station such guards or flaggers and shall conform to such special safety regulations relating to traffic control as may be required by the public authorities within their respective jurisdictions. All signs, signals, and barricades shall conform to the requirements of the Florida Department of Transportation.
- F. The DBF shall submit 3 copies of a traffic control plan to the CITY for approval a minimum of 2 weeks prior to construction. The CITY reserves the right to observe these traffic control plans in use and to make any changes as field conditions warrant. Any changes shall supersede these plans and be done solely at the DBF's expense. Submittal to CITY of traffic control plan does not alleviate DBF from requirements of submitting plan to authorizing authority.
- G. The DBF shall remove traffic control devices when no longer needed, repair all damage caused by installation of the devices, and shall remove post settings and backfill the resulting holes to match grade.
- H. Temporary Driveway Closure: The DBF shall notify the OWNER or occupant (if not OWNER-occupied) of the closure of the driveways to be closed more than one eight-hour workday at least 3 working days prior to the closure. The DBF shall minimize the inconvenience and minimize the time period that the driveways will be closed. The DBF shall fully explain to the OWNER/occupant how long the work will take and when closure is to start. Total closure time shall not exceed 5 days.

1.3 CONTRACTOR'S WORK AND STORAGE AREA

- A. The DBF shall designate and arrange for the use of a portion of the property, adjacent to the WORK for its exclusive use during the term of the Contract as a storage and shop area for its construction operations relative to this Contract.
- B. The DBF's use of the project site shall be limited to its construction operations. The DBF shall make its own arrangements for any necessary off-site storage or shop areas necessary for the proper execution of the WORK. A copy of an agreement for use of other property shall be furnished to the CITY. No material may be stored in the public right of way without prior authorization by the agency having jurisdiction. No material shall be stored within the public right of way in excess of 15 days. The DBF shall keep these areas in a clean and orderly condition so as not to cause a nuisance or sight obstruction to motorists or pedestrians.
- C. The DBF shall construct and use a separate storage area for hazardous materials used in constructing the WORK.
 - 1. For the purpose of this paragraph, hazardous materials to be stored in the separate area are all products labeled with any of the following terms: Warning, Caution, Poisonous, Toxic, Flammable, Corrosive, Reactive, or

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SITE ACCESS AND STORAGE

- Explosive. In addition, whether or not so labeled, the following materials shall be stored in the separate area: diesel fuel, gasoline, new and used motor oil, hydraulic fluid, cement, paints and paint thinners, two-part epoxy coatings, sealants, asphaltic products, glues, solvents, wood preservatives, sand blast materials, and spill absorbent.
2. Hazardous materials shall be stored in groupings according to the Material Safety Data Sheets.
 3. The DBF shall develop and submit to the CITY a plan for storing and disposing of the materials above.
 4. The DBF shall obtain and submit to the CITY a single EPA number for wastes generated at the site.
 5. The separate storage area shall meet all the requirements of all authorities having jurisdiction over the storage of hazardous materials.
 6. All hazardous materials which are delivered in containers shall be stored in the original containers until use. Hazardous materials which are delivered in bulk shall be stored in containers which meet the requirements of authorities having jurisdiction.

1.4 PARKING

- A. The DBF shall:
1. The DBF shall direct its employees to park in designated areas secured by the DBF.
 2. Traffic and parking areas shall be maintained in a sound condition, free of excavated material, construction equipment, mud, and construction materials. The DBF shall repair breaks, potholes, low areas which collect standing water, and other deficiencies.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

END OF SECTION 01550

SECTION 01560
TEMPORARY CONTROLS**PART 1 GENERAL****1.1 REQUIREMENTS INCLUDED**

- A. Provide and maintain methods, equipment, and temporary construction, as necessary, to provide controls over environmental conditions at the construction site and related area under DBF's control; remove physical evidence of temporary facilities at completion of work.

1.2 RELATED REQUIREMENTS

- A. All applicable sections of the Specifications.
- B. Conditions of the Contract.

1.3 NOISE CONTROL

- A. Provide all necessary requirements for noise control during the construction period.
 - 1. Noise procedures shall conform to all applicable OSHA requirements and local ordinances having jurisdiction on the work.
 - 2. Noise levels during nighttime hours shall not exceed 55 db measured at the property line of a residence.

1.4 DUST CONTROL

- A. Provide positive methods and apply dust control materials to minimize raising dust from construction operations and provide positive means to prevent air-borne dust from dispersing into the atmosphere.

1.5 WATER CONTROL

- A. Provide methods to control surface water to prevent damage to the project, the site, or adjoining properties.
 - 1. Control fill, grading and ditching to direct surface drainage away from excavations, pits, tunnels and other construction areas; and to direct drainage to proper runoff.
- B. Provide, operate and maintain hydraulic equipment of adequate capacity to control surface and water.
- C. Dispose of drainage water in a manner to prevent flooding, erosion, or other damage to any portion of the site or to adjoining areas.

1.6 PEST CONTROL

- A. Provide pest control as necessary to prevent infestation of construction or storage area.
 - 1. Employ methods and use materials which will not adversely affect conditions at the site or on adjoining properties.
 - 2. Should the use of pesticides be considered necessary, submit an informational copy of the proposed program to OWNER with a copy to CITY. Clearly indicate:
 - a. The area or areas to be treated.
 - b. The pesticide to be used, with a copy of the manufacturer's printed instructions.

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TEMPORARY CONTROLS

- c. The pollution preventative measures to be employed.
- B. The use of any pesticide shall be in full accordance with the manufacturer's printed instructions and recommendations.

1.7 RODENT CONTROL

- A. Provide rodent control as necessary to prevent infestation of construction or storage area.
 - 1. Employ methods and use materials, which will not adversely affect conditions at the site or on adjoining properties.
 - 2. Should the use of rodenticide be considered necessary, submit an informational copy of the proposed program to OWNER with a copy to OWNER's Representative. Clearly indicate:
 - a. the area or areas to be treated.
 - b. the rodenticide to be used, with a copy of the manufacturer's printed instructions.
 - c. the pollution preventative measures to be employed.
- B. The use of any rodenticide shall be in full accordance with the manufacturer's printed instructions and recommendations.

1.8 DEBRIS CONTROL

- A. Maintain all areas under DBF's control free of extraneous debris.
- B. Initiate and maintain a specific program to prevent accumulation of debris at construction site, storage and parking area, or along access roads and haul routes.
 - 1. Provide containers for deposit of debris as specified in Section 01710 - Cleaning.
 - 2. Prohibit overloading of trucks to prevent spillage on access and haul routes
 - a. Provide periodic inspection of traffic areas to enforce requirements.
- C. Schedule periodic collections and disposal of debris as specified in Section 01710 - Cleaning.
 - 1. Provide additional collections and disposal of debris whenever the periodic schedule is inadequate to prevent accumulation.

1.9 POLLUTION CONTROL

- A. Provide methods, means and facilities required to prevent contamination of soil, water, or atmosphere by the discharge of noxious substances from construction operations.
- B. Provide equipment and personnel, perform emergency measures required to contain any spillage, and to remove contaminated soils or liquids.
 - 1. Excavate and dispose of any contaminated earth off-site and replace with suitable compacted fill and topsoil.
- C. Take special measures to prevent harmful substances from entering public waters.
 - 1. Prevent disposal of wastes, effluents, chemicals, or other such substances adjacent to streams or in sanitary or storm sewers.
- D. Provide systems for control of atmospheric pollutants.
 - 1. Prevent toxic concentrations of chemicals.

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2. Prevent harmful dispersal of pollutants into the atmosphere.

1.10 EROSION CONTROL

- A. Plan and execute construction and earthwork, by methods to control surface drainage from cuts and fills, and from borrow and waste disposal areas to prevent erosion and sedimentation.
 - 1. Hold the areas of bare soil exposed at one time to a minimum.
 - 2. Provide temporary control measures such as berms, dikes and drains.
 - 3. Provide silt screens as required preventing surface water contamination.
- B. Construct fills and waste areas by selective placement to eliminate surface silts or clays, which will erode.
- C. Periodically inspect earthwork to detect any evidence of the start of erosion, apply corrective measures as required to control erosion.
- D. All erosion control procedures must comply with the National Pollutant Discharge Elimination System (NPDES). The DBF shall develop and implement a Stormwater Pollution Prevention Plan as outlined by NPDES.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

END OF SECTION 01560

SECTION 0150
TRAFFIC REGULATIONS**PART 1 GENERAL****1.1 REQUIREMENTS INCLUDED**

- A. Provide, operate, and maintain equipment, services and personnel, with traffic control and protective devices, as required to expedite vehicular traffic flow on haul routes, at site entrances, on-site access roads, and parking areas.
- B. Remove temporary equipment and facilities when no longer required, restore grounds to original, or specified conditions.

1.2 RELATED REQUIREMENTS

- A. All applicable sections of the Specifications.
- B. Conditions of the Contract.

1.3 TRAFFIC SIGNALS AND SIGNS

- A. Provide and operate traffic control and directional signals or signs required to direct and maintain an orderly flow of traffic in all areas under DBF's control or affected by DBF's operations.

1.4 FLAGPERSON

- A. Provide qualified and suitably equipped flag-person when construction operations encroach on traffic lanes, as required for regulation of traffic.

1.5 FLARES AND LIGHTS

- A. Provide flares and lights during periods of low visibility:
 - 1. To clearly delineate traffic lanes and to guide traffic.
 - 2. For use of flag-person in directing traffic.
- B. Provide illumination of critical traffic and parking areas.
 - 1. Maintain free vehicular access to and through parking areas.
 - 2. Prohibit parking on or adjacent to access roads, or in non-designated areas.

1.6 HAUL ROUTES

- A. Consult with OWNER and governing authorities, establish public thoroughfares which will be used as haul routes and site access.
- B. Confine construction traffic to designated haul routes.
- C. Provide traffic control at critical areas of haul routes to expedite traffic flow, to minimize interference with normal public traffic.

1.7 EMERGENCY ACCESS

- A. In order to provide protection to the workers and residents, the DBF shall maintain emergency access to all adjacent properties at all times during construction. If a road is required to be closed to vehicular traffic and the distance of the closure exceeds 150 feet between stabilized surfaces or prevents access to properties for a distance that exceeds 150 feet, the DBF shall provide a 10-foot-wide stabilized access way on one side of the trench capable of supporting a Fire Truck. DBF shall also provide stabilized access ways across the trench or unstabilized area a minimum of 6 feet in width at a spacing not to exceed 100 feet

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TRAFFIC REGULATIONS

capable of supporting foot traffic. These access ways shall be protected and delineated with lighted barricades or other such devices as approved by the regulatory agency. Both ends of the emergency access way shall be blocked in accordance with the MOT permit approved by the applicable permitting agency (i.e. City of Fort Lauderdale) with signage indicating that this access way is to be used by emergency vehicles only.

- B. No trenches or holes shall be left open after working hours. In the event a trench must be left open after hours, it shall be done so only with the express written permission from the CITY, and it shall be the DBF's responsibility to provide proper protection of the open trench or hole as required by the regulatory agency. In addition, the DBF shall provide a security guard at the site whenever the DBF's personnel are not present, 24 hours per day/ 7 days per week. It shall be the Security Guard's responsibility to protect the open trench or hole from trespassers and to direct emergency personnel on site. The Security Guard shall not have any other responsibilities such as operation pumps or equipment but shall be dedicated to protecting the trench or open hole. The Security Guard shall be equipped with a wireless telephone capable of calling 911 to report an emergency and shall keep that telephone on their person at all times. In addition to this provision the DBF shall maintain trench safety and comply with current OSHA regulations and the Trench Safety Act. The DBF shall maintain and keep all safety barricades, signage, flashers, and detours, in operation condition. A copy of the approved MOT plans, and details, shall be on site at all times.
- C. Measurement and payment for security guard services shall be included in the utility pipe installation unit price. Measurement for temporary emergency access ways will be paid for under the specified line item at the unit price described in the Bid Schedule.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

END OF SECTION 01570

SECTION 01580
PROJECT SIGNS**PART 1 GENERAL****1.1 SUMMARY**

- A. Contractor shall provide all material, labor, and equipment necessary for the fabrication, printing and installation of Project Signs.

1.2 SUBMITTALS

- A. Submit as specified in Section 01300 – Submittals.
- B. Submit complete Shop Drawings identifying locations, material, layout, sign content, font type and size, and sample colors. Make sign and lettering to scale, clearly indicating condensed lettering if used. The sign details will be submitted to the CITY for approval prior to fabrication.
- C. Submit method of erection to include materials, fasteners, and other items to assure compliance with the requirements for wind pressures / speed as required by the authorities having jurisdiction.

1.3 PROJECT IDENTIFICATION SIGN

- A. Provide one sign at the project site, or one at each end of the Project if it is a linear roadway project, or one at each location if the project includes separate work sites, as applicable. The sign will be not less than 32-square feet area, with a minimum dimension of 4-feet and painted graphics with content to include:
 - 1. Title of Project
 - 2. City of Orlando and logo.
 - 3. Names and titles of the City Government Officials
- B. Erect the sign(s) on the site at a lighted location of high public visibility, adjacent to main entrance to site or project, as approved by the DBF. The sign must be located 5-feet from the right-of-way and 20-feet from all property lines.

PART 2 PRODUCTS**2.1 SIGN MATERIALS**

- A. Structure and Framing: New construction grade lumber, structurally adequate and suitable for exterior application and specified finish.
- B. Sign Panels: New A-B Grade, exterior type, APA MDO plywood both sides
 - 1. Thickness: As required by standards to span framing members, to provide even, smooth surface without waves or buckles, minimum 3/4-inch.
- C. Rough Hardware: Galvanized steel, of sizes and types to enable sign assemblies to resist wind loads as required by authorities having jurisdiction but not less than wind velocity of 50 mph.
 - 1. Use minimum 1/2-inch diameter button head carriage bolts to fasten sign panels to supporting structures or #10 x 2½" zinc wood screw spaced at 6" on center. Bolt heads to be painted to match sign face
- D. Paint: Exterior quality, as specified in Division 9 or as a minimum as specified herein.
 - 1. Primer and finish coat: exterior, semi-gloss, enamel.
 - 2. Colors for structure, framing, sign surfaces, and graphics: As shown on the Drawings or as selected by the DBF.

SECTION 01580
PROJECT SIGNS**PART 3 EXECUTION****3.1 PROJECT IDENTIFICATION SIGN**

- A. Install project identification signs within 10-days of the Notice to Proceed date. Failure to erect the signs may be reason to delay approval of the initial Application for Payment.
- B. Paint exposed surfaces of supports, framing, and surface material; one (1) coat of primer and two (2) coats of finish paint.
- C. Set signs plumb and level and solidly brace as required to prevent displacement during the Construction period. If mounted on posts, sink posts 3-feet to 4-feet below grade, leaving a minimum of 8-feet of each post above grade for mounting the sign.
- D. Install informational signs at a height for optimum visibility, on ground mounted poles or attached to temporary structural surfaces.

3.2 MAINTENANCE

- A. Maintain signs and supports in a neat, clean condition, repair damages to structure, framing, or sign.
- B. Relocate informational signs as required by the progress of the Work.
- C. Poorly maintained, defaced, damaged, or dirty signs shall be replaced, repaired, or cleaned without delay, at no additional cost to the CITY.
- D. Special care must be taken to ensure that construction materials and dust are not allowed to obscure the face of a sign.
- E. Signs not in effect shall be covered or removed.

3.3 REMOVAL

- A. Remove signs, framing, supports, and foundations at Completion of the Work.
- B. Leave areas clean and patch as required to remove any traces of temporary signs.

END OF SECTION 01580

SECTION 01600
MATERIAL AND EQUIPMENT

PART 1 GENERAL

1.1 REQUIREMENTS INCLUDED

- A. Material and equipment incorporated into the work:
 - 1. Conform to applicable specifications and standards.
 - 2. Comply with size, make, type and quality specified, or as specifically approved in writing by the OWNER's Representative.
 - 3. Manufactured and fabricated products:
 - a. Design, fabricate and assemble in accord with the best engineering and shop practices.
 - b. Manufacture like parts of duplicate units to standard sizes and gauges to be interchangeable.
 - c. Two or more items of the same kind shall be identical, by the same manufacturer.
 - d. Products shall be suitable for service conditions.
 - e. Equipment capacities, sizes and dimensions shown or specified shall be adhered to unless variations are specifically approved in writing.
 - 4. Do not use material or equipment for any purpose other than that for which it is designed or is specified.

1.2 RELATED REQUIREMENTS

- A. All applicable sections of the Specifications.
- B. Conditions of the Contract.

1.3 MANUFACTURER'S INSTRUCTIONS

- A. When Contract Documents require that installation of work shall comply with manufacturer's printed instructions, obtain and distribute copies of such instructions to parties involved in the installation prior to installation, including two copies to OWNER's Representative. Maintain one set of complete instructions at the job site during installation and until completion.
- B. Handle, install, connect, clean, condition and adjust products in strict accordance with such instructions and in conformity with specified requirements.
 - 1. Should job conditions or specified requirements conflict with manufacturer's instructions, consult with OWNER's Representative for further instructions.
 - 2. Do not proceed with work without clear instructions.
- C. Perform work in accord with manufacturer's instructions. Do not omit any preparatory step or installation procedure unless specifically modified or exempted by Contract Documents.

1.4 TRANSPORTATION AND HANDLING

- A. Arrange deliveries of products in accordance with construction schedules, coordinate to avoid conflict with work and conditions at the site. Products shall be delivered to the job site on an "as needed" basis.
 - 1. Pipe and materials shall not be strung out along installation routes for longer than two (2) weeks prior to installation.
- B. Provide equipment and personnel to handle products by methods which prevent

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- soiling or damage to products or packaging.
- C. Coordinate deliveries to avoid conflict with Work and conditions at site such as:
 - 1. Work of other contractors, or OWNER
 - 2. Limitations of storage space.
 - 3. Availability of equipment and personnel for handling products.
 - 4. OWNER's use of premises.
 - D. Deliver products in undamaged condition in original containers or packaging, with identifying labels intact and legible.
 - E. Partial deliveries of component parts of equipment shall be clearly marked to identify the equipment, to permit easy accumulation of parts and to facilitate assembly.
 - F. Immediately on delivery, inspect shipment to assure:
 - 1. Product complies with requirements of Contract Documents and approved submittals.
 - 2. Quantities are correct.
 - 3. Containers and packages are intact, labels are legible.
 - 4. Products are properly protected and undamaged.
 - G. Provide equipment and personnel necessary to handle products, including those products provided by OWNER, by methods which prevent soiling or damage to products or packaging.
 - H. Provide additional protection during handling as necessary to prevent scraping, marring or otherwise damaging products or surrounding surfaces.
 - I. Handle products by methods to prevent bending or overstressing.
 - J. Lift heavy components only at designated lifting points.

1.5 STORAGE

- A. Store products in accord with manufacturer's instructions, with seals and labels intact and legible.
 - 1. Store products subject to damage by the elements in weather-tight enclosures.
 - 2. Maintain temperature and humidity within the ranges required by manufacturer's instructions.
 - 3. Store unpacked products on shelves, in bins or in neat piles, accessible for inspection.
- B. Exterior Storage
 - 1. Provide substantial platforms, blocking or skids to support fabricating products above ground, prevent soiling or staining.
 - a. Cover products, subject to discoloration or deterioration from exposure to the elements, with impervious sheet coverings. Provide adequate ventilation to avoid condensation.
 - 2. Store loose granular materials on solid surface such as paved areas or provide plywood or sheet materials to prevent mixing with foreign matter.
 - 3. Provide surface drainage to prevent flow or ponding of rainwater.
 - 4. Prevent mixing of refuse or chemically injurious materials or liquids.

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MATERIAL AND EQUIPMENT

1.6 MAINTENANCE OF STORAGE

- A. Maintain periodic system of inspection of stored products on scheduled basis to assure that:
 - 1. State of storage facilities is adequate to provide required conditions.
 - 2. Required environmental conditions are maintained on continuing basis.
 - 3. Surfaces of products exposed to elements are not adversely affected.
 - a. Any weathering of products, coatings and finishes is not acceptable under requirements of Contract Documents.
- B. Mechanical and electrical equipment which requires servicing during long term storage shall have complete manufacturer's instructions for servicing accompanying each item, with notice of enclosed instructions shown on the exterior of packaging.

1.7 PROTECTION AFTER INSTALLATION

- A. Provide protection of installed products to prevent damage from subsequent operations. Remove when no longer needed, prior to completion of work.
- B. Control traffic to prevent damage to equipment and surfaces.
- C. Provide coverings to protect finished surfaces from damage.
 - 1. Cover projections, wall corners, and jambs, sills and soffits of openings, in areas used for traffic and for passage of products in subsequent work.
 - 2. Protect finished floors and stairs from dirt and damage.
 - a. In areas subject to foot traffic, secure heavy paper, sheet goods, or other materials in place.
 - b. For movement of heavy products, lay planking or similar materials in place.
 - c. Cover wall and floor surfaces in the vicinity of construction personnel activities and all finished surfaces used by construction personnel.
- D. Waterproofed surfaces
 - 1. Prohibit use of surfaces for traffic of any kind, and for storage of any products.
 - 2. When some activity must take place in order to carry out the Contract, obtain recommendations of installer for protection of surface.
 - a. Install recommended protection; remove on completion of that activity.
 - b. Restrict use of adjacent unprotected areas.
- E. Lawns and landscaping
 - 1. Prohibit traffic of any kind across planted lawn and landscaped areas.
- F. 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.

1.8 SUBSTITUTIONS AND PRODUCT OPTIONS

- A. Products List
 - 1. Within 15 days after Contract Date submit to CITY a complete list of major products proposed to be used, with the name of the manufacturer and the installing Subcontractor.

SECTION 01600
MATERIAL AND EQUIPMENT

B. Contractors Options

1. For products specified only by reference standard, select any product meeting that standard.
2. For products specified by naming several products or manufacturers, select any one of the products or manufacturers named or approved equal, which complies with the Specifications.
3. For products specified by naming one or more products or manufacturers and "or approved equal," DBF must submit a request as for substitutions for any product or manufacturer not specifically named.

C. Substitutions

1. For a period of 15 days after Contract Date, CITY will consider written request from DBF for substitution of products.
2. Identify product by specification Section and Article Numbers. Provide manufacturer's name and address, trade name of product, and model or catalog number. List fabricators and suppliers as appropriate.
3. List similar projects using product, dates of installation, and name of OWNER.
4. List availability of maintenance services and replacement materials.
5. Submit a separate request for each product, supported with complete data, with drawings and samples as appropriate, including:
 - a. Comparison of the qualities and performance of the proposed substitution with that specified.
 - b. Changes required in other elements of the work because of the substitution.
 - c. Effect on the construction schedule.
 - d. Cost data comparing the proposed substitution with the product specified.
 - e. Any required license fees or royalties.
 - f. Availability of maintenance services, and source of replacement materials.
6. The burden of proof as to the type, function, and quality of any such substitute material or equipment shall be upon the DBF.
7. The CITY will be the sole judge as to the type, function, and quality of any such substitute material or equipment and the CITY's decision shall be final.
8. The CITY may require the DBF to furnish at the DBF's expense additional data about the proposed substitute.
9. The OWNER may require the DBF to furnish at the DBF's expense a special performance guarantee or other surety with respect to any substitute.
10. Acceptance by the CITY of a substitute item proposed by the DBF shall not relieve the DBF of the responsibility for full compliance with the Contract Documents and for adequacy of the substitute item.
11. The DBF shall be responsible for resultant changes and all additional costs which the accepted substitution requires in the DBF work, the work of its Subcontractors and of other Contractors, and shall effect such changes without cost to the OWNER.

D. Contractor's Representation

1. A request for a substitution constitutes a representation that DBF:

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- a. Has investigated the proposed product and determined that it is equal to or superior in all respects to that specified.
 - b. Will provide the same guarantees or bonds for the substitution as for the product specified.
 - c. Will coordinate the installation of an accepted substitution into the work and make such other changes as may be required to make the work complete in all respects.
 - d. Waives all claims for additional costs, under DBF'S responsibility, which may subsequently become apparent.
- E. Submittal Procedures
1. Submit three (3) copies of request for substitution.
 2. CITY will review requests for substitutions with reasonable promptness, and notify DBF, in writing, of the decision to accept or reject the requested substitution

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

END OF SECTION 01600

SECTION 01700
CONTRACT CLOSEOUT**PART 1 GENERAL****1.1 REQUIREMENTS INCLUDED**

- A. Comply with requirements stated in Conditions of the Contract and in specifications for administrative procedures in closing out the work.

1.2 RELATED REQUIREMENTS

- A. All applicable sections of the Specifications.
- B. Conditions of the Contract.

1.3 SUBSTANTIAL COMPLETION

- A. When DBF considers the work is substantially complete, DBF shall submit to OWNER's Representative:
 - 1. A written notice that the work, or designated portion thereof is substantially complete.
 - 2. A list of items to be completed or corrected.
- B. Within a reasonable time after receipt of such notice, OWNER's Representative will make an inspection to determine the status of completion.
- C. Should OWNER's Representative determine that the work is not substantially complete:
 - 1. OWNER's Representative will promptly notify the DBF in writing, giving the reasons, therefore.
 - 2. DBF shall remedy the deficiencies in the work and send a second written notice of substantial completion to the OWNER's Representative.
 - 3. OWNER's Representative will re-inspect the work.
- D. When OWNER's Representative determines that the work is substantially complete, OWNER's Representative will:
 - 1. Prepare a Certificate of Substantial Completion accompanied by DBF's list of items to be completed or corrected, as verified and amended by the OWNER's Representative.
 - 2. Submit the Certificate to the OWNER and the DBF for their written acceptance of the responsibilities assigned to them in the Certificate.

1.4 FINAL INSPECTION

- A. When DBF considers the work is complete, DBF shall submit written certification that:
 - 1. Contract Documents have been reviewed.
 - 2. Work has been inspected for compliance with Contract Documents.
 - 3. Work has been completed in accordance with Contract Documents.
 - 4. Equipment and systems have been tested in the presence of the OWNER's Representative and are operational.
 - 5. Work is completed and ready for final inspection.
- B. OWNER's Representative will inspect to verify the status of completion with reasonable promptness after receipt of such certification.
- C. Should OWNER's Representative consider that the work is incomplete and defective:

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1. OWNER's Representative will promptly notify the DBF, in writing, listing the incomplete or defective work.
 2. DBF shall take immediate steps to remedy the stated deficiencies and send a second written certification to OWNER's Representative that the work is complete.
 3. OWNER's Representative will re-inspect the work.
- D. When the OWNER's Representative finds that the work is acceptable under the Contract Documents, OWNER's Representative shall request the DBF to make closeout submittals.

1.5 REINSPECTION FEES

- A. Should OWNER's Representative perform re-inspections due to failure of the work to comply with the claims of status of completion made by the DBF:
1. OWNER will compensate OWNER's Representative for such additional services.
 2. OWNER will deduct the amount of such compensation from the final payment to the DBF.

1.6 CONTRACTOR'S CLOSEOUT SUBMITTALS TO OWNER'S REPRESENTATIVE

- A. Evidence of compliance with requirements of governing authorities.
1. Certificate of Occupancy (as applicable).
 2. Certificates of Inspection (as applicable).
 - a. Mechanical.
 - b. Electrical.
 - c. City of Fort Lauderdale Public Works.
 - d. Other, as may be required.
- B. Project Record Documents.
- C. Guarantees and Bonds.
- D. Evidence of Payment and Release of Liens: To requirements of General and Supplementary General Conditions.
- E. Certificate of Insurance for Products and Completed Operations.
- F. Permit closeouts and certifications.

1.7 FINAL ADJUSTMENT OF ACCOUNTS

- A. Submit a final statement of accounting to OWNER's Representative.
- B. Statement shall reflect all adjustments to the Contract Sum.
1. The original Contract Sum.
 2. Additions and deductions resulting from:
 - a. Previous change orders.
 - b. Allowances.
 - c. Unit Prices.
 - d. Deductions for uncorrected work.
 - e. Penalties and Bonuses.
 - f. Deductions for liquidated damages.
 - g. Deductions for re-inspection payments.

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- h. Other adjustments.
- 3. Total Contract Sum, as required.
- 4. Previous payments.
- 5. Sum remaining due.
- C. OWNER's Representative will prepare a final Change Order, reflecting approved adjustments to the Contract Sum, which were not previously made by Change Orders.

1.8 FINAL APPLICATION FOR PAYMENT

- A. DBF shall submit the final Application for Payment in accordance with procedures and requirements stated in the Conditions of the Contract.

PART 2 PRODUCTS (NOT APPLICABLE)**PART 3 EXECUTION (NOT APPLICABLE)****END OF SECTION 01700**

SECTION 01710
CLEANING**PART 1 GENERAL****1.1 REQUIREMENTS INCLUDED**

- A. Execute cleaning, during progress of the Work, and at completion of the Work, as required by the General Conditions.

1.2 RELATED REQUIREMENTS

- A. All applicable sections of the Specifications.
- B. Conditions of the Contract.

1.3 DISPOSAL REQUIREMENTS

- A. Conduct cleaning and disposal operations to comply with codes, ordinances, regulations, and anti-pollution laws.

PART 2 PRODUCTS**2.1 MATERIALS**

- A. Use only those cleaning materials which will not create hazards to health or property and which will not damage surfaces.
- B. Use only those cleaning materials and methods recommended by cleaning material manufacturer.

PART 3 EXECUTION**3.1 DURING CONSTRUCTION**

- A. Execute periodic cleaning to keep the work, the site and adjacent properties free from accumulation of waste material, rubbish and windblown debris, resulting from Construction Work.
- B. Provide on-site containers for the collection of waste materials, debris and rubbish.
- C. Remove waste materials, debris and rubbish from the site periodically and dispose of at legal disposal areas away from the site.
- D. The OWNER's Representative reserves the right to direct the DBF to remove waste materials, after which waste shall be removed within 24 hours.
- E. Mechanical Sweeping: DBF shall maintain on site a mechanical sweeping device for removing debris from existing, temporary and permanent pavement.

3.2 DUST CONTROL

- A. Perform operations so that dust and other contaminants resulting from Construction Work operations will not cause any damages or maintenance problems to adjacent properties.
- B. Schedule operations so that dust and other contaminants resulting from cleaning process will not fall on wet or newly coated surfaces,

3.3 FINAL CLEANING

- A. Employ skilled laborers for final cleaning.
- B. Remove grease, mastic, adhesives, dust, dirt, stains, fingerprints, labels, and other foreign materials from sight-exposed interior and exterior surfaces.
- C. Polish glossy surfaces to a clear shine.

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**SECTION 01710
CLEANING**

- D. Broom clean exterior paved surfaces; rake clean other surfaces of the grounds.
- E. Prior to final completion, or OWNER occupancy, DBF shall conduct an inspection of sight-exposed interior and exterior surfaces, and all work areas, to verify the entire work is clean.
- F. All storage and staging areas shall be cleaned and returned to prior conditions or better as per requirements of this section.

END OF SECTION 01710

SECTION 01720
PROJECT RECORD DOCUMENTS**PART 1 GENERAL****1.1 REQUIREMENTS INCLUDED**

- A. Maintain at the site of the OWNER a record copy of:
 - 1. Drawings (AutoCAD latest version)
 - 2. Specifications
 - 3. Addenda
 - 4. Change Orders and other modifications to the Contract.
 - 5. Approved Shop Drawings, Product Data and Samples.
 - 6. Field Test Records.

1.2 RELATED REQUIREMENTS

- A. All applicable sections of the Specifications.
- B. Conditions of the Contract.

1.3 MAINTENANCE OF DOCUMENTS AND SAMPLES

- A. Store documents and samples in DESIGN-BUILD FIRM's field office apart from documents used for construction.
 - 1. Provide files and racks for storage of documents.
 - 2. Provide locked cabinet or secure storage space for storage of samples.
- C. File documents and samples in accordance with CSI format.
- D. Maintain documents in a clean, dry, legible condition and in good order. Do not use record documents for construction purposes.
- E. Make documents and samples available at all times for inspection by OWNER's Representative.

1.4 MARKING DEVICES

- A. Provide felt tip-marking pens for recording information in the color code designated by OWNER's Representative.

1.5 RECORDING

- A. Label each document, "PROJECT RECORD" in neat large, printed letters, or by rubber stamp.
- B. Record information concurrently with construction progress. Do not conceal any work until required information is recorded.
- C. Drawings: Legibly mark to record actual construction: (in AutoCAD latest version)
 - 1. Horizontal (NAD 83) and vertical (NAVD 88) locations of underground utilities and appurtenances, referenced to permanent surface improvements.
 - 2. Location of internal utilities and appurtenances concealed in the construction, referenced to visible and accessible features of the structure.
 - 3. Field changes of dimension and detail.
 - 4. Changes made by Field Order or by Change Order.
 - 5. Details not on original Contract Drawings.

SECTION 01720
PROJECT RECORD DOCUMENTS

- D. Specifications and Addenda; Legibly mark each Section to record:
1. Manufacturer, trade name, catalog number, and supplier of each product and item of equipment actually installed.
 2. Changes made by Supplemental Instruction, Field Order or by Change Order.

1.6 AS-BUILT PLANS (AS-BUILT DRAWINGS)

- A. As-built drawings shall follow the City of Fort Lauderdale CAD Standards.
- B. The DESIGN-BUILD FIRM shall maintain full size (24"X36") field drawings and electronic drawings in AutoCAD latest version to reflect the "as-built" items of work as the work progresses. Upon completion of the work, the DESIGN-BUILD FIRM shall prepare a record set of "as-built" drawings on full-size, reproducible material. No separate payment will be made for those "as-built" drawings.
- C. The cost of maintaining record changes, and preparation of the As-Built Drawings shall be included in the unit prices bid for the affected items. Upon completion of the work, the DESIGN-BUILD FIRM shall furnish the OWNER the reproducible "as-built" drawings. The completed As-Built Drawings shall be delivered to the OWNER at least 48 hours prior to final inspection of the work. The Final Inspection will not be conducted unless the As-Built Drawings are in the possession of the OWNER.
- D. The completed (or final) As-Built Drawings shall be certified by a Professional Land Surveyor registered in the State of Florida. This certification shall consist of the surveyor's embossed seal bearing registration number, the surveyor's signature and date on each sheet of the drawing set. In addition, the key sheet, cover sheet or first sheet of the plans set shall list the business address and telephone number of the surveyor.
- E. Representative items of work that should be shown on the As-Built Drawings as verified, changed or added are shown below:
1. Plans:
 - a. Structure types, location with grade of rim, flow-line elevations and facility ID number(s).
 - b. Sewer type, length, size and elevations.
 - c. Utility type, length, size and elevation in conflict structures.
 - d. All MAS (including facility ID number), water services, water meters, connections to existing facilities, fittings, valves and hydrants within right-of-way.
 - e. Spot (critical) elevations at plateaued intersections.
 - f. Sewer laterals and cleanouts.
 2. Pavement Marking and Signing Plans: Sign location where installed if different from plans.
 3. Water and Sewer Plans: Location (NAD 83 horizontal and NAVD 88 vertical) of all pipelines, structures, fittings, valves, and appurtenances.
- F. The DESIGN-BUILD FIRM shall submit one set of progress As-Built Drawings with each application for payment. This drawing shall accurately depict the work completed and for which payment is being requested.
- G. As-built drawings shall include the following criteria at a minimum:

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1. As-builts of water lines shall include the following information:
 - a. Top of pipe elevations and horizontal location every 100 LF.
 - b. Locations and elevations of all fittings include bends, tees, sleeves, valves, double detector check valves, fire hydrants, service saddles, manual blow-off, changes in alignment, automatic blow-offs, etc.
 - c. All tie-ins to existing lines shall be as-built.
 - d. The ends of all water services at the buildings, homes, property lines, and meters shall be as-built or where the water service terminates.
 - e. Limits of abandoned water mains, including caps and hatching of abandoned and/or grouted lines.
 - f. Top of pipe where line crosses all other facilities (drainage, telephone, cable, electrical, etc.) and clearance from facility.
2. As-builts of all gravity sanitary sewer lines shall include the following information:
 - a. Facility ID number(s), rims, inverts and length of piping between structures as well as slopes.
 - b. The stub ends, and main wyes of all sewer laterals shall be located and if there are any clean outs installed on the sewer laterals then the location and invert elevation of these cleanouts need to be obtained.
 - c. Pump station as-builts shall consist of facility ID number(s), top of wet well elevation, invert elevation of the incoming line, invert of effluent line, float elevations, bottom of the wet well and as-builts of the compounds area.
 - d. Top of pipe where line crosses all other facilities (drainage, telephone, cable, electrical, etc.) and clearance from facility.
3. Force main as-builts shall be prepared the same as the water line as-builts.
 - a. Abandoned force main shall be as-built by locating caps and hatching.
4. As-builts of all drainage lines shall include the following information:
 - a. Rims, inverts and length of piping between structures and weir elevations if applicable.
 - b. The size and material of the piping shall be verified by the survey crew at the time of as-built.
5. As-builts for the edge of pavement, curb and sidewalk locations shall include horizontal locations, vertical elevations and shall indicate all deviations from the design plans.
6. All rock as-builts for parking lot, roadways and swale areas shall consist of the following:
 - a. Rock elevations at all high and low points, and at enough intermediate points to confirm slope consistency and every 50' of roadways.
 - b. Rock as-builts shall be taken at all locations where there is a finish grade elevation shown on the design plans.
 - c. All catch basin and maintenance access structure rim elevations shall be shown.
 - d. Elevations around island areas will also be required.
 - e. As-built shall be taken on all paved and unpaved swales prior to

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PROJECT RECORD DOCUMENTS

placement of asphalt and/or topsoil/sod, at enough intermediate points to confirm slope consistency and conformance to the plan details.

Note: Rock as-builts are required prior to paving. DESIGN-BUILD FIRM shall review rock as-builts within five days of receipt.

- f. Lake and canal banks as-builts shall include a key sheet of the lake for the location of cross sections. Lake and canal bank cross sections shall be plotted at a minimum of every 100 LF, unless otherwise specified. As-builts shall consist of the location and elevation of the top of bank, edge of water and the deep cut line, with the distance between each shown on the drawing.

1.7 PROGRESS AS-BUILT DRAWING INFORMATION

- A. Submit with each progress payment application progress "As-Built" drawing information current to the date of the submittal date with verification by the OWNER's Representative.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

END OF SECTION 01720

SECTION 02010
SUB-SURFACE INVESTIGATION

PART 1 GENERAL**1.1 REQUIREMENTS INCLUDED**

- A. All applicable provisions of the Bidding and Contract Requirements, and Division 1- General Requirements shall govern the WORK under this section.

1.2 WORK INCLUDED

- A. Provide all labor, materials, necessary equipment and services to complete the sub- surface investigation work, as indicated on the drawings, as specified herein or both, except as for items specifically indicated as "NIC ITEMS".
- B. The sub-surface investigation for conditions of the project site is the sole responsibility of the DBF. In preparing the Bid, the DBF shall make all sub-surface or surface investigations necessary to provide proper background and knowledge to determine the nature and extent of work required.
- C. OWNER or OWNER's Representative provides limited sub-surface information, and makes no warranties or guarantees concerning the nature of materials to be encountered on the site.

1.3 RELATED WORK

- A. Section 02110 - Clearing.
- B. Section 02200 – Earthwork.
- C. All applicable sections under Divisions 1, 2, and 3.

PART 2 PRODUCTS (NOT APPLICABLE)**PART 3 EXECUTION (NOT APPLICABLE)****END OF SECTION 02010**

SECTION 02050
DEMOLITION**PART 1 GENERAL****1.1 REQUIREMENTS INCLUDED**

- A. All applicable provisions of the Bidding and Contract Requirements, and Division 1- General Requirements shall govern the WORK under this section.

1.2 WORK INCLUDED

- A. Provide all labor, materials, necessary equipment and services to complete the site demolition work, as indicated on the drawings, as specified herein or both, except as for items specifically indicated as "NIC ITEMS".

1.3 RELATED WORK

- A. Section 02200 - Earthwork.
- B. All applicable Sections under Divisions 1, 2, and 3.

1.4 QUALITY ASSURANCE

- A. DBF Qualifications: Minimum of five years of experience in demolition of comparable nature.
- B. Requirements of All Applicable Regulatory Agencies:
 - 1. All applicable Building Codes and other Public Agencies having jurisdiction upon the work.

1.5 SUBMITTALS

- A. Permits and notices authorizing building demolition.
- B. Certificates of severance of utility services.
- C. Permit for transport and disposal of debris.
- D. Demolition procedures and operational sequence for review and acceptance by CITY.

1.6 JOB CONDITIONS

- A. Existing Conditions
 - 1. The demolition work shall be done as indicated on the construction plans.
 - 2. Remove all demolition debris from the site the same day the work is performed. Leave no deposits of demolished material on site overnight.
 - 3. Structural demolition, excavation, backfill and compaction as indicated in drawings.
- B. Protection:
 - 1. Erect barriers, fences, guardrails, enclosures, and shoring to protect personnel, structures, and utilities remaining intact.
 - 2. Protect designated trees and plants from damages.
 - 3. Use all means necessary to protect existing objects and vegetation designated to remain, and, in the event of damage, immediately make all repairs, replacements and dressings to damaged plants necessary, to the approval of the CITY at no additional cost to the OWNER.
- C. Maintaining Traffic:

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DEMOLITION

1. Ensure minimum interference with roads, streets, driveways, sidewalks, and adjacent facilities.
 2. Do not close or obstruct streets and sidewalks without written approval from the CITY.
 3. If required by governing authorities, provide alternate routes around closed or obstructed traffic ways.
- D. Dust Control
1. Use all means necessary for preventing dust from demolition operations from being a nuisance to adjacent property owners. Methods used for dust control are subject to approval by the CITY prior to use.
- E. Burning
1. On-site burning will not be permitted.

1.7 GENERAL ITEMS

- A. Scope of work shall comprise the following: Provide all labor, materials, necessary equipment and services to complete the demolition and clearing work, as indicated on the contract plans, and as specified herein.
- B. The DBF shall provide references to the OWNER to demonstrate that they are well versed in demolition of a comparable nature. Current occupational licenses held by DBF shall be submitted to OWNER.
- C. The DBF shall be responsible for adherence to all applicable codes of all regulatory agencies having jurisdiction upon the works.

1.8 PRE-DEMOLITION MEETING

- A. A meeting shall be held with the OWNER or OWNER's representative at the jobsite to describe intended demolition and cleaning procedures and schedules. This shall include identifying access routes for bringing necessary equipment in, removing debris from site, and designation of any trees, drives or other items to remain.

1.9 EXISTING CONDITIONS

- A. The DBF shall become thoroughly familiar with the site, and of existing utilities and their connections, and note all conditions, which may influence the work.
- B. By submitting a bid, the DBF affirms that DBF has carefully examined the site and all conditions affecting work. No claim for additional costs will be allowed because of lack of full knowledge of existing conditions.
- C. The OWNER shall be responsible for removal of all hazardous materials such as asbestos, chemicals, etc., from the site prior to DBF mobilizing on site. The OWNER shall be notified immediately should the DBF discover any further hazardous materials during demolition.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION

3.1 INSPECTION

- A. DBF shall verify that structures to be demolished are discontinued in use and ready

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for removal.

- B. DBF shall not commence work until all conditions and requirements of all applicable public agencies are complied with.

3.2 PREPARATION

- A. Arrange for and verify termination of utility services to include removing meters and capping lines.
- B. Notification:
 - 1. Notify the OWNER at least three full working days prior to commencing the work of this Section.
- C. The drawings do not purport to show all objects existing on the site; at the pre-demolition meeting before commencement of the work, verify with the OWNER all objects to be removed and all objects to be preserved.

3.3 CLARIFICATION

- A. The drawings do not purport to show all objects existing on the site.
- B. Before commencing the work of this Section, verify with the OWNER all objects to be removed and all objects to be preserved.

3.4 SCHEDULING

- A. Schedule all work in a careful manner with all necessary consideration for the public and the OWNER.
- B. Avoid interference with the use of, and passage to and from, adjacent facilities.

3.5 DISCONNECTION OF UTILITIES

- A. Before starting site operations, disconnect or arrange for the disconnection of all affected utility service.
 - 1. Arrange and pay for disconnecting, removing, capping, and plugging utility services. Disconnect and stub off. Notify affected utility company in advance and obtain approval before starting this work.
 - 2. Do not interrupt existing utilities serving occupied or used facilities, except when authorized in writing by authorities having jurisdiction.
 - 3. Place markers to indicate location of disconnected services.
 - 4. On-site drainage structures and drain fields shall be removed in their entirety by methods approved by the OWNER's representative.

3.6 PROTECTION OF EXISTING STRUCTURES AND UTILITIES

- A. Utility Services: Maintain existing offsite utilities, keep in service, and protect against damage during demolition operations.
- B. Prevent movement or settlement of adjacent structures. Provide and place bracing or shoring and be responsible for safety and support of structures. Assume liability for such movement, settlement, damage, or injury.
- C. Cease operations and notify OWNER immediately if safety of adjacent structures appears to be endangered. Take precautions to properly support structures. Do not resume operations until safety is restored.

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- D. Prevent movement, settlement, damage, or collapse of adjacent services, sidewalks, driveways and trees. Assume liability for such movement, settlement, or collapse. Promptly repair damage at no cost to the OWNER.
- E. Ensure safe passage of persons around areas of demolition.

3.7 MAINTAIN TRAFFIC

- A. Do not interfere with use of adjacent buildings and facilities. Maintain free and safe passage to and from. Conduct demolition operations and removal of debris to ensure minimum interference with roads, streets, walks, and other adjacent occupied or used facilities. Do not close or obstruct streets, walks, or other occupied or used facilities without permission from authorities having jurisdiction. Provide alternate routes around closed or obstructed travel ways if required by governing authorities.

3.8 POLLUTION CONTROLS

- A. Use water sprinkling, temporary enclosures, and other suitable methods to limit dust and dirt rising and scattering in air to lowest practical level. Comply with governing regulations pertaining to environmental protection.
- B. Clean adjacent structures and improvements of dust, dirt, and debris caused by demolition operations as directed by the OWNER or their representative or governing authorities. Return adjacent areas to condition existing prior to start of work.

3.9 DEMOLITION

- A. Pull out any existing utility lines designated for abandonment, irrigation, electrical lines, pull boxes and splice boxes, Maintenance Access Structure (MAS) and catch basins to be removed and all other objects designated to be removed or interfering with the work. Contact the utility company or agency involved for their requirements for performing this work. All removed equipment and materials shall be removed from the work area the same day as removed.
- B. Remove all debris from the site and leave the site in a neat, orderly condition to the full acceptance of the OWNER. No debris shall be left on the site overnight.
- C. Clear and Grub and dispose of all hedges, shrubs and other organic matter not otherwise addressed on tree removal and relocation plans and specifications.

3.10 DEMOLITION OF SITE STRUCTURES

- A. Demolish all site structure items designated to be removed or which are required to be removed to perform the work. This item does not include buildings.

3.11 REMOVAL OF DEBRIS AND DISPOSAL OF MATERIAL

- A. Material resulting from demolition and not scheduled for salvaging shall become the property of the DBF and shall be removed from site and legally disposed of off-site. Disposal shall be timely, performed as promptly as possible and not left until the final cleanup. Material shall not be left on the job site for more than 60 days.
- B. Remove from site contaminated, vermin infested, or dangerous materials

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encountered and disposed of by safe means so as not to endanger health of workers and public.

- C. Burning of removed materials from demolished structures will not be permitted on-site.

3.12 COMPLETION OF WORK

- A. Leave the site in a neat, orderly condition to the full acceptance of the OWNER.
- B. Dirt remaining after demolition shall be graded level and compacted, in preparation for filling operations to follow demolition. Trenches shall be filled in layers of 12-inch maximum thickness and compacted in accordance with the technical specifications applicable to backfilling of trenches.

3.13 MEASUREMENT OF PAYMENT

- A. There shall be no special measurement or payment for the work under this section. It shall be included in the lump sum price bid for items associated with the demolition.

END OF SECTION 02050

SECTION 02110
CLEARING

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. All applicable provisions of the Bidding and Contract Requirements, and Division 1- General Requirements shall govern the WORK under this section.

1.2 WORK INCLUDED

- A. Provide all labor, materials, necessary equipment and services to complete the clearing work, as indicated on the drawings, as specified herein or both, except as for items specifically indicated as "NIC ITEMS".
- B. Under this section, the DBF shall do all clearing, grubbing, root-raking, and necessary clean-up operations in connection with the construction of the work and its related site work.
- C. The work shall consist of the removal and disposal of plants, shrubs, hedges, stumps, roots, limbs, brush, fences, asphalt, etc. from all project areas as designated on the drawings and specified herein, and as directed by the CITY on the site.
- D. The DBF shall remove all refuse, asphalt pavement, concrete pavement, glass, metal, stone, plaster, lumber, paper materials, and any and all trash found in clearing project area and in adjacent areas as directed by the CITY.
- E. The DBF shall furnish all services, labor, transportation, materials, and equipment necessary for the performance of these operations. All clearing and cleanup operations shall be accomplished to the complete satisfaction of the CITY.

1.3 RELATED WORK

- A. Section 02010 – Sub-surface Investigation.
- B. Section 02200 - Earthwork.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION

3.1 TREE REMOVAL AND TREE PRESERVATION

- A. No trees shall be removed if located outside of the right-of-way and dedicated easement.
- B. Within the rights-of-way and easements, no trees with a trunk diameter of 3 inch or greater at 4-1/2 inch above grade shall be removed without the approval of the CITY with the exception of Australian Pines, Meleleuca or Florida Holly. Trees shall be evaluated on an individual basis in accordance with following:
1. Type and size of tree.
 2. Proximity to proposed and/or existing utility lines and/or exfiltration trench.
 3. Change in adjacent grades for swale excavation.
 4. Proximity to proposed sidewalk.
 5. Proximity to proposed edge of roadway.
 6. Living condition of the tree.
- C. If trees are determined to remain, Biobarrier shall be installed in accordance with the Biobarrier detail as shown on the Landscape Plans.

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END OF SECTION 02210

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SECTION 02140
DEWATERING

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. All applicable provisions of the Bidding and Contract Requirements, and Division 1- General Requirements shall govern the WORK under this section.

1.2 WORK INCLUDED

- A. Provide all labor, materials, necessary equipment and services to complete the dewatering work, as indicated in the Contract Documents or listed in permit requirements, as specified herein or both, except as for items specifically indicated as "NIC ITEMS".

1.3 RELATED WORK

- A. Section 02200 - Earthwork.
B. Section 02221 - Excavation and Backfilling for Utilities.
C. Section 02601 - Subterranean Structures.
D. Section 02610 - Piping, General Section.

PART 2 PRODUCTS

2.1 EQUIPMENT

- A. Dewatering, where required, may include the use of temporary reservoirs and diking, well points, sump pumps, temporary pipelines for water disposal, rock or gravel placement, and other means. Standby pumping equipment must be maintained on the job site and operate within any local noise ordinance limits. All safety requirements, fencing, etc. shall be installed and maintained by the DBF.

PART 3 EXECUTION

3.1 GENERAL REQUIREMENTS

- A. The DBF shall provide all equipment necessary for dewatering. It shall have on hand, at all times, sufficient pumping equipment and machinery in good working condition and shall have available, at all times, competent laborers for the operation of the pumping equipment. Adequate standby equipment shall be kept available at all times to insure efficient dewatering and maintenance of dewatering operation during power failure.
- B. Dewatering for structures and pipelines shall commence when groundwater is first encountered, and shall be continuous until such times as water can be allowed to rise in accordance with the provisions of this Section or other requirements.
- C. At all times, site grading shall promote drainage. Surface runoff shall be diverted from excavations. Water entering the excavation from surface runoff shall be collected in shallow ditches around the perimeter of the excavation, drained to sumps, and be pumped or drained by gravity from the excavation to maintain a bottom free from standing water.
- D. Dewatering shall at all times be conducted in such a manner as to preserve the undisturbed bearing capacity of the subgrade soils at proposed bottom of excavation.
- E. If foundation soils are disturbed or loosened by the upward seepage of water or an

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uncontrolled flow of water, the affected areas shall be excavated and replaced with pea rock at no additional cost to the CITY.

- F. The DBF shall maintain the water level below the bottom of excavation in all work areas where groundwater occurs during excavation construction, backfilling, and up to acceptance.
- G. The DBF shall prevent flotation by maintaining positive and continuous removal of water. The DBF shall be fully responsible and liable for all damages which may result from failure to adequately keep excavations dewatered.
- H. If well points or wells are used, they shall be adequately spaced to provide the necessary dewatering and shall be sand-packed and/or other means used to prevent pumping of fine sands or silts from the sub-surface. A continual check by the DBF shall be maintained to ensure that the sub-surface soil is not being removed by the dewatering operation.
- I. The DBF shall dispose of water from the WORK in a suitable manner without damage to adjacent property. DBF shall be responsible for obtaining any permits that may be necessary to dispose of water. No water shall be drained into work built or under construction without prior consent of the CITY. Water shall be filtered using a silt box or another approved method to remove sand and fine-sized soil particles before disposal into any drainage system. The dewatering disposal points shall be approved by the CITY prior to being used. Storm drains facilities used by the DBF for dewatering shall be cleaned by a jet vac, or other method approved by the CITY after dewatering is complete.
- J. The release of groundwater to its static level shall be performed in such a manner as to maintain the undisturbed state of the natural foundation soils, prevent disturbance of compacted backfill and prevent flotation or movement of structures, pipelines, and sewers.
- K. Dewatering of trenches and other excavations shall be considered, as incidental to the construction of the WORK and all costs thereof shall be included in the various contract prices in the Bid Forms, no separate bid item has been established for dewatering.
- L. The DBF shall submit a dewatering plan to the CITY for review. The DBF is advised that the Broward County Environmental Protection and Growth Management Department (BCEPD) and/or SFWMD permits are to be obtained and will require that the DBF follow certain dewatering constraints. The dewatering plan shall be prepared by a State of Florida licensed Professional Engineer or Registered Professional Geologist and shall meet dewatering permit requirements. SPECIAL INSTRUCTIONS are noted on approved dewatering permit.
- M. The DBF is advised that the BCEPD may have identified contaminated sites within 1/4- mile radius of the project site. The DBF will be required to provide testing and monitoring of the dewatering operations, and to institute dewatering methods and controls, as required by BCEPD, as noted in permit documents.

3.2 QUALITY CONTROL

- A. It shall be the sole responsibility of the DBF to control the rate and effect of the dewatering in such a manner as to avoid all objectionable settlement and

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subsidence.

- B. All dewatering operations shall be adequate to assure the integrity of the finished project and shall be the responsibility of the DBF.
- C. Where critical structures or facilities exist immediately adjacent to areas of proposed dewatering, reference points shall be established and observed at frequent intervals to detect any settlement, which may develop. The responsibility for conducting the dewatering operation in a manner, which will protect adjacent structures and facilities, rests solely with the DBF. The cost of repairing any damage to adjacent structures and restoration of facilities shall be the responsibility of the DBF.

3.3 CONTRACTOR SUBMITTALS

- A. Prior to commencement of excavation, the DBF shall submit a detailed plan and operation schedule for dewatering of excavations. The DBF may be required to demonstrate the system proposed and to verify that adequate equipment, personnel, and materials are provided to dewater the excavations at all locations and times. The DBF's dewatering plan is subject to review by the CITY and regulatory agencies.

3.4 SPECIAL INSTRUCTIONS

- A. See permit documents.

END OF SECTION 02140

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- A. All applicable provisions of the Bidding and Contract Requirements, and Division 1- General Requirements shall govern the WORK under this section.

1.2 WORK INCLUDED

- A. Provide all labor, materials, necessary equipment and services to complete the Earthwork, as indicated on the drawings, as specified herein or both, except as for items specifically indicated as "NIC ITEMS".
- B. Including but not necessarily limited to the following:
1. Excavation, including demucking.
 2. Backfilling,
 3. Filling.
 4. Grading, general site and building pads.
 5. Compaction.
- C. There shall be no classification of excavation for measurement of payment regardless of materials encountered.
- D. The work of this Section includes all earthwork required for construction of the WORK. Such earthwork shall include, but not be limited to, the loosening, removing, loading, transporting, depositing, and compacting in its final location of all materials wet and dry, as required for the purposes of completing the work specified in the Contract Documents, which shall include, but not be limited to, the furnishing, placing, and removing of sheeting and bracing necessary to safely support the sides of all excavation; all pumping, ditching, draining, and other required measures for the removal or exclusion of water from the excavation; the supporting of structures above and below the ground; all backfilling around structures and all backfilling of trenches and pits; the disposal of excess excavated materials; borrow of materials to makeup deficiencies for fills; and all other incidental earthwork, all in accordance with the requirement of the Contract Documents.

1.3 RELATED WORK

- A. All applicable sections of Division 1, 2, and 3.

1.4 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS.

- A. Codes: All codes, as referenced herein, are specified in Section 01090, "Reference Standards".
- B. Commercial Standards:

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ASTM D 1556	Method for Particle-Size Analysis of Soils
ASTM D 698	Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures, Using 5.5-lb (2.49-kg) Rammer and 12-in (304.8-mm) Drop.
ASTM D 1556	Test Method for Density of Soil in Place by the Sand Cone Method.
ASTM D 1557	Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures Using 10-lb (4.54-kg) Rammer and 18-in (457-mm) Drop
ASTM D 1633	Test Method for Compressive Strength of Molded Soil-Cement Cylinders
ASTM D 2419	Test Method for Sand Equivalent Value of Soils and Fine Aggregate.
ASTM D 2487	Classification of Soils for Engineering Purposes.
ASTM D 2901	Test Method for Cement Content of Freshly-Mixed Soil-Cement.
ASTM D 2922	Test Methods for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
ASTM D 4253	Test Methods for Maximum Index Density of Soils Using a Vibratory Table.
ASTM D 4254	Test Methods for Minimum Index Density of Soils and Calculation of Relative Density.

1.5 SUBSOIL INFORMATION

- A. There are no representations of any type made as to sub-surface conditions.

1.6 SITE INSPECTION

- A. DBF shall visit the site and acquaint with all existing conditions. DBF shall investigate the site and sub-surface conditions with no cost to the OWNER if DBF chooses to. Such sub-surface investigations shall be performed only under time schedules and arrangements approved in advance by the OWNER's Representative.

1.7 TOPOGRAPHIC INFORMATION

- A. The existing grades shown on the drawings are approximate only and no representation is made as to their accuracy or consistency. The DBF shall verify all existing grades to the extent necessary to insure completion of the job to the proposed grades indicated on the drawings.

1.8 DISPOSAL OF SURPLUS OR UNSUITABLE MATERIAL

- A. Unsuitable material encountered during the course of construction shall be removed from the construction site at the expense of the DBF. Unsuitable material shall not be stockpiled on-site. All suitable material shall be stockpiled on-site at areas designated by the CITY.

1.9 BENCHMARKS AND MONUMENTS

- A. DBF shall employ a registered Professional Surveyor and Mapper per Florida Statute 472.001-472.037 to lay out lines and grades as indicated. The surveyor

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shall establish benchmarks. Benchmarks shall be permanent and easily accessible and maintained and replaced if disturbed or destroyed. All benchmarks shall be NAVD 88.

1.10 UTILITIES

- A. Before starting site operations, disconnect or arrange for the disconnection of all utility services designated to be removed.
- B. Locate all existing active utility lines traversing the site and determine the requirements for their protection. Preserve in operating condition all active utilities adjacent to or traversing the site which are designated to remain.
- C. Observe rules and regulations governing respective utilities when working under requirements of this section. Adequately protect utilities from damage, remove or replace as indicated, specified or required. Remove, plug or cap inactive or abandoned utilities encountered in excavation. Record the location of all utilities.

1.11 QUALITY ASSURANCE

- A. The DBF shall re-adjust all work performed that does not meet technical or design requirements but make no deviations from the Contract Documents without specific and written acceptance of the CITY.
- B. Where soil material is required to be compacted to a percentage of maximum density, the maximum density at optimum moisture content will be determined in accordance with ASTM D 1557. Where cohesionless, free draining soil material is required to be compacted to a percentage of relative density, the calculation of relative density will be determined in accordance with ASTM D 4253 and D 4254. Field density in-place tests will be performed in accordance with ASTM D 1556, ASTM D 2922, or by such other means acceptable to the CITY.
- C. In case the tests of the fill or backfill show non-compliance with the required density, the DBF shall accomplish such remedy as may be required to insure compliance. Subsequent testing to show compliance shall be by a testing laboratory selected by the OWNER and shall be at the DBF's expense.
- D. Particle size analysis of soils and aggregates will be performed using ASTM D 422.
- E. Determination of sand equivalent value will be performed using ASTM D 2419.
- F. Unified Soil Classification System: References in these specifications to soil classification types and standards are set forth in ASTM D 2487. The DBF shall be bound by all applicable provisions of said ASTM D 2487 in the interpretation of soil classifications.
- G. Requirements of all applicable building codes and other public agencies having jurisdiction upon the work.

PART 2 PRODUCTS

2.1 SUITABLE FILL AND BACKFILL MATERIAL REQUIREMENTS

- A. General: Fill, backfill, and embankment materials shall be suitable selected or processed clean, fine earth, rock, or sand, free from grass, roots, brush, or other vegetation.
- B. Fill and backfill materials to be placed within 6 inches of any structure or pipe shall

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be free of rocks or unbroken masses of earth materials having a maximum dimension larger than 3 inches.

- C. Suitable Materials: Soils not classified as unsuitable as defined in the Paragraph entitled, "Unsuitable Material" herein, are defined as suitable materials and may be used in fills, backfilling, and embankment construction subject to the specified limitations. In addition, when acceptable to the CITY, some of the material listed as unsuitable may be used when thoroughly mixed with suitable material to form a stable composite.
- D. Suitable materials may be obtained from on-site excavations, may be processed on-site materials, or may be imported. If imported materials are required to meet the requirements of this Section or to meet the quantity requirements of the project the DBF shall provide the imported materials at no additional expense to the OWNER, unless a unit price item is included for imported materials in the bidding schedule.
- E. The following types of suitable materials are designated and defined as follows:
 - 1. Type A (one inch minus granular backfill): Crushed rock, gravel, or sand with 100 percent passing a 1-inch sieve and a sand equivalent value not less than 50.
 - 2. Type B (one half inch minus granular backfill): Crushed rock, gravel, or sand with 100 percent passing a 1/2-inch sieve and a sand equivalent value not less than 50.
 - 3. Type C (sand backfill): Sand with 100 percent passing a 3/8-inch sieve, at least 90 percent passing a number 4 sieve, and a sand equivalent value not less than 30.
 - 4. Type D (coarse rock backfill): Crushed rock or gravel with 100 percent passing a 1-inch sieve and not more than 10 percent passing a Number 4 sieve.
 - 5. Type E (pea gravel backfill): Crushed rock or gravel with 100 percent passing a 1/2-inch sieve and not more than 10 percent passing a Number 4 sieve.
 - 6. Type F (coarse drainrock): Crushed rock or gravel meeting the following gradation requirements:

<u>Sieve Size</u>	<u>Percentage Passing</u>
2-inch	100
1-1/2-inch	90-100
1-inch	20-55
3/4-inch	0-15
No. 200	0-3

- 7. Type G (aggregate base): Crushed rock aggregate base material of such nature that it can be compacted readily by watering and rolling to form a firm, stable base for pavements. At the option of the DBF, the grading for either the 1-1/2-inch maximum size or 3/4-inch maximum size shall be used. The sand equivalent value shall be not less than 22, and the material shall meet the following gradation requirements.

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<u>Sieve Size</u>	<u>Percent Passing</u>	
	<u>1-1/2-inch Max.</u>	<u>3/4-inch Max.</u>
2-inch	100	-
1-1/2-inch	90-100	-
1-inch	-	100
3/4-inch	50-85	90-100
No. 4	25-45	35-55
No. 30	10-25	10-30
No. 200	2-9	2-9

8. Type H (graded drainrock): Drainrock shall be crushed rock or gravel, durable and free from slaking or decomposition under the action of alternate wetting or drying. The material shall be uniformly graded and shall meet the following gradation requirements.

<u>Sieve Size</u>	<u>Percentage Passing</u>
2-inch	100
3/4-inch	90-100
3/8-inch	10-100
No. 4	25-40
No. 8	18-33
No. 30	5-15
No. 50	0-7
No. 200	0-3

The drainrock shall have a sand equivalent value not less than 75. The finish-graded surface of the drainrock immediately beneath hydraulic structures shall be stabilized to provide a firm, smooth surface upon which to construct reinforced concrete floor slabs. The DBF shall use, at its option, one of the asphalt types listed below:

	<u>Type 1</u>	<u>Type 2</u>	<u>Type 3</u>
Designation	SC-70	SC-250RS-1	
Spray Temperature (°F)	135-175	165-200	70-120
Coverage (gal/sq yd)	0.50	0.50	0.50

9. Type I: Any other suitable material as defined herein.
10. Type J (cement-treated backfill): Material which consists of Type H material, or any mixture of Types B, C, G and H materials which has been cement-treated so that the cement content of the material is not less than 5 percent by weight when tested in accordance with ASTM D 2901. The ultimate compressive strength at 28 days shall be not less than 400 psi when tested in accordance with ASTM D 1633.
11. Type K (topsoil): Stockpiled topsoil materials, which have been obtained at the site by removing soil to a depth not exceeding 2 feet. Removal of the topsoil shall be done after the area has been stripped of vegetation and

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debris as specified.

12. Type L (Class I crushed stone): Manufactured angular, granular crushed stone, rock, or slag, with 100 percent passing a 1-inch sieve and less than 5 percent passing a Number 4 sieve.
13. Type M (aggregate subbase): Crushed rock aggregate subbase material that can be compacted readily by watering and rolling to form a firm stable base. The sand equivalent value shall be not less than 18 and shall meet the following gradation requirements.

<u>Sieve Size</u>	<u>Percentage Passing</u>
3-inch	100
2-1/2-inch	87-100
No. 4	35-95
No. 200	0-29

14. Type N (trench plug): Low permeable fill material, a non-dispersible clay material having a minimum plasticity index of 10.

2.2 UNSUITABLE MATERIAL

- A. Unsuitable soils for fill material shall include soils which, when classified under ASTM D 2487, fall in the classifications of PT, OH, CH, MH or OL.
- B. In addition, any soil, which cannot be compacted sufficiently to achieve the percentage of maximum density specified for the intended use, shall be classed as unsuitable material.

2.3 USE OF FILL, BACKFILL, AND EMBANKMENT MATERIAL TYPES

- A. The DBF shall use the types of materials as designated herein for all required fill, backfill, and embankment construction hereunder.
- B. Where these Specifications conflict with the requirements of any local agency having jurisdiction, or with the requirements of a material manufacture, the CITY shall be immediately notified. In case of conflict therewith, the DBF shall use the most stringent requirement, as determined by the CITY.
- C. Fill and backfill types shall be used in accordance with the following provisions:
 1. Embankment fills shall be constructed of Type I material, as defined herein, or any mixture of Type I and Type A through Type H materials.
 2. Pipe zone backfill, as defined under "Pipe and Utility Trench Backfill" herein, shall consist of the following materials for each pipe material listed below. Where pipelines are installed on grades exceeding 4 percent, and where backfill materials are graded such that there is less than 10 percent passing a Number 4 sieve, trench plugs of Type J or N material shall be provided at maximum intervals of 200 feet or as shown on the Drawings.
 - a. Mortar coated pipe, concrete pipe, and uncoated ductile iron pipe shall be provided Type A, B, C, D, E, or L pipe zone backfill material.
 - b. Coal tar enamel coated pipe, polyethylene encased pipe, tape wrapped pipe, and other non-mortar coated pipe shall be backfilled with Type C

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- pipe zone backfill material.
- c. Plastic pipe and vitrified clay pipe shall be backfilled with Type L pipe zone backfill material.
- 3. Trench zone backfill for pipelines as defined under "Pipe and Utility Trench Backfill" shall be Type I backfill material or any of Types A through H backfill materials or any mixture thereof, except that Type K material may be used for trench zone backfill in agricultural areas unless otherwise shown or specified.
- 4. Final backfill material for pipelines under paved area, as defined under "Pipe and Utility Trench Backfill" shall be Type G backfill material. Final backfill under areas not paved shall be the same material as that used for trench backfill, except that Type K material shall be used for final backfill in agricultural areas unless otherwise shown or specified.
- 5. Trench backfill, and final backfill for pipelines under structures shall be the same material as used in the pipe zone, except where concrete encasement is required by the Contract Documents.
- 6. Aggregate base materials under pavements shall be Type G material constructed to the thickness shown or specified. Where specified or shown, aggregate subbase shall be Type M Material.
- 7. Backfill around structures shall be Type I material, or Types A through Type H materials, or any mixture thereof.
- 8. Backfill materials beneath structures shall be as follows:
 - a. Drainrock materials under hydraulic structures or other water retaining structure with underdrain systems shall be Type H material.
 - b. Under concrete hydraulic structures or other water retaining structures without underdrain systems, Types G or H materials shall be used.
 - c. Under structures where groundwater must be removed to allow placement of concrete, Type F material shall be used.
 - d. Under all other structures, Type D, E, G, or H material shall be used.
- 9. Backfill used to replace pipeline trench over-excavation shall be a layer of Type F material with a 6-inch top filter layer of Type E material or filter fabric to prevent migration of fines for wet trench conditions or the same material as used for the pipe zone backfill if the trench conditions are not wet. Filter fabric shall be Mirafi 140 N, Mirafi 700X, or approved equal.
- 10. The top 6 inches of fill on reservoir roofs, embankment fills around hydraulic structures, and all other embankment fills shall consist of Type K material, topsoil.

2.4 EMBANKMENT

- A. The maximum sizes of rock, which will be permitted in the completed fill areas, are as follows:

<u>Depth Below Finish Grade</u>	<u>Maximum Allowable Diameter</u>
Top 4 inches	1 inch
4 inches to 12inches	3-1/2-inches
12 inches to 2 feet	6 inches

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2 feet to 4 feet	12 inches
4 feet to 8 feet	24 inches
Below 8 feet	36 inches

- B. Embankments shall be constructed of material containing no muck, stumps, roots, brush, vegetable matter, rubbish or other material that will not compact into a suitable and enduring roadbed, and material designated as undesirable shall be removed from the site. Where embankments are constructed adjacent to bridge end bents or abutments, rock larger than 3-1/2 inches in diameter shall not be placed within three feet of the location of any abutment.
- C. Fill material containing debris, sod, and biodegradable materials shall not be used as fill in construction areas.
- D. Fill material required for the building pads and for pavement subgrade shall be granular fill, free of organic material.
- E. Fill material required for pervious and sodded areas shall have a maximum organic component of 10%. DBF shall provide, at DBF'S cost, organic content test results for approval by the CITY.

PART 3 EXECUTION**3.1 JOB CONDITIONS**

- A. Protection: Use all means necessary to protect existing objects and vegetation. In the event of damage, immediately make all repairs, and replacements necessary to the acceptance of the OWNER's Representative at no cost to the OWNER.

3.2 BACKFILL, FILLING, & GRADING

- A. Grades:
 - 1. Cut, backfill, fill and grade to proper grade levels indicated. The existing grades shown on the drawings are to be matched for finished grade over the site.
- B. Filling:
 - 1. Fill material shall be placed in horizontal layers and spread to obtain a uniform thickness.
 - 2. After compaction, layers of fill are not to exceed twelve (12) inches for cohesive soils or eight (8) inches for non-cohesive soils.

3.3 STRUCTURE, ROADWAY, AND EMBANKMENT EXCAVATION

- A. General: Except when specifically provided to the contrary, excavation shall include the removal of all materials of whatever nature encountered, including all obstructions of any nature that would interfere with the proper execution and completion of the work. The removal of said materials shall conform to the lines and grades shown or ordered. Unless otherwise provided, the entire construction site shall be stripped of all vegetation and debris, and such material shall be removed from the site prior to performing any excavation or placing any fill. The DBF shall furnish, place, and maintain all supports and shoring that may be required for the sides of the excavations, and all pumping, ditching, or other measure for the

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removal or exclusion of water, including taking care of storm water, groundwater, and wastewater reaching the site of the work from any source so as to prevent damage to the work or adjoining property. Excavations shall be sloped or otherwise supported in a safe manner in accordance with applicable State safety requirements and the requirements of OSHA Safety and Health Standards for Construction (29CFR1926).

- B. Excavation Beneath Structures and Embankments: Except where otherwise specified for a particular structure or ordered by the CITY, excavation shall be carried to the grade of the bottom of the footing or slab. Where shown or ordered, areas beneath structures or fills shall be over-excavated. The subgrade areas beneath embankments shall be excavated to remove not less than the top [6 inches] of native material and where such subgrade is sloped, the native material shall be benched. When such over excavation is shown, the DBF shall perform both over-excavation and subsequent backfill to the required grade. When such over-excavation is not shown but is ordered by the CITY, such over-excavation and any resulting backfill will be paid for under a separate unit price bid item if such bid item has been established; otherwise payment will be made in accordance with a negotiated price. After the required excavation or over-excavation has been completed, the exposed surface shall be scarified to a depth of 6 inches, brought to optimum moisture content, and rolled with heavy compaction equipment to obtain density as specified in Paragraph 3.14.I.
- C. Excavation Beneath Paved Areas: Excavation under areas to be paved shall extend to the bottom of the aggregate base or subbase, if such base is called for; otherwise it shall extend to the paving thickness. After the required excavation has been completed, the top 12 inches of exposed surface shall be scarified, brought to optimum moisture content, and rolled with heavy compaction equipment to obtain density as specified in Paragraph 3.14.I. The finished subgrade shall be even, self-draining, and in conformance with the slope of the finished pavement. Areas that could accumulate standing water shall be regraded to provide a self-draining subgrade.
- D. Notification: The DBF shall notify the CITY at least 3 days in advance of completion of any structure excavation and shall allow the CITY a review period of at least one day before the exposed foundation is scarified and compacted or is covered with backfill or with any construction materials.

3.4 PIPELINE AND UTILITY TRENCH EXCAVATION

- A. General: Unless otherwise shown or ordered, excavation for pipelines and utilities shall be open-cut trenches. Trench widths shall be kept as narrow as is practical for the method of pipe zone densification selected by the DBF, but shall have a minimum width at the bottom of the trench equal to the outside diameter of the pipe plus 24 inches for mechanical compaction methods and 18 inches for water consolidation methods.
- B. Trench Bottom: Except when pipe bedding is required, the bottom of the trench shall be excavated uniformly to the grade of the bottom of the pipe. The trench bottom shall be given a final trim, using a string line for establishing grade, such

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that each pipe section when first laid will be continually in contact with the ground along the extreme bottom of the pipe. Rounding out the trench to form a cradle for the pipe will not be required. Excavations for pipe bells and welding shall be made as required.

- C. Open Trench: The maximum amount of open trench permitted in any one location shall be 300 feet, or the length necessary to accommodate the amount of pipe installed in a single day, whichever is greater. All trenches shall be fully backfilled at the end of each day or, in lieu thereof, shall be covered by heavy steel plates adequately braced and capable of supporting vehicular traffic in those locations where it is impractical to backfill at the end of each day. The above requirements for backfilling or use of steel plate will be waived in cases where the trench is located further than 100 feet from any traveled roadway or occupied structure. In such cases, however, barricades and warning lights meeting OSHA requirements shall be provided and maintained.
- D. Trench Over-Excavation: Where the Drawings indicate that trenches shall be over-excavated, they shall be excavated to the depth shown, and then backfilled to the grade of the bottom of the pipe.
- E. Over-Excavation: When ordered by the CITY, whether indicated on the Drawings or not, trenches shall be over-excavated beyond the depth shown. Such over-excavation shall be to the depth ordered. The trench shall then be backfilled to the grade of the bottom of the pipe. All work specified in this Section shall be performed by the DBF when the over- excavation ordered by the CITY is less than 6 inches below the limits shown. When the over-excavation ordered by the CITY is 6 inches or greater below the limits shown, additional payment will be made to the DBF for that portion of the work which is located below said 6-inch distance. Said additional payment will be made under separate unit price bid items for over-excavation and bedding if such bid items have been established; otherwise payment will be made in accordance with a negotiated price.
- F. Where pipelines are to be installed in embankment or structure fills, the fill shall be constructed to a level at least one foot above the top of the pipe before the trench is excavated.

3.5 OVER-EXCAVATION NOT ORDERED, SPECIFIED, OR SHOWN

- A. Any over-excavation carried below the grade ordered, specified, or shown, shall be backfilled to the required grade with the specified material and compaction. The DBF at its own expense shall perform such work.

3.6 EXCAVATION IN LAWN AREAS

- A. Where excavation occurs in lawn areas, the sod shall be carefully removed, kept damp, and stockpiled to preserve it for replacement. Excavated material may be placed on the lawn; provided that a drop cloth or other suitable method is employed to protect the lawn from damage. The lawn shall not remain covered for more than 72 hours. Immediately after completion of backfilling and testing of the pipeline, the sod shall be replaced and lightly rolled in a manner so as to restore the lawn as near as possible to its original condition. DBF shall provide new sod if stockpiled

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sod has not been replaced within 72 hours.

3.7 EXCAVATION IN VICINITY OF TREES

- A. Except where trees are shown to be removed, trees shall be protected from injury during construction operations. No tree roots over 2 inches in diameter shall be cut without express permission of the CITY. Trees shall be supported during excavation by any means previously reviewed and approved by the CITY.

3.8 ROCK EXCAVATION

- A. Rock is defined as follows:
1. Rock shall be classified as material having a blow count in excess of 30 blows per foot from a Standard Penetration Test (ASTM D-1586) and exceeding 1000 psi from an Unconfined Compression Strength Test (ASTM D-2938); and,
 2. General Excavation - Any material that cannot be excavated with a single-toothed ripper drawn by a crawler tractor having a minimum draw bar pull rated at not less than 71,000 lbs. (Caterpillar D9N or equivalent), and occupying an original volume of at least 2 cubic yards or more; and,
 3. Trench Excavation - Any material that cannot be excavated with a backhoe having a break out force rated at not less than 44,000 lbs. (Caterpillar 235D or equivalent) and occupying an original volume of at least 2 cubic yards.
- B. Rock excavation shall include removal and disposal of the following: (1) all boulders measuring 1/3 of a cubic yard or more in volume; (2) all rock material in ledges, bedding deposits, and unstratified masses which cannot be removed without systematic drilling and blasting; (3) concrete or masonry structures which have been abandoned; and (4) conglomerate deposits which are so firmly cemented that they possess the characteristics of rock as described in Paragraph 3.09(A).
- C. Said rock excavation shall be performed by the DBF; provided, that should the quantity of rock excavation be affected by any change in the scope of the work, an appropriate adjustment of the contract price will be made under a separate bid item if such bid item has been established; otherwise, payment will be made in accordance with the negotiated price.
- D. Explosives and Blasting: Blasting will not be permitted, except by express permission of the CITY on a case-by-case basis. The use of explosives will be subject to the approval and regulations of all agencies having jurisdiction. If blasting is utilized at the site of the WORK, the DBF shall take all precautions and provide all protective measures necessary to prevent damage to property and structures or injury to person. Prior to blasting, the DBF shall secure all permits required by law for blasting operations and shall provide any additional hazard insurance required by the OWNER. The DBF shall have a fully qualified and experienced blasting construction supervisor in charge of all blasting operations.
- E. The DBF will be held responsible for all and shall make good any damage caused by blasting or resulting from its possession or use of explosives on the WORK.
- F. All operations involving the handling, storage, and use of explosives shall be

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conducted in accordance with the requirements of the OSHA Standards for Construction, and in accordance with all local laws and regulations.

3.9 DISPOSAL OF EXCESS EXCAVATED MATERIAL

- A. The DBF shall remove and dispose of all excess excavated material at a site selected by the DBF and reviewed by the CITY.

3.10 DISPOSAL OF UNSUITABLE EXCAVATED MATERIAL

- A. The DBF shall remove and dispose of all unsuitable excavated material. This shall include muck, tree roots, rocks, garbage, debris, or any other material designated as unsuitable by Paragraph 2 of this Section. Disposal shall be at a site selected by the DBF that is designated as an approved disposal site for the unsuitable material.

3.11 BACKFILL – GENERAL

- A. Backfill shall not be dropped directly upon any structure or pipe. Backfill shall not be placed around or upon any structure until the concrete has attained sufficient strength to withstand the loads imposed. Backfill around water retaining structures shall not be placed until the structures have been tested, and the structures shall be full of water while backfill is being placed.
- B. Except for drainrock materials being placed in over-excavated areas or trenches, backfill shall be placed after all water is removed from the excavation.

3.12 PLACING AND SPREADING OF BACKFILL MATERIALS

- A. Backfill materials shall be placed and spread evenly in layers. When compaction is achieved using mechanical equipment the layers shall be evenly spread so that when compacted each layer shall not exceed 6 inches in thickness.
- B. During spreading each layer shall be thoroughly mixed as necessary to promote uniformity of material in each layer. Pipe zone backfill materials shall be manually spread around the pipe so that when compacted the pipe zone backfill will provide uniform bearing and side support.
- C. Where the backfill material moisture content is below the optimum moisture content water shall be added before or during spreading until the proper moisture content is achieved.
- D. Where the backfill material moisture content is too high to permit the specified degree of compaction the material shall be dried until the moisture content is satisfactory.

3.13 COMPACTION – GENERAL

- A. Compact each layer of fill in designated areas with approved equipment to achieve a maximum density at optimum moisture, AASHTO T 180 - latest edition.
 - 1. Building Pads: compaction shall be to 98% of maximum density, unless otherwise shown on the drawings or specifications. Building pads shall be within plus or minus one-tenth (0.1) of a foot of the elevations shown on the plans.
 - 2. Refer to Sections 02513 Asphaltic Concrete Paving - General for compaction requirements in the affected areas.

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3. Under landscaped area, compaction shall be to density as specified in Paragraph 3.14.I., unless otherwise shown on the Drawings.
- B. No backfill shall be placed against any masonry or other exposed building surface until permission has been given by the OWNER's Representative, and in no case until the masonry has been in place seven days.
- C. Heavy construction equipment will not be permitted within ten (10) feet of any masonry or other exposed building surface.
- D. Compaction in limited areas shall be obtained by the use of mechanical tampers or approved hand tampers. When hand tampers are used, the materials shall be deposited in layers not more than four inches thick. The hand tampers used shall be suitable for this purpose and shall have a face area of not more than 100 square inches. Special precautions shall be taken to prevent any wedging action against masonry, or other exposed building surfaces/

3.14 COMPACTION OF FILL, BACKFILL, AND EMBANKMENT MATERIALS

- A. Each layer of Types, A, B, C, G, H, I, and K backfill materials as defined herein, where the material is graded such that at least 10 percent passes a No. 4 sieve, shall be mechanically compacted to the specified percentage of maximum density. Equipment that is consistently capable of achieving the required degree of compaction shall be used and each layer shall be compacted over its entire area while the material is at the required moisture content.
- B. Each layer of Type D, E, F, and J backfill materials shall be compacted by means of at least 2 passes from a flat plate vibratory compactor. When such materials are used for pipe zone backfill, vibratory compaction shall be used at the top of the pipe zone or at vertical intervals of 24 inches, whichever is the least distance from the subgrade.
- C. Type L material requires mechanical spreading and placement to fill voids but does not require mechanical compaction or vibration.
- D. Fill on reservoir and structure roofs shall be deposited at least 30 days after the concrete roof slab has been placed. Equipment weighing more than 10,000 pounds when loaded shall not be used on a roof. A roller weighing not more than 8,000 pounds shall be used to compact fill on a roof.
- E. Flooding, ponding, or jetting shall not be used for fill on roofs, backfill around structures, backfill around reservoir walls, for final backfill materials, or aggregate basematerials.
- F. Pipe zone backfill materials that are granular may be compacted by a combination of flooding and vibration using concrete vibrators or by jetting, when acceptable to the CITY.
- G. Pipeline trench zone backfill materials, containing 5 percent or less of material passing a No. 200 sieve, may be compacted using flooding and jetting or vibration if the DBF uses effective procedures that yield the specified compaction test results. Flooding and jetting shall not be done in such a manner that the pipe or nearby utilities are damaged, in areas of poorly draining or expansive soils, or where the use of the procedure is prohibited by any agency having jurisdiction over the street or right-of-way. Approved jet pipes or immersible vibrators shall be

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used so that each backfill layer is saturated and consolidated to its full depth before the next layer is placed. Jet pipes shall be kept at least 6 inches away from the pipe where the backfills being consolidated and 2 feet away from other pipes or utilities.

- H. Equipment weighing more than 10,000 pounds shall not be used closer to walls than a horizontal distance equal to the fill at that time. Hand operated power compaction equipment shall be used where use of heavier equipment is impractical or restricted due to weight limitations.
- I. Compaction Requirements: The following compaction test requirements shall be in accordance with AASHTO T-180. Where agency or utility company requirements govern, the highest compaction standards shall apply.

<u>Location or Use of Fill</u>	<u>Percentage of Maximum</u>
Pipe zones backfill portion above bedding for flexible pipe.	98
Pipe zones backfill bedding and over-excavated zones under bedding/pipe for flexible pipe, including trench plugs.	98
Pipe zones backfill portion above bedding for rigid pipe.	98
Pipe zones backfill bedding and over-excavated zones under bedding/pipe for rigid pipe.	98
Final backfills, beneath paved areas or structures.	98
Final backfills, not beneath paved areas or structures.	95
Trench zones backfill, not beneath paved areas or structures, including trench plugs.	95
Embankments.	98
Embankments, beneath paved areas, or Structures.	98
Backfill beneath structures, hydraulic structures.	98
Backfill around Structures	98
Topsoil (Type K material)	80
Aggregate base or subbase (Type G or M material)	80

- J. Trench Backfill Requirements: the pipe has been structurally designed based

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upon the trench configuration specified herein.

- K. The DBF shall maintain the indicated trench cross section up to a horizontal plane lying 6 inches above the top of the pipe.
- L. If, at any location under said horizontal plane, the DBF slopes the trench walls or exceeds the maximum trench widths indicated in the Contract Documents, the pipe zone backfill shall be "improved" or the pipe class increased as specified herein, at no additional cost to the OWNER. "Improved" backfill shall mean sand-cement backfill or other equivalent materials acceptable to the CITY.
- M. If the allowable deflection specified for the pipe is exceeded, the DBF shall expose and reground or replace the pipe, repair all damaged lining and coating, and reinstall the pipe zone material and trench backfill as specified at no additional expense to the OWNER.

3.15 PIPE AND UTILITY TRENCH BACKFILL

- A. Pipe zone Backfill: The pipe zone is defined as that portion of the vertical trench cross-section lying between a plane 6 inches below the bottom surface of the pipe, i.e., the trench subgrade, and a plane at a point 6 inches above the top surface of the pipe. The bedding for flexible pipe is defined as that portion of pipe zone backfill material between the trench subgrade and the bottom of the pipe. The bedding for rigid pipe is defined as that portion of the pipe zone backfill material between the trench subgrade and a level line which varies from the bottom of the pipe to the spring line as shown.
- B. Bedding shall be provided for all sewers, drainage pipelines, and other gravity flow pipelines. Unless otherwise specified or shown, for other pipelines the bedding may be omitted if all the following conditions exist.
 - 1. The pipe bears on firm, undisturbed native soil, which contains only particles that will pass a one-inch sieve.
 - 2. The trench excavation is not through rock or stones.
 - 3. The trench subgrade soils are classified as suitable fill and backfill materials per Paragraph 2.01.
 - 4. The trench subgrade soils have, as a maximum, a moisture content that allows compaction.
- C. Where bedding is required, after compacting the bedding the DBF shall perform a final trim using a stringline for establishing grade, such that each pipe section when first laid will be continually in contact with the bedding along the extreme bottom of the pipe. Excavation for pipe bells and welding shall be made as required.
- D. The pipe zone shall be backfilled with the specified backfill material. The DBF shall exercise care to prevent damage to the pipeline coating, cathodic bonds, or the pipe itself during the installation and backfill operations.
- E. Trench Zone Backfill: After the pipe zone backfill has been placed as specified above, and after all excess water has completely drained from the trench, backfilling of the trench zone may proceed. The trench zone is defined as that portion of the vertical trench cross-section lying between a plane 6 inches above the top surface of the pipe and a plane at a point 18 inches below the finished surface grade, or if

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the trench is under pavement, 18 inches below the roadway subgrade. If flooding, ponding, or jetting is used the pipe shall be filled with water to prevent flotation.

- F. Final Backfill: Final backfill is all backfill in the trench cross-sectional area within 18 inches of finished grade, or if the trench is under pavement, all backfill within 18 inches of the roadway subgrade.

3.16 EMBANKMENT CONSTRUCTION

- A. The area where an embankment is to be constructed shall be cleared of all vegetation, roots and foreign material. Following this, the surface shall be moistened, scarified to a depth of 6 inches, and rolled or otherwise mechanically compacted as specified in Paragraph 3.14.I. Embankment fill material shall be placed and spread evenly in horizontal layers. Each layer shall be moistened or aerated, as necessary. Unless otherwise approved by the CITY, each layer shall not exceed 6 inches of compacted thickness. The embankment fill and the scarified layer of underlying ground shall be compacted to 95 percent of maximum density under structures and paved areas, and 90 percent of maximum density elsewhere.
- B. When an embankment fill is to be made and compacted against hillsides or fill slopes steeper than 4:1, the slopes of hillsides or fills shall be horizontally benched to key the embankment fill to the underlying ground. A minimum of 12 inches normal to the slope of the hillside or fill shall be removed and recompacted as the embankment fill is brought up in layers. Material thus cut shall be recompacted along with the new fill material at the DBF's expense. Hillside of fill slopes 4:1 or flatter shall be prepared in accordance with Paragraph A, above.
- C. Where embankment or structure fills are constructed over pipelines, the first 4 feet of fill over the pipe shall be constructed using light placement and compaction equipment that does not damage the pipe. Heavy construction equipment shall maintain a minimum distance from the edge of the trench equal to the depth of the trench until at least 4 feet of fill over the pipe has been completed.

3.17 CORRECTION OF GRADE

- A. Bring to required grade levels areas where settlement, erosion or other grade changes occur.

3.18 MAINTENANCE AND PROTECTION OF WORK

- A. While construction is in progress adequate drainage for the roadbed shall be maintained at all times.
- B. The DBF shall maintain all earthwork construction throughout the life of the contract, unless otherwise provided, and shall take all reasonable precautions to prevent loss of material from the roadway due to the action of wind or water. DBF shall repair at DBF'S expense, except as otherwise provided herein, any slides, washouts, settlement, subsidence, or other mishap which may occur prior to final acceptance of the work.
- C. All channels excavated as a part of the contract work shall be maintained against natural shoaling or other encroachments to the lines, grades, and cross sections

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shown on the plans, until final acceptance of the project.

3.19 AS-BUILT SURVEY

- A. At the completion of the work and prior to final inspection of the area, the DBF shall provide the CITY with an as-built topographic survey made by a Professional Surveyor and Mapper per Florida Statute 472.001-472.037.
- B. The surveyor is to certify on the survey whether or not the as-built conditions conform to the elevations shown on the Drawings to within plus or minus two-hundredth (0.02) of a foot.

END OF SECTION 02200

SECTION 02212
MILLING OF EXISTING ASPHALT PAVEMENT

PART 1 GENERAL**1.1 RELATED DOCUMENTS**

- A. All applicable provisions of the Bidding and Contract Requirements, and Division 1- General Requirements shall govern the WORK under this section.

1.2 WORK INCLUDED

- A. Remove existing asphalt concrete pavement by milling to improve the rideability and cross slope of the finished pavement, to lower the finished grade adjacent to existing curb prior to resurfacing, or to completely remove existing pavement.
- B. When milling to improve rideability, the plans will specify an average depth of cut.
- C. DBF to take ownership of milled material.

PART 2 PRODUCT**2.1 EQUIPMENT**

- A. Provide a milling machine capable of maintaining a depth of cut and cross slope that will achieve the results specified in the Contract Documents. Use a machine with a minimum overall length (out to out measurement excluding the conveyor) of 18 feet and a minimum cutting width of 6 feet.
- B. Equip the milling machine with a built-in automatic grade control system that can control the transverse slope and the longitudinal profile to produce the specified results.
- C. To start the project, the CITY will approve any commercially manufactured milling machine that meets the above requirements. If it becomes evident after starting milling that the milling machine cannot consistently produce the specified results, the CITY will reject the milling machine for further use.
- D. The DBF may use a smaller milling machine when milling to lower the grade adjacent to existing curb or other areas where it is impractical to use the above described equipment.
- E. Equip the milling machine with means to effectively limit the amount of dust escaping during the removal operation.

PART 3 EXECUTION**3.1 MILLING**

- A. Protection: Use all means necessary to protect existing objects and vegetation. In the event of damage, immediately make all repairs, and replacements necessary to the acceptance of the OWNER's Representative at no cost to the OWNER.

3.2 BACKFILL, FILLING, & GRADING

- A. Remove the existing raised reflective pavement markers prior to milling. Include the cost of removing existing pavement markers in the price for milling.

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MILLING OF EXISTING ASPHALT PAVEMENT

- B. When milling to improve rideability or cross slope, remove the existing pavement to the average depth specified in the plans, in a manner that will restore the pavement surface to a uniform cross-section and longitudinal profile. The CITY may require the use of a stringline to ensure maintaining the proper alignment.
- C. Establish the longitudinal profile of the milled surface in accordance with the milling plans. Ensure that the final cross slope of the milled surface parallels the surface cross slope shown on the plans or as directed by the CITY. Establish the cross slope of the milled surface by a second sensing device near the outside edge of the cut or by an automatic cross slope control mechanism. The plans may waive the requirement of automatic grade or cross slope controls where the situation warrants such action.
- D. Multiple cuts may be made to achieve the required pavement configuration or depth of cut. Include in the Quality Control Plan a system to control the cross slope of the milling surface with a minimum frequency of one cross slope measurement every 250 feet during milling operations in order to ensure that the slopes are uniform and in compliance with the designed milling slope. When the difference between the measured cross slope and the designed cross slope exceeds $\pm 0.2\%$ for travel lanes (including turn lanes) and $\pm 0.5\%$ for shoulders, make all corrections immediately to bring the cross slope into an acceptable range. The CITY will periodically verify the DBF's measurements at the job site.
- E. The CITY can randomly take ten measurements of the cross slope per day for the first two days of milling operation. If the average cross slope of the ten random measurements per day varies more than the required tolerance (0.2% for travel lanes including turn lanes and 0.5% for shoulders), the milling operation shall be stopped until appropriate corrective actions are made to bring the cross slope into an acceptable range. Approval by the CITY will be required prior to resuming the milling operation.
- F. A recheck of ten random measurements will be made after corrective actions are taken. If the recheck indicates that the cross slope is out of control, the deficient section(s) shall be corrected to bring the cross slope into an acceptable range. During milling operations, the CITY reserves the right to take ten cross slope measurements per day. If the average cross slope of the ten measurements varies more than the permissible tolerance, the milling operation will be stopped until appropriate corrective actions are made to bring the cross slope into an acceptable range and the deficient sections shall be corrected accordingly.
- G. The CITY may waive the corrections specified above if an engineering determination indicates that the deficiencies are sufficiently separated so as not to significantly affect the final cross slope.
- H. For intersections, tapers, crossovers, transitions at the beginning and end of the project and in other similar areas, the cross slope will be adjusted as directed by the CITY to match the actual site conditions.
- I. Operate the milling machine to minimize the amount of dust being emitted. The CITY may require pre-wetting of the pavement.
- J. Provide positive drainage of the milled surface and the adjacent pavement. Perform this operation on the same day as milling. Repave all milled surfaces no

SECTION 02212
MILLING OF EXISTING ASPHALT PAVEMENT

later than the day after the surface was milled unless otherwise stated in the plans.

- K. If traffic is to be maintained on the milled surface prior to the placement of the new asphalt concrete, provide suitable transitions between areas of varying thickness to create a smooth longitudinal riding surface. Produce a pattern of striations that will provide an acceptable riding surface.
- L. Prior to opening an area which has been milled to traffic, sweep the pavement with a power broom or other approved equipment to remove, to the greatest extent practicable, fine material which will create dust under traffic. Sweep in a manner that will minimize the potential for creation of a traffic hazard and to minimize air pollution.
- M. Sweep the milled surface with a power broom prior to placing asphalt concrete
- N. In urban and other sensitive areas, use a street sweeper or other equipment capable of removing excess milled materials and controlling dust.
- O. Perform the sweeping operation immediately after the milling operations or as directed by the CITY.

3.3 MILLED SURFACE

- A. Provide a milled surface with a reasonably uniform texture, within 1/4 inch of a true profile grade, and with no deviation in excess of 1/4 inch from a straightedge applied to the pavement perpendicular to the centerline.
- B. Ensure that the variation of the longitudinal joint between multiple cut areas does not exceed 1/4 inch. The CITY may accept areas varying from a true surface in excess of the above stated tolerance without correction if the CITY determines that they were caused by a pre-existing condition which could not have reasonably been corrected by the milling operations.
- C. Correct any unsuitable texture or profile, as determined by the CITY, at no additional expense to the OWNER.
- D. The CITY may require remilling of any area where a surface lamination causes a non- uniform texture to occur.
- E. Refer to Section 02513 for specifications on resurfacing of asphaltic pavement.

END OF SECTION 02212

SECTION 02221
EXCAVATION AND BACKFILLING UTILITIES

PART 1 GENERAL**1.1 RELATED DOCUMENTS**

- A. All applicable provisions of the Bidding and Contract Requirements, and Division 1- General Requirements shall govern the WORK under this section.

1.2 WORK INCLUDED

- A. The work shall consist of furnishing all materials, labor and equipment for excavation, trenching and backfilling for utilities. "Utilities" shall include storm water drains, culverts, water mains, gravity sewers, sewage force mains and appurtenant structures.

1.3 RELATED WORK

- A. 02200 – Earthwork.

PART 2 PRODUCT (NOT APPLICABLE)**PART 3 EXECUTION****3.1 EXCAVATION**

- A. General: This work shall consist of the excavation of whatever substances shall be encountered to the depths as shown on the plans. Excavated materials not required for fill or backfill shall be removed from the work site as directed by the CITY and shall be considered to be a part of the bid price of the utility pipe for which excavation and backfill is required.
- B. Excavation for structures and other accessories shall have a minimum clearance of twelve inches and a maximum clearance of twenty-four inches on all sides.
- C. Excavation shall not be carried below the required depths as indicated by the plans. Excess excavation below the required level shall be backfilled at the DBF's expense with sharp sand, gravel or other suitable material thoroughly compacted and approved by the CITY.
- D. Any unstable soil shall be removed and shall be replaced by material acceptable to the CITY. The removal and replacement of such unstable soil shall be considered to be part of the bid price of the pipe for which excavation and backfill is required.
- E. Water shall not be permitted to accumulate in the excavated area. It shall be removed by pumping or other means as approved by the CITY. The removal of water shall be considered to be a part of the bid price of the pipe for which excavation and backfill is required.
- F. Well points, pumps or other approved means shall be used to keep the ground water sufficiently low in the opinion of the CITY to permit the placing of concrete, masonry, or pipe in first class condition, and sufficiently long thereafter to protect the concrete, masonry or joints against washing or damage.
- G. The DBF shall also use such other means as may be necessary to keep the excavation in satisfactory condition for the construction of the work, and the use of well points, or other approved method, will not relieve the DBF of DBF'S responsibility to make structures watertight.

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- H. Banks and trenches shall be vertical unless shown otherwise on plans. The width of the trench shall be no less than 24 inch plus the diameter of the pipe, or as approved by the CITY. Bell holes shall be accurately excavated by hand.
- I. If the bottom of the trench is rock, the excavation shall be carried eight inches below the invert of the pipe and backfilled with thoroughly compacted sharp sand, gravel or other suitable material approved by the CITY.
- J. See Section 02200 Part 3.08 for specifications on Rock Excavation.
- K. Whenever it is necessary, in the interest of safety, to brace or shore the sides of the trench, such bracing or shoring shall be considered to be part of the bid price of the pipe for which excavation and backfill is required.
- L. The DBF shall furnish, put in place, and maintain such sheeting, bracing, as may be required to support the side of the excavation, and to prevent any movement which can in any way damage the work or endanger adjacent structures. If the CITY is of the opinion that supports are insufficient, the CITY may order additional supports. The compliance with such order shall not release the DBF from DBF'S responsibility for the sufficiency of the sheeting. The DBF shall leave all sheeting in place. The CITY may require sheeting to be cut off at any specified elevation, but in no case will any sheeting be left closer than two (2) feet below the natural surface, nor cut off below the elevation of the top of the pipe.

3.2 BACKFILLING

- A. After pipes, structures and other appurtenances have been installed, the trench or opening shall be backfilled with material free from large stones or clods of a quality acceptable to the CITY.
- B. Backfill around the pipe and to a point twelve inches above the top of the pipe shall be placed in six-inch layers compacted with 20 pound hand tampers or mechanical tampers suitable for this purpose. Backfilling shall follow lying closely and shall not be more than one hundred (100) feet behind completed lying. Backfill over pipe shall be carefully placed by experienced labor and thoroughly consolidated without shock to the pipe and carried up uniformly on both sides of the pipe. No backfilling with bulldozers will be permitted adjacent to pipeline.
- C. Within roadway rights-of-way, or within areas where pavements are to be constructed over the pipe, the remainder of the trench shall be placed in six-inch layers (compacted thickness) and shall be compacted to that as noted in Section 02200. DBF will be responsible for correcting settlement in all backfilled areas whether under the pavement or otherwise.
- D. In areas where no pavement is to be constructed, the backfill above the twelve-inch line above the pipe shall be compacted to firmness approximately equal to that of the soil adjacent to the pipe trench or to that as noted in Section 02200. Backfill below the 12-inch line shall be compacted in 6-inch layers (compacted thickness) and shall be compacted to 98% of maximum density as determined by AASHTO T-180.

3.3 EXPLOSIVES

- A. The use of explosives will not be permitted. See Section 02200 Part 3.08

SECTION 02221
EXCAVATION AND BACKFILLING UTILITIES

Paragraph D through F for further instruction.

END OF SECTION 02221

SECTION 02410
INSTALLATION OF PIPE BY DIRECTIONAL DRILL TECHNIQUE

PART 1 GENERAL**1.1 RELATED DOCUMENTS**

- A. All applicable provisions of the Bidding and Contract Requirements, and Division 1. General Requirements shall govern the WORK under this section.

1.2 WORK INCLUDED

- A. The DBF shall furnish all labor, materials, equipment and incidentals required to install pipe by the technique of inserting the pipe directly into a directional drilled opening; at the locations shown on the Drawings and as specified herein.
- B. All directional drill operations shall be performed in accordance with all requirements of the permitting agency and other agencies having jurisdiction over the work area.

1.3 RELATED WORK

- A. Division 2 as applicable.
- B. Section 02200 – Earthwork.
- C. Section 02221 Excavation and Backfilling for Utilities.
- D. Section 02610 Piping, General.
- E. Section 02641 Valves, General.
- F. Commercial Standards:
- | | |
|-------------|---|
| ASTM F 1962 | Maxi-Horizontal Directional Drilling |
| ASTM F 2620 | Heat Fusion Joining of Polyethylene Pipe and Fittings |

1.4 GENERAL REQUIREMENTS

- A. Directional drilling and pipe installation shall be done only by an experienced, licensed contractor specializing in directional drilling technique and whose key personnel have at least five (5) years of experience in this work. Furthermore, the said contractor shall have had experience in directional drilling under Florida waterways and major roadways.
- B. The DBF shall visit the site and determine the proximity of structures on either side of the crossings. The DBF shall provide the OWNER with a drilling plan outlining procedures to prevent drilling fluid or the drilling process from adversely affecting these structures.
- C. Prior to pre-construction meeting DBF is to submit "Frac-Out Plan" (see Exhibit A) per State Water Quality Standards, pursuant to Rule 62-302, with details of the non-toxic florescent tracking dyes that the DBF will be using with the drilling lubricant as a monitoring method with the bentonite.
- D. Prior to the start of work, the DBF shall engage a Professional Engineer registered in the State of Florida to design a detailed plan of boring and receiving pits, including excavation, together with an outline of the methods to be used and a time schedule for directional drill operations. In addition, DBF shall identify an environmental scientist/biologist with experience in water quality monitoring and habitat protection to be used in the event of a frac-out near protected areas.

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- E. Three workdays written notice prior to start of the actual work shall be given to the OWNER.
- F. The DBF shall install, maintain, and leave in place any sheeting, underpinning, cribbing, and other related items (other than that required for the boring and receiving pits) to support any structure or facility affected by the boring operations. The CITY, depending upon existing conditions, may require that additional sheeting for the excavation be left in place.
- G. The DBF shall maintain traffic whenever possible during fusing and installation operations. Fusing and staging areas shall be carefully planned, and locations shall be approved by the CITY.
- H. The DBF shall assume all responsibility for the methods and means of construction, the stability and accuracy of the drilled and reamed hole and constructed pits, and all cost responsible for the safety of the pits and related structures, and personnel engaged in construction throughout the duration of work.
- I. All work under this specification affecting the right-of-way, or municipal facilities shall be carried out to the full satisfaction of the authorized representative. It is the DBF's responsibility to be fully informed of all requirements, and permit conditions as it pertains to the specific project and shall conduct all work accordingly.
- J. All equipment used by the DBF on OWNER's property and rights-of-way may be inspected by the OWNER or the OWNER's Representatives.
- K. The DBF shall be fully responsible for all damages arising from the failure of the DBF or Subcontractors to comply with the regulations and the requirements of these Specifications.
- L. The DBF's methods and schedule shall comply with the overall project requirements. The DBF shall be familiar with the work within the local subsurface conditions. The DBF's selection of inadequate, inappropriate, or inefficient equipment and methods will not be cause for adjustments to the Contract price or Contract time.
- M. The DBF shall be responsible for all clean-up of project site, debris, materials and equipment and shall clear the site of and dispose of them in accordance with Contract Documents.

1.5 SUBMITTALS

- A. The DBF shall submit for the OWNER's approval the qualifications of the directional drilling specialty provider indicating compliance with the following minimum experience criteria:
 - 1. Descriptions of successfully completed similar projects using the guided directional drill technique, which shall include a listing of the following information.
 - a. Project name and location
 - b. Year of Project
 - c. Owner/Client
 - d. Client contact information
 - e. Diameter and material of pipe
 - f. Length of direction drilling installation

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- g. Other information relevant to the successful completion of the project
2. Documentation of compliance with the following minimum standards:
 - a. The directional drilling specialty provider shall be an experienced, licensed contractor specializing in guided directional drilling and whose key personnel assigned to this work shall have a minimum of five (5) years of related directional drilling experience.
 - b. The directional drilling specialty provider shall have installed utilities under major roadways and waterways via directional drill technique.
- B. Two (2) weeks prior to the start of the directional drilling work, the DBF shall submit the directional drilling work plan for the OWNER's review. The work plan shall include the following information.
 1. A plan showing details of the proposed method of construction, sequence of operations to be performed, number and size of construction crew, hours to be worked, pilot hole drilling procedure, reaming procedure, pullback procedure, method of monitoring the drilling head and method of verifying pipe location for as-built drawings.
 2. A drilling fluid plan which details types of drilling fluids, including the of non-toxic fluorescent tracking dyes, cleaning and recycling equipment, estimated flowrates, and procedures for minimizing drilling fluid escape.
 3. A plan in the event of drilling fluid escape including, but not limited to, stoppage of work, notification of applicable permitting authorities whose right-of-way is impacted by the escape of drilling fluid, procedure to confine drilling fluids/muds, and procedure for repair/plugging of fissures. See Dewatering Permit for requirements that will need to be met, at no additional cost to the OWNER, should fluid escape.
 4. A plan and profile drawing showing the DBF's proposed pilot bore hole routing and location of other underground utilities. The plan drawing shall be at a 1 inch = 20-foot scale and the profile drawing at a 1 inch = 20 foot scale horizontal and 1 inch = 2 foot scale vertical.
 5. A 1 inch = 20-foot scale drawing of the proposed setup of major equipment at the entry point and the proposed layout at the exit point.
- C. The DBF shall furnish shop drawings showing all fabrication and construction details for the directional drilled crossings.
- D. The DBF shall use dataloggers to record and monitor fusing of HDPE pipe. Upon completion of the fusing and prior to pulling the pipe, the DBF must provide the datalogger information to the CITY for review.
- E. The DBF will be responsible for maintaining drilling logs that provide drill bit locations at least 30 feet along the drill path. In addition, logs will be kept that record the following on an hourly basis throughout each drill pass, back ream pass or pipe installation pass:
 1. Drill fluid pressure
 2. Drilling fluid flow rate
 3. Drill thrust pressure
 4. Drill pullback pressure
 5. Drill head torque

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6. Horizontal distance of drill head from entry point
- F. Upon completion of the pilot hole phase of the operation, a complete set of as-built records showing the actual horizontal and vertical alignment of the pilot bore at intervals not exceeding 30 feet shall be submitted in duplicate to the CITY along with one electronic AutoCAD as-built drawing file. Contractor shall provide as-builts (mapping) of the installed pipe based on the tracking data generated by the guidance system used during installation. These records shall include copies of the plan drawing at a 1 inch = 20-foot scale, and a profile drawing at a 1 inch = 20 foot scale horizontal and a 1 inch = 2 foot scale vertical, as well as directional survey reports as recorded during the drilling operation.

1.6 SAFETY

- A. The DBF shall, at all times, conform to all applicable State and Federal regulations.
- B. DBF is to adhere to requirements of all permits. See Permit Conditions for permit requirements.
- C. Guided Directional Drilling Equipment machine safety requirements will include a common grounding system to prevent electrical shock in the event of high voltage underground cable strike. The grounding system will connect all pieces of interconnecting machinery: the drill, mud mixing system, drill power unit, drill rod trailer, operator's booth, worker grounding mats and any other interconnected equipment to a common ground. The drill will be equipped with an "electrical strike" audible and visual warning system that will notify the system operators of an electrical strike.
- D. Operators of the drill will wear electrical shock protection equipment and operate from common grounded mats as required.

PART 2 PRODUCT

2.1 MATERIALS

- A. The carrier pipe shall conform to Section 02610; Piping, General.
- B. Equipment (graders, shovels, etc.) and materials (such as groundsheets, hay bales, booms, and absorbent pads) for cleanup and contingencies shall be provided in sufficient quantities by DBF and maintained at all sites for use in the event of inadvertent leaks, seeps or spills.
- C. Technical criteria for bentonite shall be as given in API Spec. 13A, Specification for Oil Well Drilling Fluids Material for freshwater drilling fluids. Any modification to the basis drilling fluid involving additives must describe the type of material to be used and be included in DBF's drilling plan presented to OWNER. The OWNER retains the right to sample and monitor the waste drilling mud, cuttings and water.

2.2 HDPE PIPELINE IDENTIFICATION

- A. All polyethylene pipe shall be black, and shall contain a continuous colored stripe, 2 inches wide, at three separate locations along the length of the pipe. Stripe color shall be:
1. Potable Water Mains - blue stripe
 2. Reclaimed Water Mains - purple stripe
 3. Force Mains - brown stripes

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4. Sanitary Sewer - green stripe
5. Storm Sewer - no stripes required

PART 3 EXECUTION

3.1 DIRECTIONAL DRILLING OPERATION

- A. The DBF shall provide all material, equipment, and facilities required for directional drilling. Proper alignment and elevation of the opening shall be consistently maintained throughout the directional drilling operation. Entrance and exit angles for the drill are at the DBF's discretion such that the elevation profile maintains adequate ground cover to reasonably precaution against hydraulic fractures with the drilling fluid and maintain the minimum cover shown in the Drawings and specified herein.
- B. Contractor shall carefully plan the drill path and ensure all existing utilities are identified. Accuracy of the drill path is a priority. Contractor shall only use a wireline locating system or a gyro-based locating system for the tracking, steering and guidance of the directional bore. Contractor shall monitor and record the bore location during installation to ensure accuracy of the drill path. The position of the drill string shall be monitored by the DBF and recorded every 30 feet. Information of the bore path may be requested by the OWNER at any time. The profile and alignment defined on the construction drawings for the bores define the minimum depth and radius of curvature. At no point in the drilled profile shall the radius of curvature of the bore be less than the minimum defined by the pipe manufacturer with a 10% factor of safety. The DBF shall maintain and provide to the OWNER, upon request, the data generated by the downhole survey tools in a form suitable for independent calculation of the pilot hole profile.
- C. Boring pits shall be shored with sheeting, or such other materials as required. Sheeting shall be driven to a sufficient depth below the invert of the carrier pipe to resist any pressure developed by the soil outside the boring pit. Sheeting when used shall terminate not less than 3 feet 6 inches above existing grade.
- D. At the completion of the direction drilling operations, the DBF will be required to remove all sheeting in place. If steel sheeting is used, it may be removed after installation of the carrier pipe in the bore hole, but prior to installation of the joining carrier pipe. However, should damage to the roadway, pipeline or any other adjacent structure occur, the DBF shall leave all remaining sheeting in place and redrive and leave in place any sheeting which is required to stabilize the site and prevent additional damage from occurring. The top of all sheeting left in place shall be cut off 36 inches below finished grade.
- E. Bentonite or other stabilizing gels shall be used to prevent calving of the unsupported bore hole.

3.2 DRILLING FLUIDS AND CUTTINGS

- A. To the extent practical, the DBF shall maintain a closed loop drilling fluid system and utilize drilling tools and procedures which will minimize the discharge of any drilling fluids.
- B. DBF shall have divers present during the drilling operations in order to respond to

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potential frac-out release.

- C. The Guided Horizontal Direction Drilling operation is to be operated in a manner to eliminate the discharge of water, drilling mud and cuttings to the canal or land areas involved during the construction process. The DBF shall provide equipment and procedures to maximize the recirculation or reuse of drilling mud to minimize waste. All excavated pits used in the drilling operation shall be lined by DBF with heavy duty plastic sheeting with sealed joints to prevent the migration of drilling fluids and/or ground water.
- D. Pits constructed at the entry or exit point area shall be so constructed to completely contain the drill fluid and prevent its escape to the surrounding land or canal.
- E. Waste cuttings and drilling mud shall be processed through a solids control plant comprised as a minimum of stumps, pumps, tanks, distiller/desander, centrifuges, material handlers, and haulers all in a quantity sufficient to perform the cleaning/separating operation without interference with the drilling program. The cuttings and excess drilling fluids shall be dewatered and dried by DBF to the extent necessary for disposal, and disposal in offsite landfills at the DBF's expense. Water from the dewatering process shall be treated by DBF to meet permit requirements and disposed of locally. The cuttings and water for disposal are subject to being sampled and tested. The construction site and adjacent areas will be checked frequently for signs of unplanned leaks or seeps.
- F. All drilling mud shall be removed from the entry and exit area soils such that water will percolate. All disturbed areas shall be restored to original conditions.

3.3 INSTALLING PIPE

- A. The pipe installed within the boring shall be in full conformity with these Specifications and as shown on the Drawings. The pipe shall be installed, as to a reasonable directional drilling ability, to the exact lines grades required after having been satisfactorily approved by the CITY from the directional drillers expected drill path plan and profile sheets provided in Section 1.5.
- B. The type and size of the pilot string cutting head shall be at the DBF's discretion. The type and outside diameter of the drill pipe to be used in the pilot string shall also be at the DBF's discretion.
- C. A minimum depth requirement of 10 feet below the existing crossing bottoms shall be maintained, depths deeper than 10 feet shall be acceptable. Lateral positioning at exit shall be no further than 5 feet left or right of planned centerline, and horizontal positioning shall be no further than 5 feet short or long of proposed exit location. Entry and exit locations, as well as intermediate centerline stationing, shall be staked by the DBF.
- D. Upon approval of the pilot hole location by the CITY, the hole opening or enlarging phase of the installation shall begin. The type of hole opener or back reamer to be utilized in this phase shall be determined by the types of subsurface soil conditions that have been encountered during the pilot hole drilling operation. The reamer type shall be at the DBF's discretion.
- E. The open borehole may be stabilized by means of bentonite drilling slurry being pumped through the inside diameter of the drill pipe and through opening in the

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reamer. The slurry will also serve as an agent to carry the loose cutting to the surface through the annulus of the borehole. These cuttings and bentonite slurry are to be contained at the exit or entry side of the directional bore in pits or holding tanks. The slurry may be recycled at this time for reuse in the hole opening operation, or it shall be hauled by the DBF to an approved dump site and properly disposed.

- F. Each length of pipe shall be inspected and cleaned as necessary to be free of debris immediately prior to joining.
- G. A complete list of all drilling fluid additives and mixtures to be used in the directional operation will be submitted to the CITY, along with their respective Material Safety Data Sheets. All drilling fluids and loose cuttings shall be contained in pits or holding tanks for recycling or disposal, no fluids shall be allowed to enter any unapproved areas or natural waterways. Upon completion of the directional drill project, drilling fluid shall be disposed of by the DBF at an approved dump site.
- H. A "weak-link or breakaway device shall be used at the leading end of the pipe to protect the pipe from excessive pulling loads. The breakaway strength of this device shall be set at or below the allowable tensile load of the pipe.
- I. High Density Polyethene (HDPE) pipe shall not be placed in direct sunlight immediately prior to installation.
- J. HDPE pipe shall have the beads removed from the interior of the fused joints.
- K. A sufficient length of HDPE pipe shall be pulled past the exit point and left before the entry point to allow for relaxation.
- L. HDPE pipe shall have mechanical joint adapters to connect to the pipe on either side of the directional drills. Mechanical joint adapter used is to match HDPE pipe manufacturer requirements for connection to ductile iron pipe.
- M. HDPE shall have sufficient time for relaxation before connecting to the pipe on either side of the direction drill.

3.4 FUSING OF HDPE PIPE

- A. Standard practice for HDPE fusion shall follow the recommendations from the latest revision of ASTM 2620, ISO 21307 or industry standard international practices.
- B. Contractor to handle pipe and fusing operations with care. Fuse joints must be protected from rain, water and dust during fusing operations until the joint has cooled down.
- C. Contractor must use data loggers to monitor fusing and provide fusing data results to the CITY prior to pulling or installation of the pipe.
- D. Fusing beads must be inspected and shall show a clean fuse and be visually acceptable as required by ASTM 2620.

3.5 EXISTING UTILITIES

- A. The 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 may be present. It is the DBF's responsibility to locate all utilities or other subsurface obstructions that may interfere with the work.
- B. Utility lines and structures indicated on the Drawings which are to remain in service

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shall be protected by the DBF from any damage as a result of the operations. Where utility lines or structures not shown on the drawings are encountered, the DBF shall report them to the OWNER before proceeding with the Work. The DBF shall bear the cost of repair or replacement of any utility lines or structures which are broken or damaged by the DBF's operations.

- C. All utilities in close proximity to the drill pilot bore, back ream or carrier pipe installation must be exposed through a "pot-hole" or other opening, in accordance with state utility locate laws and regulations, to ensure, through visual inspection, that the drill, reamer or pipe has caused no damage to the utility and maintains adequate clearance.

3.6 TESTING

- A. DBF is required to perform a pressure test prior to installation of pipe. A leakage test in accordance with Contract Documents shall also be performed post pulling. All leakage tests shall be completed and approved prior to placing of permanent resurfacing. When leakage exceeds the amount allowed by the Specifications, the DBF, at its expense, shall locate the leaks and make the necessary repairs or replacements in accordance with the Specifications to reduce the leakage to the specified limits. Any individually detectable leaks shall be repaired, regardless of the results of the tests.

- B. Leakage Tests: The leakage testing shall be as follows:

1. All PVC and DIP pressure test (force mains and water mains): pressure mains shall be hydrostatically pressure tested for a period of not less than 2 hours at 150 PSI with an allowable leakage not to exceed the formula:

$$L = \frac{SD(P)^{1/2}}{148,000}$$

L = Allowable leakage in gallons per hour

S = Length of pipe in feet

D = Nominal diameter of pipe inches

P = average test pressure during test in pounds per square inch

All testing is to be in accordance with AWWA C605.

- C. HDPE pressure test shall be comprised of two phases as follows:

1. Pre-pressure Testing Phase
 - a. Safety precautions shall follow ASTM F2164.
 - b. Fill the test section slowly. Purge all air. Take all appropriate precaution to ensure that no air is trapped in the test section. Use air release valves or corporation stops to allow bleeding of trapped air, prior to beginning the test. Allow the test section and the test liquid to equalize to a common temperature.
2. Initial Expansion Phase (4 hours)
 - a. When the test section is completely filled and purged of air, gradually increase pressure in the test section to the required maximum pressure as determined by the DBF.
 - b. Add make-up water as necessary to maintain maximum test pressure

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INSTALLATION OF PIPE BY DIRECTIONAL DRILL TECHNIQUE

for a minimum of 4 hours.

- c. If test pressure cannot be attained, or if it takes an unreasonable long time to reach test pressure, there may be faults such as excessive leakage, entrapped air, or open valves, or the pressurizing equipment may be inadequate for the size of the test section. If such faults, exist, discontinue pressurizing, and correct them before continuing.
3. Test Phase (1 hour)
 - a. Reduce the pressure by 10 psi and monitor pressure for 1 hour. Do not increase pressure or add make-up water.
 - b. If no visual leakage is observed and pressure during the test phase remains steady, within +/- 5 psi, for the 1-hour test period, a passing test is indicated.
 - c. If retesting is necessary, depressurize the test section and correct any faults or leaks in the test section. Do not attempt to correct faults or Dix leaks while the test section is under pressure.
 - d. The rime required to pressurize, stabilize, hold test pressure, and depressurize should not exceed 8 hours. If re-testing is necessary: the test section should be depressurized for 8 hours prior to retesting.

3.7 COMPLETION OF DIRECTIONAL DRILLING

- A. Completion and successful testing of the approved pipe will entitle the DBF to full payment of the applicable amounts in the Contract.
In the event of failure to install the directional drilled pipelines, the DBF shall retain possession of any DBF-supplied pipe and remove it from the site. The bore holes shall be completely filled with grout to prevent future problems. If the pipe cannot be removed from the bore hole, it shall be cut off five feet below ground and the pipe and annular space shall be grouted.

END OF SECTION 02410

SECTION 02510
CONCRETE SIDEWALK

PART 1 GENERAL**1.1 RELATED DOCUMENTS**

- A. All applicable provisions of the Bidding and Contract Requirements, and Division 1- General Requirements shall govern the WORK under this section.

1.2 WORK INCLUDED

- A. The work specified in this Section consists of the construction of concrete sidewalk in accordance with these Specifications and in conformity with the lines, grades, dimensions and notes shown on the plans.

1.3 RELATED WORK

- A. Section 02200 – Earthwork.
B. Section 02110 - Clearing.
C. Section 03010 - Concrete.
D. Section 03300 - Cast-In-Place Concrete.
E. Section 03370 - Concrete Curing.

PART 2 PRODUCTS**2.1 CONCRETE**

- A. Concrete shall be Class I Concrete, with a minimum compressive strength of 3,000 psi in accordance with Section 345, Florida Department of Transportation Standard Specifications for Road and Bridge Construction.

2.2 FORMS

- A. Forms for this work shall be made of either wood or metal and shall have a depth equal to the plan dimensions for the depth of concrete being deposited against them. They shall be straight, free from warp or bends, and of sufficient strength when staked, to resist the lateral pressure of the concrete without displacement from lines and grade. Forms shall be cleaned each time they are used and shall be oiled prior to placing the concrete.

2.3 SUBGRADE AND GRADING

- A. Excavation shall be made to the required depth, and the foundation material upon which the sidewalk is to be set shall be compacted to a firm, even surface, true to grade and cross-section, and shall be moist at the time that the concrete is placed. Subgrade shall be compacted to an LBR of 40.

2.4 JOINTS

- A. Contraction joints may be of the open type or may be sawed. Staking a metal bulkhead in place and depositing the concrete on both sides shall form open type contraction joints. After the concrete has set sufficiently to preserve the width and shape of the joint, the

SECTION 02510
CONCRETE SIDEWALK

bulkhead shall be removed. After the sidewalk has been finished over the joint, the slot shall be edged with a tool having a 1/2-inch radius.

- B. If the DBF elects to saw the contraction joints, a slot approximately 1/8-inch-wide and not less than 1-1/2 inches deep shall be cut with a concrete saw after the concrete has set, and within the following periods of time:
- C. Contraction joints shall be constructed at not more than 20-foot intervals and shall be in place within 12 hours after finishing.

PART 3 EXECUTION

3.1 PLACING

- A. The concrete shall be placed in the forms to the required depth and shall be vibrated and spaded until mortar entirely covers its surface.

3.2 FINISHING

- A. Screeding: The concrete shall be struck-off by means of a wood screed, used perpendicular to the forms, and floated in order to obtain the required grade and remove surplus water and laitance.
- B. Surface requirements: The concrete shall be given a broom finish. The surface variations shall not be more than 1/4 inch under a ten-foot straightedge, nor more than 1/8 inch on a five-foot transverse section. The exposed edge of the slab shall be carefully finished with an edging tool having a radius of 1-1/2 inch.

3.3 CURING

- A. The concrete shall be continuously cured for a period of at least 72 hours. Curing shall be commenced after finishing has been completed and as soon as the concrete has hardened sufficiently, to permit application of the curing material without marring the surface.
- B. Wet burlap, white-pigmented curing compound, waterproof paper or polyethylene sheets may be used for the curing of grey concrete only.

3.4 COLORED CONCRETE (NOT USED)

- A. Colored – Conditioned Concrete shall be placed, finished, and cured in strict accordance with applicable requirements of this Section and Sections 03010, 03370, and the requirements of the chosen manufacturer.

END OF SECTION 02510

SECTION 02513
ASPHALTIC CONCRETE PAVING - GENERAL

PART 1 GENERAL**1.1 RELATED DOCUMENTS**

- A. All applicable provisions of the Bidding and Contract Requirements, and Division 1- General Requirements shall govern the WORK under this section.

1.2 WORK INCLUDED

- A. This section of the specifications covers the control and general conduct of asphalt paving construction for roads, parking, walks and court areas.
- B. All work within the right-of-way shall be constructed using materials and methods in accordance with the drawings, City of Fort Lauderdale Public Works Standard Details.
- C. Provide all labor, materials, necessary equipment, and services to complete the Asphaltic Concrete Paving work, as indicated on the drawings, as specified herein or both, except as for items specifically indicated as "NIC ITEMS".
- D. Including, but not necessarily limited to the following:
1. Preparation of subgrade.
 2. Installation and compaction of base course.
 3. Spreading of asphalt surface course.

1.3 RELATED WORK

- A. Section 02200 – Earthwork.

1.4 TRAFFIC CONTROL

- A. The DBF shall provide and maintain access to and from all properties along the line of DBF'S work. The DBF shall also provide temporary bypasses and maintain them in a safe and usable condition whenever the public cannot do detouring of traffic to parallel routes without hardship or excessive increases in travel.

1.5 SPECIAL SUBGRADE CONDITIONS

- A. When special subgrade conditions are encountered for which these "Asphaltic Concrete Paving Specifications" are not applicable, portions of these specifications shall be deleted or revised to provide a properly finished paved surface. A requested revision or deletion of the specifications shall be accompanied with reports and laboratory tests on existing field conditions. Any change from these "Asphaltic Concrete Paving Specifications" shall be approved by the CITY and shall be in effect only for a specified area or paving project.

1.6 QUALITY ASSURANCE

- A. D.O.T. Standard Specifications.
1. Work and materials shall conform to all applicable requirements of Florida Department of Transportation "Standard Specifications for Road and Bridge Construction – Latest Edition" (referred to herein as D.O.T.).
- B. American Society for Testing and Materials.
1. ASTM 3515-80 "Standard Specification for Hot-Mixed, Job Laid, Bituminous Paving mixtures."

Pumping Station A-16 Upgrade (Court House) 30" WM DCP

City of Fort Lauderdale Project 12412

CMA Project No. 047.057

SECTION 02513
ASPHALTIC CONCRETE PAVING - GENERAL

1.7 SUBMITTALS

- A. Provide copies of materials, notarized certificates of compliance signed by material producer and DBF, certifying that each material item complies with, or exceeds, specified requirements.

1.8 JOB CONDITIONS

- A. Apply prime and tack coats when ambient temperature is above 50 degrees, and when temperature has not been below 35 degrees for 12 hours immediately prior to application. Do not apply when base is wet or contains an excess of moisture.
- B. Construct asphalt concrete surface course only when atmospheric temperature is above 40 degrees, and when base is dry. Base course may be placed when air temperature is above 30 degrees and rising.

1.9 LOCATIONS, LAYOUT AND GRADES

- A. Locate and layout paved areas and rights-of-way with reference to benchmarks, property lines or buildings according to the drawings and as accepted by the CITY.
- B. Determine locations of paved edges and right-of-way line from surveyor's permanent reference monuments and information on the drawings.
- C. Where permanent reference monuments are not available, obtain proper line locations from authorities having jurisdiction.
- D. Establish and maintain required lines and elevations.

PART 2 PRODUCTS

2.1 FILL

- A. All fills shall be clean rock and sand (maximum rock size = 1 inch).
- B. Fill shall be compacted thoroughly as per Section 02200 - Earthwork.

2.2 LIMEROCK

- A. Limerock shall be obtained from pits for which all overburden has been removed previous to blasting and shall show no tendency to air slake and must undergo the following chemical requirements.

	<u>Percent</u>
Carbonates of Calcium	Min. 70.0 (Miami Limerock) and Magnesium 95.0 (Ocala Limerock)
Oxides of Iron and Aluminum	Max. 2.0
Organic Matter	Max. 0.5

- 1. Any constituents of other than those listed above shall be silica or inert material.
- 2. The material shall be crushed to such size that not less than 97% shall pass a 3-1/2 inch sieve and it shall be graded uniformly down to dust. All fine material shall consist entirely of dust of fracture.
- 3. Limerock from on-site may be used if the material meets the requirements of this section of the specifications.
- B. All limerock shall comply with requirements set forth under D.O.T. Section 911.
- C. Equipment: The equipment for constructing the rock base shall be in first class

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ASPHALTIC CONCRETE PAVING - GENERAL

working condition and shall include:

1. Three-wheel roller weighing not less than ten tons.
2. Self-propelled blade grader weighing not less than three tons. The wheelbase shall be not less than fifteen feet and blade length not less than ten feet.
3. Scarifiers shall have teeth space not to exceed 4-1/2 inches.
 - a. Provision for furnishing water at the construction site by tank or hose at a rate not less than 50 gallons per minute.

2.3 PRIME COAT

- A. Prime coat shall be Grade RC-70, cut-back asphalt, D.O.T. Section 916-2.
- B. Prime coat shall have full compatibility with surface treatment asphalt.
- C. The bituminous material shall conform to the requirements of the Florida Department of Transportation Standard Specifications for Road and Bridge Construction, Section 300- 2.
- D. The sand for cover shall be clean dry sand.

2.4 TACK COAT

- A. The bituminous material to be used for the tack coat shall conform to the requirements of the Florida Department of Transportation Standard Specifications for Road and Bridge Construction, Section 300-2.

2.5 ASPHALT

- A. The asphaltic concrete surface course shall be in accordance with the City of Fort Lauderdale, Florida Department of Transportation Standard Specifications for Friction Course, Superpave, Type S-1 and Type S-3, Asphaltic Concrete Surface Course.
- B. Pavement within public road right-of-way, which has been disturbed by this construction, shall be replaced with the same type and thickness to match the existing pavement section.
- C. General composition of mixtures:
 1. The aggregate in the asphaltic concrete shall be crushed stone and manufactured sand screening of natural sand or combination of both when necessary to meet requirements of composition of mix. All aggregate shall have a Los Angeles abrasion loss of less than 40%.
 2. The mineral aggregate shall be so graded, and the prescribed constituents, prepared as hereinafter set out, shall be combined in such proportions as to produce a mixture conforming to the following general composition limits by weight:

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ASPHALTIC CONCRETE PAVING - GENERAL

<u>Constituent</u>	<u>Passing Sieve</u>	<u>S-1 Percent by Weight</u>	<u>S-3 Percent by Weight</u>
Coarse Aggregate	3/4"	100	100
	1/2"	80-100	100
	3/8" No.4	75-93 47-75	88-100 60-90
Total Coarse Aggregate	No.10	31-53	40-70
Fine Aggregate	No.40	19-35	20-45
	No.80	7-21	10-30
Filler	No.200	2-6	2-6
<u>Constituent</u>		<u>Percent by Weight</u>	<u>Percent by Weight</u>
Total Fine Aggregate and Filler	No. 10	100	100
Total Mineral Aggregate		100	100
Total Mix		100	100
Asphalt Cement		5-9*	
(Bitumen) Total Mix		100	

*For highly absorptive aggregates the upper limit may be raised.

2.6 **SEAL COATING**

A. Homogeneous mixture of emulsified coal tar pitch, asbestos, sand and other inert fillers. It shall be easily remixed if settlement occurs in storage (except in the case of freezing). It shall be capable of application and complete coverage by rubber squeegee, brush, or approved mechanical method, to the surface of bituminous pavements at the spreading rate of point two (.2) to point three (.3) gallons per square yard in two (2) coats.

- B. Approved product: "TARFEX" manufactured by Bitucote Products Co. or approved equal.

PART 3 EXECUTION

3.1 BARRICADES

- A. Provide substantial temporary barricades around all areas of operation and maintain until work under this section is completed and approved.
- B. Install temporary traffic markers, signals, and signs as per the City of Fort Lauderdale requirements for:
1. Eliminate potentially hazardous conditions.
 2. Maintain adequate traffic patterns free of conflict with work under this Contract.

Pumping Station A-16 Upgrade (Court House) 30" WM DCP

City of Fort Lauderdale Project 12412

CMA Project No. 047.057

SECTION 02513
ASPHALTIC CONCRETE PAVING - GENERAL**3.2 PREPARATION OF SUBGRADE**

- A. This work consists of bringing the bottom of excavations and top of embankments of the roadway between the outer limits of the shoulders or base course to a surface conforming to the grades, lines, and cross sections shown on the plans. The subgrade shall be of uniform density ready to receive the rock base of the paving course.
- B. All soft and yielding material and other portions of the subgrade which will not compact readily shall be removed and replaced with suitable material and the entire subgrade brought to line and grade to provide a foundation of uniform compaction and supporting power.
- C. Stumps, roots, and other deleterious organic matter encountered in the preparation of the subgrade shall be removed.
- D. Where fills are required on areas covered or partly covered by existing paving, the entire area of such existing paving shall be scarified to a depth of at least six inches, and the scarified material spread evenly over the area to be filled to a width not less than that of the proposed paving.
- E. Material for fills shall consist of sand or other suitable material approved by the CITY free from stumps, roots, brushes, and other deleterious organic matter.
- F. Where fill is more than one foot (1 foot) in depth, the backfill material above the ground water table shall be compacted on one (8 inch) depth lift. Each individual layer of fill under the rock base shall have a density as specified in Section 02200, Paragraph 3.14.I. unless shown otherwise on the plans. Each individual layer of fill under the shoulder area shall have a density as specified in Section 02200, Paragraph 3.14.I., unless shown otherwise on the plans.
- G. The bottom of all excavated areas and the top of all fills where rock base is to be constructed shall be thoroughly compacted by rolling. Water shall be used to insure thorough compaction. The stability of the top 12 inch thickness of the subgrade immediately under the base, for the full base width plus six (6) inches on each side, shall be at least LBR 40 as determined by AASHTO T-180.
- H. Bring subgrade, which has been properly filled and shaped to a firm unyielding surface, by rolling an entire area with an approved vibratory power roller weighing a minimum of 10 tons.
 - 1. Thoroughly compact area inaccessible to the roller with approved hand tamper.
 - 2. Apply water sufficiently to compact the subgrade where the subgrade is of a dry, sandy nature and cannot be rolled.
- I. The subgrade shall be maintained free from ruts, depressions or other irregularities until rock base material is spread.
- J. For all roads and streets other than state highways, the stabilized subgrade shall have a minimum Limerock Bearing Ratio (LBR) of 40, unless otherwise noted on the plans.
- K. Where the bearing value of the existing subgrade is adequate without addition of stabilizing material, the subgrade shall be scarified and disked, harrowed, bladed or tilled for removal of boulders, roots, etc. to assure uniformity and thorough mixing of material to the full width and depth of required stabilization. The

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compacted subgrade shall conform to the lines, grades and cross-section shown on the plans.

- L. Test subgrade for crown and elevation after preparation and immediately before base of paving course is laid.
 - 1. Remove or add material and compact to bring to a correct elevation and uniform bearing if the subgrade is found not to be at the specified elevation at all points.
 - 2. Adjust the MAS rims, catch basin frames and valve boxes where necessary to match proposed finish grade.

3.3 CONSTRUCTION OF BASE COURSE

- A. This work consists of construction of lime rock base course for the asphaltic concrete wearing surface. The base course shall be constructed on the prepared subgrade with eight (8) inch thick limerock bases constructed in two four-inch lifts as shown on the drawings. Twelve (12) inch thick limerock bases shall be constructed in two six-inch lifts. The limerock base shall be a minimum LBR of 100 and shall extend six (6) inches beyond the edge of the asphaltic concrete on each side.
- B. Spreading Rock: The rock shall be transported to the points where it is to be used over rock previously placed, and dumped on the end of the preceding spread. It shall then be spread uniformly with hand tools, or mechanical equipment. In no case shall rock be dumped directly on the subgrade. No hauling shall be done over the subgrade.
- C. Compacting Rock
 - 1. Following spreading, the rock shall be rolled with a three-wheel roller weighing not less than ten tons, water being added as required, until the entire depth of base is compacted into a dense unyielding mass.
 - 2. No greater area of rock base shall be placed during any one day than that which can be rolled and compacted on the same day.
- D. Finishing Base
 - 1. After watering and rolling, the entire surface shall be thoroughly scarified to a depth not less than four inches (4") and shaped to exact crown and cross section, re-watered and again thoroughly rolled. Rolling shall continue until the entire depth of base is bonded and compacted into a dense, unyielding mass, true to grade and cross section.
 - a. Any irregularities, which may develop in the surface during such finishing, shall be corrected by the removal or addition of rock as the case may be.
 - b. If at any time the subgrade material becomes churned up and mixed with the base rock, the DBF shall dig out and remove the mixture, reshape and compact the subgrade and replace the materials removed with clean rock which shall be watered and rolled until satisfactorily compacted.
 - c. Where cracks or checks appear in the base either before or after priming, which in the opinion of the CITY would impair the structural efficiency of

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- the base course, the DBF shall remove such cracks or checks by re-scarifying, reshaping, watering, rolling and adding rock where necessary.
- d. During final compacting operations, if grading of any areas is necessary to obtain the true grade and cross section, the compacting operations for such areas shall be completed prior to making the density tests on the finished base.
- E. Inferior Rock: If in the opinion of the CITY at any time during the progress of the work, rock of inferior quality is being delivered to the construction site, a laboratory analysis of the rock shall be made. Should the results of such tests indicate that the rock does not conform to specifications, the DBF shall, at DBF's own expense, remove such inferior material from the area indicated and deliver and spread satisfactory rock on said area.
- F. Testing Surface: The finished surface of the rock base shall be true to the required cross section. Any irregularities in the grade greater than 1/4 inch, as determined by placing a ten-foot straight edge parallel with the centerline, shall be corrected by scarifying to a depth of three inches (3"), removing or adding rock as may be required and again watering, rolling, and compacting the scarified area. In testing the surface for irregularities, the measurements under the straight edge shall not be taken in small holes caused by individual pieces of rock having been pulled out by the road grader.
- G. Thickness Determination: Thickness of the base shall be measured by intervals as required by the CITY. Measurements shall be taken at various points on the cross section. The measurements shall be taken in holes through the base of not less than three inches (3") in diameter. Where the base is more than 1/2 inch less than the required compacted thickness, the DBF shall correct such areas by scarifying and adding rock. The affected areas shall then be watered, rolled and brought to a satisfactory state of completion, and of required thickness and cross section.
- H. Density: An average required density shall be as specified in Section 02200, Paragraph 3.14.I at intervals acceptable to the OWNER. No section of base shall be accepted when more than 10% of tests fall below 98% of maximum density and in no case shall a density of less than 96% of maximum be accepted.
- I. Testing: The DBF shall coordinate with CITY for all testing. All tests shall be made in accordance with AASHTO, T-180 for each class of material in the subgrade and base.
1. In place density tests in accordance with AASHTO T-147 shall be made in the locations shown on the plans. Two copies of the test reports will be sent directly to the CITY for evaluation.
 2. Any material, which fails to meet these specifications, shall be removed, replaced, and retested, all at the DBF's expense.
 3. Tests shall be taken at least every 1,000 square yards and taken at locations and lifts as directed by the CITY.

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3.4 PRIME COAT FOR BASE COURSE

- A. Cleaning the prepared base:
1. Before any bituminous material is applied, all loose material: dust, dirt, caked clay and foreign matter which might prevent proper bond with the existing surface shall be moved to the shoulders, to the full width of the treatment, by means of revolving brooms or approved mechanical sweepers and by mechanical blowers, of approved types, supplemented by hand sweeping. Dust and other loose materials not removed by mechanical means shall be removed with hand brooms. Particular care shall be taken to clean the outer edges of the strip to be treated in order to ensure that the prime coat will adhere. Sweeping and blowing shall be continued until all the loose dust and dirt is removed from the surfaces.
 2. Application of bituminous material shall be made during the same day surface has been swept and as soon as practical thereafter.
- B. Application for prime coat:
1. The bituminous material shall be applied to the clean dry surface of the rock base at such temperature as will insure uniform distribution. The amount applied will be at the rate of approximately 0.10 to 0.20 gallons per square yard of base area. The application shall be made by means of self-propelled pressure distributor operating under a pressure not less than 20 pounds per square inch. Application of bituminous material shall be made on only one-half of the width of base at one time.
 2. The primed base shall then be covered with a uniform layer of clean sand and kept thoroughly and uniformly covered by additional sand or sweeping until it shows no signs of picking up under traffic. For a period of one week after priming, the DBF shall again broom any area where insufficient cover sand or excess of bituminous material causes "bleeding" and, if necessary, spread additional sand on such area.
- C. Prime coat finish: After prime has cured or sat and been sanded, the shoulder shall be shaped to conform to all grade lines and cross sections and the entire area shall be rolled and compacted with a rubber-tired roller or a power roller before asphalt surface is laid on the finished base.

3.5 BITUMINOUS TACK COAT

- A. Before applying any bituminous material, all loose material: dust, dirt and foreign material, which might prevent proper bond with the existing surface, shall be removed for the full width of the application.
- B. Application for tack coat:
1. The surface to receive the tack coat shall be clean and dry. The tack coat shall be clean and dry. The tack coat shall be applied with a pressure distributor except that on small jobs, if approved by the CITY, the application may be made by other approved mechanical methods or by hand methods. The pressure distributor shall operate at a pressure not less than 20 pounds per square inch and at a consistency such that it can be properly pumped and sprayed uniformly over the surface.

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2. The bituminous material shall be applied in a thin uniform layer. The rate of application shall be between 0.02 and 0.10 gallon per square yard. The tack coat shall be applied sufficiently in advance of the laying of the wearing surface to permit drying but shall not be applied so far in advance that it might lose adhesiveness as a result of being covered with dust or other foreign material. The tack coat surface shall be kept free from traffic until the wearing surface is laid.

3.6 ASPHALTIC CONCRETE WEARING SURFACE COURSE

- A. Cleaning and preparing base:
 1. Prior to the laying of the asphaltic concrete, the base of pavement to be covered shall be cleaned of all loose deleterious material by the use of power brooms or blowers. A tack coat shall be applied on all pavements. The tack coat shall not be applied so far in advance of laying operations as to allow shifting and sand or weather conditions to nullify its effectiveness.
 2. After the surface has been thoroughly cleaned, all holes shall be filled with asphaltic concrete, if necessary, and thoroughly compacted to conform to the existing surface and to form a smooth surface.
- B. Placing asphaltic concrete: The asphaltic concrete surface course shall be applied after the tack coat after a reasonable permitted time for drying but not to an extent that the tack coat is allowed to lose its adhesiveness.
 1. Machine spreading: Upon arrival the mixture shall be dumped into the approved mechanical spreader and immediately spread and struck off to the full width required and to the appropriate loose depth for each successive course that when the work is completed the required weight of the mixture per square yard or the specified thickness will be secured. An excessive amount of mixture shall be carried ahead of the screen at all times. Hand raking shall be done behind the machine as required.
 2. Hand spreading: In limited areas, where, on account of irregularities or unavoidable obstacles, the use of mechanical spreading and finishing equipment is impractical, the mixture may be spread by hand, when so authorized by the CITY.
 3. The mixture shall be laid only when the surface to be covered is dry and only when weather conditions are suitable.
 4. All structures which will be in actual contact with asphaltic mixture, including the face or surface of curbs or gutters and the vertical faces of existing pavements, shall be painted with a uniform coating of asphalt material to provide a closely bonded, watertight joint.
 5. Where necessary, due to the traffic requirements, the mixture shall be laid in strips in such manner as to provide for the passage of traffic.
 6. Any mixtures caught in transit by a sudden rain may be laid at the DBF's risk. In no case shall the mixture be laid while rain is falling or when there is water on the surface to be covered.
 7. The depth of the layer being spread shall be gauged as directed, and where the thickness fails to average the specified thickness, immediate steps shall

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- be taken to correct the depth.
8. Before any rolling is started, the course surface shall be checked, any inequalities adjusted, and all drippings, fat sand accumulations from the screed and fat spots from any source shall be removed and replaced with satisfactory material.
 9. Straight-edging and back patching shall be done after initial completion has been obtained and while the material is still hot. Any irregularity greater than 1/4 inch either longitudinally or transversely shall be corrected at this time.
 10. No skin patching shall be done. When a depression is to be corrected while the mixture is hot, the surface shall be well scarified before the addition of fresh mixture. If irregularities occur and are not corrected while the mixture is still hot, the irregularities shall be cut out the full depth of the layer and replaced with fresh mixture.
- C. Compacting mixture: After the spreading, the mixture shall be rolled when it has set sufficiently or come to the proper condition to be rolled, and when the rolling does not cause undue displacement or shoving.
1. The motion of the roller shall at all times be slow enough to avoid displacement and shall at once be corrected by the use of rakes and fresh mixture where required. The rolling shall include all transverse, longitudinal, and diagonal rolling, as may be necessary to obtain the maximum density.
 2. The seal rolling with tandem steel rollers weighing from five to eight tons shall follow as close behind the spreader as is possible without picking up or displacing or blistering the material.
 3. Rolling with the self-propelled pneumatic-tired rollers shall follow as soon as possible and as close behind the seal rolling as the heat of the mixture will permit. The rolling shall be done while pavement temperature is between 175o and 240oF, and to such an extent that the self-propelled traffic roller shall cover every area of the surface with at least ten passes. Final rolling with tandem steel rollers shall be done after the rolling with self-propelled pneumatic tired rollers is completed. This final rolling shall be done before the pavement temperature is lower than 175oF and shall be continued until all roller marks or tire marks are eliminated.
 4. Self-propelled pneumatic rollers shall be used for the rolling of patching and leveling courses. At the option of the DBF, a steel-wheeled roller may be used to supplement the self-propelled pneumatic-tired rollers but not more than one steel-wheeled roller may be used in conjunction with the necessary number of self-propelled pneumatic- tired rollers. After final completion, the finished pavement shall at no point have a density less than 95% of the laboratory compacted density.
 5. Rolling with the self-propelled pneumatic-tired roller shall proceed at a speed from six to twelve miles per hour and the rate of rolling shall not exceed 3,000 square yards per hour per roller. A sufficient number of self-propelled pneumatic-tired rollers shall be used so that the rolling of the surface for the required number of 10 passes within this maximum rolling rate shall not delay any other phase of the placing operation and not result in excessive cooling

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- of the mixture before the rolling is complete. In the event that the rolling is not properly maintained to schedule as outlined above, the laying operation shall be discontinued until the rolling operations are sufficiently caught up.
6. In all places inaccessible to a roller, such as adjacent to curbs, headers, gutters, bridges, MAS, etc., the required compaction shall be secured with tamps. Depressions, which may develop before the completion of the rolling, shall be remedied by loosening the mixture laid and adding new material to bring such depressions to a true surface.
 7. Should any depressions remain after final compaction has been obtained, the mixture shall be removed sufficiently, and new material added to form a true and even surface. All high spots, high joints and honeycombs shall be adjusted as directed by the CITY.
 8. The mixture, after compaction, shall be of the thickness shown on the plans. After compactions, at no place on the surface shall an excess of asphalt be shown and any area showing such excess or other defect, shall be cut out and replaced with fresh mixture and immediately compacted to conform with the surrounding area. Any mixture which becomes loose or broken, mixed with dirt in the wearing course shall be removed and replaced with fresh mixture which shall be immediately compacted to conform with surrounding areas.
 9. Gasoline or oil from rollers shall not be allowed to deposit on the pavement and any pavement damaged by such deposits shall be removed and replaced as directed by the CITY.
 10. Any mixture remaining unbonded after rolling shall be removed and replaced.
- D. Protection of pavement: After the completion of the pavement, no vehicular traffic of any kind shall be permitted on the pavement until it has set sufficiently as approved by the CITY.

3.7 ABUTTING EXISTING PAVING

- A. Meet elevation of existing paving and structures, facilities and utilities where applicable by sawcutting and removing no less than two (2) feet from abutment. Milling of asphalt for a width of two (2) feet is an alternative if approved by CITY. Do not cover access covers, MAS tops, water meters or other similar devices.

3.8 PAVEMENT EDGES

- A. Make edges of paved area conform to details and sections as shown on drawings.

3.9 SEAL COATING

- A. Preparation of surface: Pavement to be sealed must be sound and free of loose dust, dirt, stones, or other foreign matter:
 1. Repair any breaks or holes.
 2. Scrape off accumulations of oil or fuel drippings and scrub with detergent and water. Remove all traces of detergent.
 3. Soft or damaged spots must be repaired.
 4. Flush entire area with clean water.

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5. Pavement should be damp (no puddles or excess water) when seal coating is applied.
- B. MIXING: Stir seal coating to a uniform consistency, use no solvents for thinning. Dilute seal coating with ten (10) percent to twenty (20) percent clean water, stirring to uniform consistency.
- C. Application:
 1. Seal coat may be applied to dampened surface with a rubber squeegee, soft bristled push broom, or approved mechanized equipment.
 2. Seal coating may be poured directly onto pavement in a ribbon or window. Squeegee is placed on pavement at a slight angle to edge line of pavement and pulled in a window along pavement in parallel lines, always working excess material toward bottom edge of squeegee.
 3. Seal coating should be applied in two (2) thin coats. After first coat is completely dry to touch, a second coat may be applied at right angles to the first. Rate of application will depend on porosity of surface.
 4. Allow to cure for twenty-four (24) hours before opening to traffic.
 5. Do not apply seal coating when temperature is below fifty (50) degrees Fahrenheit, or falling, before sealer is dry, or rain appears imminent or forecast.
 6. Apply in strict accord with manufacturers published instructions.

3.10 FIELD QUALITY CONTROL

- A. Test in place asphalt concrete course for compliance with requirements for thickness and surface smoothness. Repair or remove and replace unacceptable paving as directed by OWNER's Representative.
 1. In-place compacted thickness will not be acceptable if exceeding following allowable variation from required thickness:
 - a. Base Course: Not greater than 1/2 inch of specified thickness.
 - b. Surface Course: Not greater than 1/4 inch of specified thickness.
 2. Test finished surface of each asphalt concrete course for smoothness, using 10-foot straight edge applied parallel with, and at right angles to centerline of paved area. Surfaces will not be acceptable if exceeding the following tolerances for smoothness.
 - a. Base Course Surface: 1/4 inch.
 - b. Wearing Course Surface: 1/8 inch.
- B. Check surface area at intervals as directed by the CITY.
- C. Finish grade shall be within ± 0.01 feet of the grades indicated on the plans or ± 0.05 feet as long as no ponding of water is observed after final paving.

3.11 CLEAN UP

- A. Remove all debris and excess material immediately from project site.
- B. Take down all barricades and temporary traffic markers, signals and signs only after all work included in this section is finished and inspected, and only after so directed by the CITY
- C. Leave project area clean, orderly and free of any hazardous conditions.

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3.12 CONSTRUCTION OF SWALES

- A. This work consists of regrading existing swales and construction of new swales adequate for conveying storm water along the right-of-way to catch basins. The swale shall be shaped according to the cross section shown on the plan. In areas adjacent to existing roadways all swales shall be regraded to meet the City of Fort Lauderdale standards, unless otherwise noted.
- B. Requirements: All soft and yielding material and other portions of the swale which will not compact readily shall be removed and replaced with suitable material and the entire swale area brought to the proper grade. Stumps, roots, and other deleterious organic matter encountered during the shaping for the swale shall be removed.
- C. The bottom of all excavated areas and the top of all fills of swale areas shall be thoroughly compacted by rolling. Water shall be used as necessary to insure thorough compaction. The stability of the top 12-inch thickness of swale area shall be at least LBR 40. Sufficient stabilizing material shall be added to swale area soil as required to provide the specified stability.
- D. The DBF shall place sod over existing areas damaged by construction. The sod shall match the existing sod type in the affected areas.

END OF SECTION 02513

SECTION 02601
SUBTERRANEAN STRUCTURES**PART 1 GENERAL****1.1 RELATED DOCUMENTS**

- A. All applicable provisions of the Bidding and Contract Requirements, and Division 1-General Requirements shall govern the WORK under this section.

1.2 WORK INCLUDED

- A. The work covered by this section shall include the furnishing of all labor, equipment, services, materials, products, and tests to perform all operations in connection with the construction of all new structures or modifications or abandonment of existing structures as shown on the plans, defined in these specifications and subject to the terms and conditions of this contract, including, but not limited to, maintenance access structures (MAS), conflict structures, catch basins, and inlets.

1.3 RELATED WORK

- A. Section 02200 – Earthwork
- B. Section 02221 - Excavation and Backfilling for Utilities

1.4 SUBMITTALS

- A. The DBF shall furnish the CITY shop drawings of the precast drainage structures and MAS for approval. Shop drawings should illustrate all dimensions, reinforcements and specifications.

PART 2 PRODUCTS**2.1 MORTAR**

- A. Mortar for use in constructing and plastering sewer structures shall conform to ASTM C-270, "Specifications for Mortar for Unit Masonry". A Portland cement-hydrated lime mixture or a masonry cement may be used provided that the same materials are used throughout the project.
- B. Mortar materials shall be proportioned by volume and shall consist of one-part Type II Portland Cement to two parts aggregate (sand). Portland Cement shall conform to ASTM C- 150, "Specifications for Portland Cement". Aggregate shall conform to ASTM C-144, "Specifications for Aggregate for Masonry Units."

2.2 PRECAST CONCRETE MAS

- A. Precast MAS sections shall conform to ASTM C-478, Specifications for Precast Reinforce Concrete MAS Sections as modified thereto. Concrete shall attain a minimum compressive strength of 4,000 pounds per square inch at 28 days. Minimum wall thickness shall be 8 inches.
- B. Unless otherwise specified on the plans, all joints shall be made with neoprene or rubber "O" ring compression joints; mastic joint sealing compound, or approved equal. After assembly, all joints shall be filled with mortar and painted to provide a smooth surface without joint voids.
- C. The base and walls that compose the bottom section of precast MAS shall be of monolithic construction, minimum 8 inches thick, and the edge of the base slab shall project a minimum 4 inches beyond the outside diameter of the wall.

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- D. Holes for piping shall be 6 inches larger than the outside diameter of the respective pipe. After the pipe is set, the void space between the pipe and the hole perimeter shall be completely filled with non-shrinking, quick-setting, waterproof cement mortar and struck smooth.
- E. The minimum height of precast base section shall be 36 inches from the bottom of the base slab; however, no holes for piping shall be cast less than 8 inches from the top of the base section or less than 2 inches from the top of the base slab.
- F. The maintenance access structure walls shall be coated inside and outside with 2 coats of coal tar epoxy. The first coat shall be red and the second coat shall be black. Each coat shall have a thickness of 8 mil for a total thickness of 16 mil outside and 16 mil inside.

2.3 ENDWALLS, CATCH BASINS, INLETS AND JUNCTIONS BOXES

- A. Endwalls, valve vaults, catch basins, inlets and junction boxes shall be constructed at the locations shown and to the dimensions indicated on site plans. Unless otherwise specified on the plans, inlets, junction boxes, catch basins, valve vaults and similar structures may be constructed of brick, concrete block, poured concrete or precast concrete. Precast catch basins shall conform to latest Portland Cement Association specifications. Concrete shall have not less than 4,000-pounds per square inch compressive strength at 28 days.
- B. Unless otherwise specified on the plans, all concrete for these structures shall be Class I concrete as specified in the Florida Department of Transportation "Standard Specifications for Road and Bridge Construction", latest revision, Section 345. Mortar for use in constructing and plastering shall be as previously set forth in this section.
- C. Brick shall be solid hard-burned clay conforming to ASTM Serial C-32-73, Grade MA. Concrete brick shall conform to ASTM Serial C-55-75, Grade P-I. Concrete block shall conform to ASTM Serial C-90-78, Grade PI.
- D. All brick or concrete block structures covered in this Section shall be plastered inside and outside with 1/2 inch of cement mortar. Inside surfaces shall be smooth and even.
- E. Base slabs and walls of concrete structures shall be constructed in a continuous pour between expansion joints.
- F. For each grate type inlet, two layers of Mirafi 140 fabric of "Poly Filter X" polypropylene material or approved equal, shall be sandwiched between 2 x 2 x 10/10 welded wire fabric cut to the grate size and attached to the underside of the grate. The sandwiched filter material shall be wired to the cross members of the grate each way on 4-inch centers. After inlet construction and the roadway construction is completed and the project site work (including landscaping) has been established, the filter material and fabric shall be removed with any retained silt or sand.

2.4 CASTINGS (INCLUDING FRAMES, COVERS AND GRATINGS)

- A. Iron castings shall conform to ASTM A-48, "Specifications for Gray Iron Castings", and shall be Class 30. Frames and grates may be Class 20.

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- B. All castings shall be made of clean, even grain, tough grey cast iron. The castings shall be smooth, true to pattern and free from projections, san holes, warp and other defects. The horizontal surface of the frame cover seats and the under surface of the frame cover seat which rests upon the coverseat shall be machined. After machining, it shall not be possible to rock any cover that has been seated in any position in its associated frame. Machining shall be required only on those frames and covers intended for vehicular traffic.
- C. Bearing surfaces between cast frames, covers and grates shall be machined and fitted together to assure a true and even fit. Within areas of vehicular traffic, the frames, covers and gratings shall be machined-ground so that irregularity of contact will be reduced to a minimum and will be rattle-proof.
- D. All MAS covers shall be provided with concealed pick holes. Manufacturer's name and catalog number shall be cast on all frames, covers, grates, etc. Covers shall be lettered "Storm Sewer" or "Sanitary Sewer" as applicable and shall be plainly visible as shown on the plans. The MAS frames and covers shall be flush with finished grade.
- E. Grates and covers for inlets shall be as shown on the plans, set to the grades indicated and conforming with the requirements of the castings described above. Grates shall be furnished complete with frames specifically constructed to provide full bearing at all points of contract.

PART 3 EXECUTION

3.1 CHANNELS

- A. Channels shall be accurately and smoothly formed in accordance with the plans. Channels shall be constructed of concrete with trowel-finished surfaces. The upper surface of the MAS shall be sloped toward the channels as shown.
- B. Drop pipe at sanitary sewer MAS shall be installed when the difference in elevation between the pipe invert and the invert at the center of the MAS exceeds two feet (2'), or where directed by the CITY. The drop MAS structure shall be built according to the plans and specifications.
- C. After channels are formed and section joints are pointed, the interior of the sanitary sewer MAS shall be painted with two coats of Koppers Bitumastic 300-M (7 mils per coat) or approved equal. The exterior shall be painted in a similar manner, if required by local regulations.
- D. Storm drainage structures are not required to be painted inside or outside. Provide finish and water proofing as specified in 3.02 and 3.03 below.

3.2 BRICKS

- A. All bricks shall be thoroughly wetted before being laid. Brick shall be laid by the above shove joint method so as to bond them thoroughly into the mortar. Headers and stretcher courses shall be so arranged as to bond and mass thoroughly. Joints shall be finished smooth and shall be not less than 1/4 inch or more than 1/2 inch in thickness.

SECTION 02601
SUBTERRANEAN STRUCTURES

3.3 MANHOLES AND OTHER STRUCTURES

- A. All joints shall be finished watertight; all openings for sewers, frames, etc., in precast MAS and catch basins shall be cast at time of manufacture. Spaces around all piping entering or leaving MAS shall be completely filled with Embecco mortar or approved equal.
- B. All MAS shall be set plumb to line and grade and shall rest on a firm carefully graded subgrade which shall provide uniform bearing under base.
- C. Grout for MAS bottoms shall consist of broken block, brick and 2:1 cement mortar.

3.4 CLEANING AND MAINTENANCE

- A. All structures shall be cleaned and maintained in workable condition until accepted by the CITY.

3.5 ABANDONMENT OF EXISTING STRUCTURES IN PLACE

- A. All structures shown on the drawings to be abandoned in place shall be removed to a minimum of 3 feet below existing grade and properly filled with material as in section 02200 paragraph 3.14. Excavation, backfill, and restoration shall be executed in accordance with requirements for removing existing and installing new structures.

END OF SECTION 02601

SECTION 02610
PIPING, GENERAL

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. All applicable provisions of the Bidding and Contract Requirements, and Division 1- General Requirements shall govern the WORK under this section.

1.2 WORK INCLUDED

- A. The DBF shall furnish and install all piping systems shown and specified, in accordance with the requirements of the Contract Documents. Each system shall be complete with all necessary fittings, hangers, supports, anchors, expansion joints, flexible connectors, valves, accessories, heat tracing, insulation, lining and coating, testing, disinfection, excavation, backfill and encasement, to provide a functional installation.
- B. The piping shown is intended to define the general layout, configuration, routing, method of support, pipe size, and pipe type. The mechanical drawings are not pipe construction or fabrication drawings. It is the DBF's responsibility to develop the details necessary to construct all mechanical piping systems, to accommodate the specific equipment provided, and to provide and install all spools, spacers, adapters, connectors, etc., for a complete and functional system.

1.3 RELATED WORK

- A. Division 2 as applicable.
 B. Section 02200 - Earthwork.
 C. Section 02221 - Excavation and Backfilling Utilities
 D. Section 02641 – Valves, General

1.4 REFERENCE STANDARDS

- A. Codes: All codes, as referenced herein are specified in Section 01090, "Reference Standards".
- B. Commercial Standards:
- | | |
|-------------------|---|
| ANSI/ASME B1.20.1 | Pipe Threads, General Purpose (inch). |
| ANSI B16.5 | Pipe Flanges and Flanged Fittings, Steel Nickel Alloy and other Special Alloys. |
| ANSI/AWWA | C100 Ductile Iron Pipe |
| ANSI/AWWA | C900 Plastic Pipe |
| ANSI/AWWA | C207 Steel Pipe Flanges for Water Works Service, Sizes 4 inch through 144 inch. |
| ANSI/AWWA | C606 Grooved and Shouldered Joints. |
| ANSI/AWS D1.1 | Structural Welding Code. |
| ASTM A 307 | Specification for Carbon Steel Bolts and Studs, 6,000 psi Tensile. |
| ASTM A 325 | Specification for High-Strength Bolts for Structural Steel Joints. |
| ASTM D 792 | Test Methods for Specific Gravity and Density of Plastics by Displacement. |

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ASTM D 2000 Classification System for Rubber Products in Automotive Applications.

1.5 SUBMITTALS

- A. The DBF shall submit complete shop drawings and certificates, test reports, affidavits of compliance, of all piping systems, in accordance with the requirements in Section 01340, "Shop Drawings, Product Data and Samples", and as specified in the individual sections. The shop drawings shall include all necessary dimensions and details on pipe joints, fittings, fitting specials, valves, appurtenances, design calculations, and material lists. The submittals shall include detailed layout, spool, or fabrication drawings which show all pipe spools, spacers, adapters, connectors, fittings, and pipe supports necessary to accommodate the equipment and valves provided in a complete and functional system.
- B. All expenses incurred in making samples for certification of tests shall be borne by the DBF.
- C. The DBF shall submit as part of the shop drawings a certification from the pipe fabricator stating that all pipes that are fabricated are subject to a recognized Quality Control Program. An outline of the program shall be submitted to the CITY for review prior to the fabrication of any pipe.

1.6 QUALITY ASSURANCE

- A. Inspection: All pipes shall be subject to inspection at the place of manufacture. During the manufacture of the pipe, the CITY shall be given access to all areas where manufacturing is in progress and shall be permitted to make all inspections necessary to confirm compliance with the Specifications.
- B. Tests: Except where otherwise specified, all materials used in the manufacture of the pipe shall be tested in accordance with the applicable Specifications and Standards.

1.7 MANUFACTURER'S SERVICE REPRESENTATIVE

- A. Where the assistance of a manufacturer's service representative is advisable, in order to obtain perfect pipe joints, supports, or special connections, the DBF shall furnish such assistance at no additional cost to the OWNER.

1.8 MATERIAL DELIVERY, STORAGE, AND HANDLING

- A. All piping materials, fittings, valves, and accessories shall be delivered in a clean and undamaged condition and stored off the ground, to provide protection against oxidation caused by ground contact. All defective or damaged materials shall be replaced with new materials.

1.9 CLEANUP

- A. After completion of the work, all remaining pipe cuttings, joining and wrapping materials, and other scattered debris, shall be removed from the site. The entire piping system shall be handed over in a clean and functional condition.

SECTION 02610
PIPING, GENERAL**PART 2 PRODUCTS****2.1 GENERAL**

- A. All pipes, fittings, and appurtenances shall be furnished in accordance with the requirements of the applicable Sections of Division 2 and as specified herein.
- B. Lining: All requirements pertaining to thickness, application, and curing of pipe lining, are in accordance with the requirements of the applicable Sections of Division 2, unless otherwise specified.
- C. Coating: All requirements pertaining to thickness, application, and curing of pipe coating, are in accordance with the requirements of the applicable Sections of Division 2, unless otherwise specified. Pipes above ground or in structures shall be field painted as directed by the CITY.
- D. Grooved Piping Systems: Piping systems with grooved joints and fittings may be provided in lieu of screwed, flanged, welded, or mechanical joint systems for ductile iron yard piping. (All piping above and below ground within the property limits of treatment plants, pump stations, and similar installations). All grooved couplings on buried piping must be bonded. To assure uniform and compatible piping components, all grooved fittings, couplings, and valves shall be from the same manufacturer. The DBF shall make the coupling manufacturer responsible for the selection of the correct style of coupling and gasket for each individual location.

2.2 PIPE FLANGES

- A. Flanges: Where the design pressure is 150 psi or less, flanges shall conform to either ANSI/AWWA C207 Class D or ANSI B16.5 150-lb class. Where the design pressure is greater than 150 psi, up to a maximum of 275 psi, flanges shall conform to ANSI/AWWA C207 Class E, Class F, or ANSI B16.5 150-lb class. However, AWWA flanges shall not be exposed to test pressure greater than 125 percent of rated capacity. For higher test pressures, the next higher rated AWWA flange or an ANSI-rated flange shall be selected. Where the design pressure is greater than 275 psi up to a maximum of 700 psi, flanges shall conform to ANSI B16.5 300-lb class. Flanges shall have flat faces and shall be attached with boltholes straddling the vertical axis of the pipe unless otherwise shown. Attachment of the flanges to the pipe shall conform to the applicable requirements of ANSI/AWWA C207. Flanges for miscellaneous small pipes shall be in accordance with the standards specified for these pipes.
- B. Blind Flanges: Blind flanges shall be in accordance with ANSI/AWWA C207, or with the standards for miscellaneous small pipes. All blind flanges for pipe sizes 12 inches and over shall be provided with lifting eyes in form of welded or screwed eyebolts.
- C. Flange Coating: All machined faces of metal blind flanges and pipe flanges shall be coated with a temporary rust-inhibitive coating to protect the metal until the installation is completed.
- D. Flange Bolts: All bolts and nuts shall conform to pipe manufacturers recommendations. Studs and bolts shall extend through the nuts a minimum of 1/4-inch. All-thread studs shall be used on all valve flange connections, where space restrictions preclude the use of regular bolts.

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- E. Insulating Flanges: Insulated flanges shall have bolt holes 1/4-inch diameter greater than the bolt diameter.
- F. Insulating Flange Sets: Insulating flange sets shall be provided where shown. Each insulating flange set shall consist of an insulating gasket, insulating sleeves and washers and a steel washer. Insulating sleeves and washers shall be one piece when flange bolt diameter is 1-1/2-inch or smaller and shall be made of acetel resin. For bolt diameters larger than 1-1/2-inch, insulating sleeves and washers shall be 2-piece and shall be made of polyethylene or phenolic. Steel washers shall be in accordance with ASTM A 325. Insulating gaskets shall be full-face.
- G. Insulating Flange Manufacturers, or approved equal:
 - 1. JM Red Devil, Type E;
 - 2. Maloney Pipeline Products Co., Houston.
 - 3. PSI Products, Inc., Burbank, California.
- H. Flange Gaskets: Gaskets for flanged joints shall be full-faced 1/16-inch thick compressed sheets of aramid fiber base, with nitrile binder and non-stick coating, suitable for temperatures to 700 degrees F, a pH of one to eleven, and pressures to 1000 psi. Blind flanges shall have gaskets covering the entire inside face of the blind flange and shall be cemented to the blind flange. Ring gaskets shall not be permitted.
- I. Flange Gasket Manufacturers, or approved equal:
 - 1. John Crane, style 2160.
 - 2. Garlock, style 3000.

2.3 THREADED INSULATING CONNECTIONS

- A. General: Threaded insulating bushings, unions, or couplings, as appropriate, shall be used for joining threaded pipes of dissimilar metals and for piping systems where corrosion control and cathodic protection are involved.
- B. Materials: Threaded insulating connections shall be of nylon, Teflon, polycarbonate, polyethylene, or other non-conductive materials, and shall have ratings and properties to suit the service and loading conditions.

2.4 MECHANICAL-TYPE COUPLINGS (GROOVED OR BANDED PIPE)

- A. General: Cast mechanical-type couplings shall be provided where shown. The couplings shall conform to the requirements of ANSI/AWWA C606. All gaskets for mechanical-type couplings shall be compatible with the piping service and fluid utilized, in accordance with the coupling manufacturer's recommendations. The wall thickness of all grooved piping shall conform with the coupling manufacturer's recommendations to suit the highest expected pressure. To avoid stress on equipment, all equipment connections shall have rigid-grooved couplings, or harness sets in sizes where rigid couplings are not available, unless thrust restraint is provided by other means. The DBF shall have the coupling Manufacturer's service representative verify the correct choice and application of all couplings and gaskets, and the quality of work, to assure a correct installation.
- B. Couplings for Steel Pipe, Manufacturers, or approved equal:
 - 1. Gustin-Bacon (banded or grooved);

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2. Victaulic Style 41 or 44 (banded, flexible);
 3. Victaulic Style 77 or 07 (grooved).
- C. Ductile Iron Pipe Couplings, Manufacturers, or approved equal:
1. EBAA Iron
 2. Romac.
 3. Sigma

Note: Ductile iron pipe couplings shall be furnished with flush seal gaskets.

2.5 SLEEVE-TYPE COUPLINGS

- A. Construction: Sleeve-type couplings shall be provided where shown, in accordance with ANSI/AWWA C219 unless otherwise specified, and shall be of steel with steel bolts, without pipe stop, and shall be of sizes to fit the pipe and fittings shown. The middle ring shall be not less than 1/4-inch in thickness and shall be either 5 or 7 inches long for sizes up to and including 30 inches and 10 inches long for sizes greater than 30 inches, for standard steel couplings, and 16 inches long for long-sleeve couplings. The followers shall be single-piece contoured mill section welded and cold expanded as required for the middle rings. They shall be of sufficient strength to accommodate the number of bolts necessary to obtain adequate gasket pressures without excessive rolling. The shape of the follower shall be of such design as to provide positive confinement of the gasket. Buried sleeve-type couplings shall be epoxy-coated at the factory as specified.
- B. Pipe Preparation: The ends of the pipe, where specified or shown, shall be prepared for flexible steel couplings. Plain ends for use with couplings shall be smooth and round for a distance of 12 inches from the ends of the pipe, with outside diameter not more than 1/64-inch smaller than the nominal outside diameter of the pipe. The middle ring shall be tested by cold-expanding a minimum of one percent beyond the yield point, to proof-test the weld to the strength of the parent metal. The weld of the middle ring shall be subjected to air test for porosity.
- C. Gaskets: Gaskets for sleeve-type couplings shall be rubber-compound material that will not deteriorate from age or exposure to air under normal storage or use conditions. Gaskets for wastewater and sewerage applications shall be Buna "N," grade 60, or equivalent suitable elastomer. The rubber in the gasket shall meet the following specifications:
1. Color - Jet Black
 2. Surface - Non-blooming
 3. Durometer Hardness - 74 ± 5
 4. Tensile Strength - 1000 psi Minimum
 5. Elongation - 175 percent Minimum
- D. The gaskets shall be immune to attack by impurities normally found in water or wastewater. All gaskets shall meet the requirements of ASTM D 2000, AA709Z, meeting Suffix B13 Grade 3, except as noted above. All gaskets shall be compatible with the piping service and fluid utilized.
- E. Insulating Couplings: Where insulating couplings are required, both ends of the coupling shall have a wedge-shaped gasket which assembles over a rubber sleeve of an insulating compound in order to obtain insulation of all coupling metal parts

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from the pipe.

- F. **Restrained Joints:** All sleeve-type couplings on pressure lines shall be harnessed unless thrust restraint is provided by other means. Harnesses shall be in accordance with the requirements of the appropriate reference standard, or as shown.
- G. **Manufacturers or Equal:**
 - 1. JCM Industries
 - 2. Hymax
 - 3. Smith-Blait

2.6 FLEXIBLE CONNECTORS

A. Flexible connectors shall be installed in all piping connections to engines, blowers, compressors, and other vibrating equipment, and where shown. Flexible connectors for service temperatures up to 180 degrees F shall be flanged, reinforced Neoprene or Butyl spools, rated for a working pressure of 40 to 150 psi, or reinforced, flanged duck and rubber, as best suited for the application. Flexible connectors for service temperatures above 180 degrees F shall be flanged braided stainless-steel spools with inner, annular, corrugated stainless steel hose, rated for minimum 150 psi working pressure, unless otherwise shown. The connectors shall be 9 inches long, face-to-face flanges, unless otherwise shown. The manufacturer shall approve the final material selection. The DBF shall submit manufacturer's shop drawings and calculations.

2.7 EXPANSION JOINTS

- A. All piping subject to expansion and contraction shall be provided with sufficient means to compensate for such movement, without exertion of undue forces to equipment or structures. This may be accomplished with expansion loops, bellow-type expansion joints, or sliding-type expansion joints. Expansion joints shall be of stainless steel, monel, rubber, or other materials, best suited for each individual service. The DBF shall submit detailed calculations and manufacturer's shop drawings, guaranteeing satisfactory performance of all proposed expansion joints, piping layouts showing all anchors and guides, and information on materials, temperature and pressure ratings.

2.8 PIPE THREADS

- A. All pipe threads shall be in accordance with ANSI/ASME B1.20.

PART 3 EXECUTION

3.1 GENERAL

- A. All pipes, fittings, and appurtenances shall be installed in accordance with the requirements of the applicable Section of Divisions 2. The lining manufacturer shall take full responsibility for the complete, final product and its application. All pipe ends and joints at screwed flanges shall be epoxy-coated, to assure continuous protection.
- B. Where core drilling is required for pipes passing through existing concrete, core

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drilling locations shall be determined by radiograph of concrete construction to avoid damage to embedded raceways and rebars.

- C. All exposed piping shall be painted. All piping to be painted shall be color coded in accordance with OWNER's standard color code. Color samples shall be submitted to CITY for final color selection.

END OF SECTION 02610

SECTION 02641
VALVES, GENERAL

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Provide all labor, materials, necessary equipment and services to complete the water distribution and wastewater transmission system work, as indicated on the drawings, as specified herein or both, except as for items specifically indicated as "NIC ITEMS".

1.2 WORK INCLUDED

- A. The DBF shall provide all tools, supplies, materials, equipment, and labor necessary for furnishing, epoxy coating, installing, adjusting, and testing of all valves and appurtenant work, complete and operable, in accordance with the requirements of the Contract Documents. Where buried valves are shown, the DBF shall furnish and install valve boxes to grade, with covers, extensions, and position indicators.
- B. The provisions of this Section shall apply to all valves and valve operators specified in the various Sections and Division 2 of these Specifications except where otherwise specified in the Contract Documents. Valves and operators in particular locations may require a combination of units, sensors, limit switches, and controls specified in other Sections of these Specifications.

1.3 RELATED WORK

- A. Section 02221 - Excavation and Backfilling for Utilities
B. Section 02610 - Piping, General

1.4 REFERENCE STANDARDS

- A. Codes: All codes, as referenced herein, are specified in Section 01090, "Reference Standards".
- B. Commercial Standards:
- | | |
|-----------------|---|
| ANSI B16.1 | Cast Iron Pipe Flanges and Flanged Fittings, Class 25, 125, 250, and 800. |
| ANSI B16.5 | Pipe Flanges and Flanged Fittings, Steel Nickel Alloy and Other Special Alloys. |
| ANSI/ASME B31.1 | Power Piping. |
| ASTM A 36 | Specification for Structural Steel. |
| ASTM A 48 | Specification for Gray Iron Castings. |
| ASTM A 126 | Specification for Gray Iron Castings for Valves, Flanges, and Pipe Fittings. |
| ASTM A 536 | Specification for Ductile Iron Castings. |
| ASTM B 61 | Specification for Steam or Valve Bronze Castings. |
| ASTM B 62 | Specification for Composition Bronze or Ounce Metal Castings. |
| ASTM B 148 | Specification for Aluminum-Bronze Castings. |
| ASTM B 584 | Specification for Copper Alloy Sand Castings for General Applications. |

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ANSI/AWWA C500	Gate Valves for Water and Sewerage Systems.
ANSI/AWWA C502	Dry-Barrel Fire Hydrants.
ANSI/AWWA C503	Wet-Barrel Fire Hydrants.
ANSI/AWWA C504	Rubber-Seated Butterfly Valves.
ANSI/AWWA C507	Ball Valves 6 Inches Through 48 Inches.
ANSI/AWWA C508	Swing-Check Valves for Waterwork Service, 2 Inches Through 24 Inches NPS.
ANSI/AWWA C509	Resilient-Seated Gate Valves for Water and Sewage Systems.
ANSI/AWWA C511	Reduced-Pressure Principle Backflow-Prevention Assembly.
ANSI/AWWA C550	Protective Interior Coatings for Valves and Hydrants.
SSPC-SP-2	Hand Tool Cleaning.
SSPC-SP-5	White Metal Blast Cleaning.

1.5 SUBMITTALS

- A. Shop Drawings: Shop drawings of all valves and operators including associated wiring diagrams and electrical data, shall be furnished as specified in Section 01340, "Shop Drawings, Product Data and Samples".
- B. Valve Labeling: The DBF shall submit a schedule of valves to be labeled indicating in each case the valve location and the proposed wording for the label.

1.6 QUALITY ASSURANCE

- A. Valve Testing: Unless otherwise specified, each valve body shall be tested under a test pressure equal to twice its design water-working pressure.
- B. Bronze Parts: Unless otherwise specified, all interior bronze parts of valves shall conform to the requirements of ASTM B 62, or where not subject to dezincification, to ASTM B 584.
- C. Certification: Prior to shipment, the DBF shall submit for all valves over 12 inches in size, certified, notarized copies of the hydrostatic factory tests, showing compliance with the applicable standards of AWWA, ANSI, ASTM, etc.

PART 2 PRODUCTS

2.1 VALVES, GENERAL

- A. General: The DBF shall furnish all valves, gates, valve-operating units, stem extensions, and other accessories as shown or specified. All valves and gates shall be new and of current manufacture. All shut-off valves, 6-inch and larger, shall have operators with position indicators. Where buried, these valves shall be provided with valve boxes and covers containing position indicators, and valve extensions. Shut-off valves mounted higher than 5 feet-6 inches above working level shall be provided with chain operators.
- B. Valve Flanges: The flanges of valves shall be in accordance with Section 02610, "Piping, General".
- C. Gate Valve Stems: Where subject to dezincification, gate valve stems shall be of

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VALVES, GENERAL

bronze conforming to ASTM B 62, containing not more than 5 percent of zinc nor more than 2 percent aluminum. Gate valve stems shall have a minimum tensile strength of 60,000 psi, a minimum yield strength of 40,000 psi, and an elongation of at least 10 percent in 2 inches, as determined by a test coupon poured from the same ladle from which the valve stems to be furnished are poured. Where dezincification is not a problem, bronze conforming to ASTM B 584 may be used.

- D. Protective Coating: Except where otherwise specified, ferrous surfaces, exclusive of stainless steel surfaces, in the water passages of all valves 4-inch and larger, as well as the exterior surfaces of all submerged valves, shall be coated with 2 part thermal setting epoxy coatings. Flange faces of valves shall not be epoxy coated. The valve manufacturer shall certify in writing that such coating has been applied and tested in the manufacturing plant prior to shipment, in accordance with these Specifications.
- E. Valve Operators: Where shown, certain valves and gates shall be furnished with electric operators, provided by the valve or gate manufacturer. The same manufacturer shall furnish all operators of a given type. Where different manufacturers supply these operators, the DBF shall coordinate their selection to provide uniformity of each type of electric operator. All valve operators, regardless of type, shall be installed, adjusted, and tested by the valve manufacturer at the manufacturing plant.
- F. Valve Labeling: Except when such requirement is waived by the CITY in writing, a label shall be provided on all shut-off valves exclusive of hose bibbs and chlorine cylinder valves. The label shall be of 1/16-inch plastic or stainless steel, minimum 2 inches by 4 inches in size, and shall be permanently attached to the valve or on the wall adjacent to the valve as directed by the ENGINEER. Valve labels shall be photographed and marked on the As-Built Drawings. Valves are also required to have an Identification Marker in accordance with the Contract Documents.
- G. Nuts and Bolts: All nuts and bolts on valve flanges and supports shall be in accordance with manufacturers recommendations. Where submerged or buried, all nuts and bolts on valve flanges and valve bodies shall be stainless steel.

2.2 GATE VALVES

- A. All buried gate valves shall be of the inside screw, non-rising stem type. Valves shall be capable of being repacked under line pressure. Valves 14-inch and larger installed on vertical pipes with their stems horizontal shall be fitted with bronze slides, tracks, rollers, and scrapers to assist the travel of the gate assembly. Quick opening valves shall have quick opening levers and cams in lieu of handwheel operators.
- B. Knife Gate Valves.
 - 1. Knife gate valves shall be provided with raised face and resilient seats for positive seating. Wetted parts shall be constructed of Type 316 stainless steel. Gates shall be finish-ground on both sides to prevent packing or seat damage. Valves 2 to 4 inches in size shall be furnished with cast stainless steel bodies; valves 6 to 24 inches in size shall be furnished with cast semi-steel bodies with stainless steel linings. Valve ends shall be of the flanged or wafer design, as shown. Gate guides and jams shall be steel. Actuator shall

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- be handwheel. Port design shall be full-round.
2. Manufacturers or approved equal:
 - a. Red Valve Company Inc.;
 - b. DeZurik Corporation
 - c. Fabri-Valves;
 - d. Rovang, Inc.
- C. Resilient-Seated Gate Valves
1. Resilient-seated gate valves conforming to ANSI/AWWA C509 shall be provided. Resilient-seated gate valves shall have cast iron bodies with flanged, bell, or mechanical joint ends, rubber-coated cast iron disc, flanged bonnet, bronze stem, O-ring seals, and operators with handwheel or square nut, unless otherwise shown. Rubber and rubber composition materials (EPDM) shall be suitable for use in water chlorine or chloramines and in sanitary sewage.
 2. Manufacturers or approved equal:
 - a. Clow Valve Co.;
 - b. Kennedy Valve;
 - c. Mueller Company;
 - d. M&H Valve

2.3 **ECCENTRIC PLUG VALVES**

- A. Equipment Requirements: Plug valves shall be of the non-lubricated, eccentric type with resilient faced plugs, port areas for valves 20 inches and smaller shall be at least 80% of full pipe area. Port area of valves 24 inches and larger shall be at least 70% of full pipe area. The body shall be of semi-steel (ASTM A-126 C1.B) and shall have bolted bonnet, which gives access to the intervals of the valve. Seats shall be welded overlay of high nickel content or a stainless steel plate locked in the body cavity. If a plate is used, it shall be replaceable through the bonnet access. Bearings shall be permanently lubricated of stainless steel, bronze or teflon lined, fiberglass backed duralon. Bearing areas shall be isolated from the flow with grit seals. Valves shall have packing bonnets where the shaft protrudes from the grit seals. Valves shall have packing bonnets where the shaft protruded from the valve and the packing shall be self-adjusting chevron type, which can be replaced without removing the bonnet. All nuts, bolts, springs and washers shall be stainless steel.
- B. Valves shall be designed for a working pressure of 150 PSI. The valve and actuator shall be capable of satisfactory operation in either direction of flow against pressure drops up to and including 100 PSI (for plug valves over 12 inches in diameter). Valves shall be bubble tight in both directions at 100-psi differential.
- C. Plug valves over 12 inches in diameter shall have worm gear operators. The operating mechanism shall be for buried service with a 2 inch square-operating nut.
- D. Plug valves are to be installed with the sear pointed towards the upstream flow, when specified.
- E. Manufacturers or approved equal:
 1. Milliken Valve Co.

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2. DeZurik Corporation.
3. Henry Pratt

2.4 BALL VALVES (4-INCH AND SMALLER)

- A. General Requirements: Unless otherwise specified or shown, general purpose ball valves in sizes up to 4-inch shall have manual operators with lever or handwheel. Ferrous surface of 4-inch valves, which will be in contact with water, shall be epoxy-coated. All ball valves shall be of best commercial quality, heavy-duty construction.
- B. Body: All ball valves up to 1-1/2 inch (incl.) in size shall have bronze or forged brass 2 or 3 piece bodies with screwed ends for a pressure rating of not less than 300 psi WOG (water-oil-gas). Valves 2-inch to 4-inch in size shall have bronze forged brass or steel 2 or 3 piece bodies with flanged ends for a pressure rating of 125 psi or 150 psi.
- C. Balls: The balls shall be solid brass or chrome plated bronze, or stainless steel, with large or full openings.
- D. Stems: The valves seats shall be of Polytetrafluoroethylene (PTFE) or Buna N, for bi-directional service and easy replacement.
- E. Manufacturers or approved equal:
 1. Jamesbury Corporation;
 2. Jenkins Bros.;
 3. Lunkenheimer Flow Control;
 4. Wm. Powell Company;
 5. Worcester Controls;
 6. Valve Primer Corporation.

2.5 SWING CHECK VALVES (3-INCH AND LARGER)

- A. General: Swing check valves for water, sewage, sludge, and general service shall be of the outside lever and spring or weight type, in accordance with ANSI/AWWA C 508 - Swing-Check Valves for Waterworks Service, 2 inch through 24 inch NPS, unless otherwise indicated, with full-opening passages, designed for a water-working pressure of 150 psi. They shall have a flanged cover piece to provide access to the disc.
- B. Body: The valve body and cover shall be of cast iron conforming to ASTM A 126, with flanged ends conforming to ANSI B 16.1, or mechanical joint ends, as shown.
- C. Disc: The valve disc shall be of cast iron, ductile iron, or bronze conforming to ASTM B 62.
- D. Seat and Rings: The valve seat and rings shall be of bronze conforming to ASTM B 62 or B 148, or of Buna-N.
- E. Hinge Pin: The hinge pin shall be of bronze or stainless steel.
- F. Manufacturers or approved equal:
 1. AFC
 2. M&H
 3. Danfoss Flo-Flex
 4. Mueller Company
 5. Clow

SECTION 02641
VALVES, GENERAL**2.6 AIR-VACUUM AND AIR-RELEASE VALVES**

- A. Air and Vacuum Valves: Air and vacuum valves shall be capable of venting large quantities of air while pipelines are being filled, and allowing air to re-enter while pipelines are being drained. They shall be of the size shown, with flanged or screwed ends to match piping. Bodies shall be of high-strength cast iron. The float, seat, and all moving parts shall be constructed of Type 316 stainless steel. Seat washers and gaskets shall be of a material insuring water tightness with a minimum of maintenance. Valves shall be designed for minimum 150-psi water-working pressure, unless otherwise shown.
- B. Air-Release Valves: Air-release valves shall vent accumulating air while system is in service and under pressure and be of the size shown and shall meet the same general requirements as specified for air and vacuum valves except that the vacuum feature will not be required. They shall be designed for a minimum water-working pressure of 150 psi, unless otherwise shown.
- C. Combination Air Valves: Combination air valves shall combine the characteristics of air and vacuum valves and air release valves by exhausting accumulated air in systems under pressure and releasing or re-admitting large quantities of air while a system is being filled or drained, respectively. They shall have the same general requirements as specified for air and vacuum valves.
- D. Manufacturers or approved equal:
 - 1. H-Tech;
 - 2. Golden-Anderson Valve Division (GA Industries, Inc);
 - 3. Crispin (Valve and Manufacturing Corporation).

2.7 CORPORATION STOPS (Ball Valve Type)

- A. Unless otherwise shown, corporation stops shall be made of brass alloy for key operation, with screwed ends with corporation thread or iron pipe thread, as required. AWWA taper thread for inlet thread and compression type fittings for outlet.
- B. Manufacturer or approved equal:
 - 1. Ford Meter Box Company;
 - 2. Cambridge Brass;
 - 3. Mueller Company.
- C. Electric Motor Operators
 - 1. All motorized valves shall be furnished by the DBF through the valve manufacturers as a complete package. Motor driven valve operators shall be furnished and installed in accordance with the applicable requirements shown on the process and instrumentation diagrams and electrical elementary diagrams. Operators shall comply with AWWA requirements for electrical operators.
 - 2. Electric operators including the motor, all required gearing, integral continuous duty rated reversing starter, AC line surge suppressors, controls and switches shall be as manufactured by Rotork, Limitorque, EIM; or approved equal.
 - 3. The motorized operators for modulating service shall be furnished with an integral position indicator/transmitter/controller. The above unit shall be

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- internally powered, factory calibrated and furnished with adjustable zero, span, gain and deadband controls.
4. The position indicator/transmitter shall provide a linear, isolated, 4-20 mA, 24 VDC output to remote instrumentation and controls proportional to 0-100 percent travel span. An external DC power source shall not be required.
 5. The position controller shall accept a linear 4-20 mA, 24 VDC input signal proportional to 0-100 percent travel span and shall generate appropriate outputs to the reversing starter to open/close the valve until the desired position has been reached as determined by the position feedback signal to the position controller. Input signal isolation shall be provided.
 6. The controller shall be furnished with circuitry to "lock in the last position" upon loss of control signal. DBF shall be responsible for proper transmitter/controller calibration in accordance with the manufacturer's recommendations.
 7. Operator capacity shall be adequate to continuously operate the valve under all operating conditions. Unless otherwise indicated, or specified, motor operators shall be furnished complete with motors, limit switch operating mechanisms, travel limit switches, torque switches, transmitters, controllers, starters, lightning and surge suppression, terminal blocks, gear reducers, handwheel, gearing, necessary components, and incidental accessories as follows:
 - a. All phases of the power supply shall be monitored. The DBF shall de-energize the motor upon detection of single phasing.
 - b. Logic circuits shall be protected against spurious voltage spikes, using opto-isolators in circuits connected to any remote input or output signals.
 8. Enclosure: The starter for 240 volt single phase motor operators and all local devices shall be mounted on a common NEMA 4 and PVC coated cast aluminum enclosure. The enclosure shall be permanently affixed to the valve operator housing.
 9. Valve Stops: Valve stops for the operators shall be positive in action. Closing shall be complete, and opening full. Stops shall be field adjustable to the required settings. The torque switches shall prevent any excessive mechanical stress or electrical overloading any direction of travel. Limit switches and gearing shall be an integral part of the motorized valve operator. The limit switch gearing shall be of the intermittent type, totally enclosed in its own gear case, grease lubricated to prevent direct and foreign matter from entering the gear train and shall be made of bronze or stainless steel. Limit switches shall be of the adjustable type capable of being adjusted to trip at any point between the normal position (full open, or full closed) and 75 percent of the travel to the opposite position.
 10. Local (Motor) Devices: Local devices shall include, but not be limited to the following:
 - a. Torque Switches: Torque switches, responsive to high torque encountered in either direction of travel. A torque switch, which has tripped due to mechanical load, shall not reset when the operator motor

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- has come to a halt.
- b. Limit Switches: Travel limit switches, for opening and closing direction of travel. Contract operations shall be as indicated on the Drawings. If not shown on the Drawings, the operator shall be furnished with a minimum of two DPDT switches. All switches shall be furnished with 5-ampere contacts. Switches shall be connected such that when the valve is fully open, or fully closed, the "open" or "close" light shall be illuminated. All limit switch contacts shall be wired out to a terminal strip so that the electrician in the field does not have to connect to the switches.
 - c. Local/remote selector switch with phase motor relay and auxiliary to provide dry contacts for collective indication of placement in the "remote" operating mode, the unit is powered, and that all safety/overload interlocks are satisfied to provide the above signal. For further requirements refer to electrical elementary control schematic.
 - d. Open/close push-button for local manual operation (modulating service).
 - e. Position indicator calibrated to 0-100 percent travel span.
 - f. Terminals for remote indication of full open, full closed and overload (torque).
11. Operating Unit Gearing: The actuator shall be double reaction unit with the capability of quickly changing the output speed with a gear change. The power gearing shall consist of generated spur or helical gears of heat-treated steel, and worm gearing where required by the type of operator. Quarter turn or traveling unit operators do not specifically require worm gearing. The worm shall be of hardened alloy steel and the worm gear shall be of alloy bronze. All power gearing shall be grease-lubricated. Ball or roller bearings shall be used throughout for all motor operators. A mechanical dial position indicator to display valve position in percent of valve opening shall be provided. The gearing shall comply with AWWA requirements.
 12. Stem Nuts: The actuator for other than quarter turn valves shall have a stem nut of high tensile bronze or other material compatible with the valve stem and suited to the application. The nut arrangement, where possible, shall be of the two-piece type to simplify field replacement. The stem nut for rising stem valves must be capable of being removed from the top of the actuator without removing the actuator from the valve, disconnecting the electrical wiring, or disassembling any of the gearing within the actuator.
 13. Manual Operation: A handwheel shall be provided for manual operation. The handwheel shall not relocate during hand operation nor shall a fused motor prevent manual operation.
 14. When in manual operating position, the volt motor driven unit will remain in this position until motor is energized at which time the valve operator will automatically return to electric operation and shall remain in motor position until handwheel operation is desired. This movement from motor operation to handwheel operation shall be accomplished by a positive declutching knob or lever, which will disengage the motor and motor gearing mechanically not electrically. Hand operation must be reasonably fast and require no more than

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- 100 lbs. of rim effort at the maximum required torque. It shall not be possible for the unit to be simultaneously in manual and motor operation.
15. 240 Volt Single Phase Motors: All motors on valves shall be designed for 240 volts 1-phase 60 Hz power. The motor shall be specifically designed for valve actuator service and shall be of high torque, squirrel cage reversible, totally enclosed, non-ventilated construction, with motor leads brought into the limit switch compartment without having external piping or conduit box. Motor insulation shall be NEMA Class B with maximum continuous temperature rating of 120° C (rise + ambient). Motors shall be sized to have a rated running time at the rated running torque of 15 minutes without exceeding the temperature rating of the insulation system. Running load torque shall be not more than 20 percent of the rated seating/unseating torque.
 16. Speed-torque curves for the motors and torque calculations for seating, unseating, and running conditions shall be submitted. The maximum valve torque (seating/unseating) shall be less than 50 percent of stall torque or starting torque potential of the motor whichever is greater.
 17. Operator Type:
 - Type A: Remote set point using a 4-20 mA analog signal
 - a. Local Operation
 - (1) LOCAL/REMOTE selector
 - (2) OPEN/CLOSE push buttons
 - (3) Position set-point potentiometer/indicator
 - (4) LOCAL accepts local position set point
 - (5) OPEN/CLOSE indication
 - (6) Fault (torque) indication
 - b. Remote operation
 - (1) REMOTE - accept a remote 4-20 mA position set-point
 - (2) Position transmitter 4-20mA signal to RTU
 - (3) Available Ready of Auto to RTU
 - (4) Fault torque status to RTU
 18. Valve Closure Time: Valve closure time shall be 1 minute.
 19. Spare Parts:
 - c. DBF shall furnish loose, one unit valve operator, complete with all the devices specified herein and with all the features and characteristics similar to the equipment supplied in this Contract. The spare operator shall be delivered to the OWNER still in crates.

2.2 BUTTERFLY VALVES

- A. General: Butterfly valves used for 12 inch diameter and larger ONLY. All valves shall meet or exceed ANSI/NSF 61, latest revision. All valves shall meet or exceed AWWA C-504, Class 150B, latest revision. Valves shall open left, or counterclockwise. Buried service valves shall have a 2-inch operating nut.
 1. Body: Body and disc material shall be cast or ductile iron meeting or exceeding ASTM A126 (latest revision) or A536, latest revision. Seat and all rubber material shall be chloramine resistant.

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2. Shaft: Shaft, nuts, screws, and hardware material shall be stainless steel (Type 304 minimum). Valve disc shall be rigidly attached to the shaft to eliminate any relative motion. Shaft shall be offset from the disc and body seats so that they do not intersect. Shafts of 3-inch diameter and smaller shall be one piece through the valve with factory set thruster(s) to center the disc in the seat. Shafts larger than 3 inches diameter shall be stub-shafts rigidly keyed to the disc. Stub-shafts shall be provided with an adjustable thruster(s) to move the disc and shaft assembly positively in either direction to center the disc in the seat
3. Coating: Except where otherwise specified, interior and exterior ferrous surfaces, exclusive of stainless-steel surfaces, in all valves shall be coated with two-part thermosetting epoxy coating or fusion bonded epoxy coating. Flange faces of valves shall not be epoxy coated. The epoxy shall be suitable for use in potable water, reclaimed water, and wastewater.
4. Manufacturers or approved equal:
 - a. Mueller
 - b. Val-Matic
 - c. Pratt
 - d. Clow

3 EXECUTION

3.1 VALVE INSTALLATION

- A. General: All valves, gates, operating units, stem extensions, valve boxes, and accessories shall be installed in accordance with the manufacturer's written instructions and as shown and specified. All gates shall be adequately braced to prevent warpage and bending under the intended use. Valves shall be firmly supported to avoid undue stresses on the pipe.
- B. Access: All valves shall be installed to provide easy access for operation, removal, and maintenance and to avoid conflicts between valve operators and structural members or handrails.

Valve Accessories: Where combinations of valves, sensors, switches, and controls are specified, it shall be the responsibility of the DBF to properly assemble and install these various items so that all systems are compatible and operating properly. The relationship between interrelated items shall be clearly noted on shop drawing submittals.
- C. Butterfly Valves: All exposed butterfly valves shall be installed with a means of removing the complete valve assembly without dismantling the valve or operator.

END OF SECTION 02641

SECTION 02713
WATER DISTRIBUTION SYSTEM

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. All applicable provisions of the Bidding and Contract Requirements, and Division 1- General Requirements shall govern the WORK under this section.

1.2 WORK INCLUDED

- A. Provide all labor, materials, necessary equipment and services to complete the Water Systems work, as indicated on the drawings, as specified herein or both, except as for items specifically indicated as "NIC ITEMS".

1.3 RELATED WORK

- A. Section 02200 – Earthwork
 B. Section 02221 – Excavation and Backfilling for Utilities
 C. Section 02610 – Piping, General
 D. Section 02641 – Valve, General

1.4 EXISTING UTILITIES

- A. Furnish temporary support, adequate protection and maintenance of all underground and surface utility structures, drains, poles and other obstructions encountered in progress of the work.
 B. Where the grade or alignment of the pipe is obstructed by existing utility structure as conduits, ducts, pipe branch connections to main sewers, or main drains, the obstruction shall be permanently supported, relocated, removed, or reconstructed by the DBF in cooperation with the OWNERS of such utility structures. No deviation shall be made from the required line or grade except as directed by the DBF.

PART 2 PRODUCTS

2.1 PIPE

- A. All metallic pipes shall have bituminous outside coating conforming to
- | | |
|----------------------|------------|
| Viscosity, KU at 25° | 56-60 |
| Flashpoint °F (TCC) | 40°F |
| Dry set to touch | 6 minutes |
| Dry hard | 22 minutes |
- B. Ductile iron pipe shall conform to ANSI/NSF 61, ANSI/AWWA C151/A21.51, AWWA C150, AWWA/ANSI C111/A2.11, and AWWA/ANSI C110/A21.1, latest revisions. Ductile iron pipe shall be a pressure class 350 for 4 inch to 24 inch diameter pipe and pressure class 250 for 30 inch to 60 inch diameter pipe. Pipe shall be cement-lined and seal-coated in accordance with ANSI/AWWA C104/A21.4.
1. Unless otherwise indicated, all ductile iron pipes shall be factory lined and coated.
- a. Lining: All pipes shall be cement mortar lined in accordance with AWWA Standard C104.
- b. Coating: Unless specified otherwise, all pipes shall be coal-tar enamel

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coated outside to a dry film thickness of at least 1 mil with Koppers Bitumastic Tank Solution, or equal.

- c. Repair: Anywhere that the coating is removed purposely or accidentally, the area shall be cleaned of any rust, grease and dirt and recoated to a minimum dry film as specified for the individual piece.
- C. All PVC pipes shall be Class 150 D.R. 18 ANSI/AWWA C900 suitable for use at maximum hydrostatic working pressure of 250 PSI. All pipes must meet requirements as set forth and bare the National Sanitation Foundation seal for potable water pipe.
- D. All HDPE water main pipe shall be SDR 9 and shall be in accordance with ANSI/AWWA C906 and ANSI/NSF 61 suitable for potable water conveyance. Resin material Shall meet or exceed the requirements of ASTM D3350, latest revision. Material shall be high density polyethylene (HDPE), PE 4710, PE 3608 or PE 3408.

2.2 FITTINGS

- A. The pressure rating shall be 350 PSI for fittings.
- B. Fittings shall be ductile iron, meeting the ANSI/AWWA standard Specification C153-A21.53.
- C. Fitting must be cement lined and seal coated per ANSI/AWWA C104/A21.4.0.
- D. Flanged fittings shall conform to ASA Specifications for Class 125.
- E. Ductile iron fittings shall conform to ANSI/AWWA standard Specification C110-A21.10 latest revision.

2.3 JOINTS

- A. BELL AND SPIGOT CONNECTIONS:
 - 1. Unless otherwise indicated, all ductile iron pipes shall be factory lined and coated.
- B. FLANGED CONNECTIONS:
 - 1. All flanged pipe barrels shall comply with the physical and chemical requirements as set forth in the Handbook of Ductile Iron Pipe Research Association. Flanges shall be in accordance with ANSI Specification B16.1 for Class 125 flanges. Bolts shall comply with ANSI Specification B18.2.
 - 2. Before starting fabrication of the cast iron pipe and fittings, complete detailed working drawings shall be submitted by the DBF for approval by the CITY. Such drawings shall show the piping layouts and contain schedules of all pipe, fittings, valves, expansion joints, hangers and supports and other appurtenances. Where special fittings are required, they shall be shown in large detail with all necessary dimensions. The drawings submitted shall show flanged jointed sections placed so as to be removed without disturbance to the main pipe sections.
 - 3. Flanged pipe shall be faced and drilled to the American Standard drilling, unless special drilling is called for or required. Where tap or stud bolts are required, flanges shall be tapped. Flanges shall be accurately faced and drilled smooth and true, at right angles to the pipe axis and shall be covered

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with zinc dust and tallow or a rust preventive compound immediately after facing and drilling.

4. Flanged pipe with screwed-on flanges shall be furnished with long hubs and the flanges shall be screwed on the threaded end of the pipe in the shop and the face of the flange and end of pipe refaced together. There shall be no leakage through the pipe threads and the flanges shall be designed to prevent corrosion of the threads from outside.
 5. Flanged joints shall be made with bolts or stud bolts and nuts. Bolts, stud bolts, and nuts shall conform to American Standard heavy dimensions; semi-finished with square or hexagonal heads and cold punched hexagonal nuts, meeting the requirements of ASTM Designation A-307. Bolt sizes shall be American Standard for the flanges specified, and bolts and nuts shall have good, true threads.
- C. HDPE PIPE JOINTS:
1. Lengths of pipe shall be assembled into suitable installation lengths by the butt fusion process, according to ASTM F2620, D2657, and F1290, latest revisions. All pipe so joined shall be made from the same class and type of raw material made by the same raw material supplier. Butt-fusion means the butt-joining of the pipe by softening the aligned faces of the pipe ends in a suitable apparatus and pressing them together under controlled pressure. Certification shall be provided that the persons performing this work are qualified by experience and instruction in the procedure.

2.4 HYDRANTS

- A. Fire hydrant shall have 5 ¼ inch main valve opening. Pumper nozzle to be 18 inches from finish grade. Fire hydrant shall comply with ANSI/AWWA C502-85 and ANSI/NSF 61, latest revisions. Hydrants shall be Mueller A-423, or Clow Medallion F-2545 or approved equal.
- B. Fire hydrants installed that have not been placed into service shall be tagged with a sign approved by OWNER and City of Fort Lauderdale to indicate that they are out of service.

2.5 WATER TAPS

- A. Tapping Existing Pipeline
 1. Tapping sleeves shall meet or exceed ANSI/NSF 61 and AWWAC223, latest revision. Tapping sleeves shall be Mueller H 615 or approved equal.
 2. Cast iron tapping sleeve or tapping cross shall have mechanical joint connections. The flanged end for tapping valve shall include a recess to provide positive alignment of the tapping valve.
 3. Tapping valves shall conform to ANSI/NSF 61, AWWA C500 standards. An Affidavit of Compliance shall be furnished for the valves. Tapping valves shall be Mueller H 667 or approved equal.
 4. Tapping valves 16-inch diameter and smaller shall be designed for operation in a vertical position with a vertical operating shaft. Tapping valves over 16-inch diameter shall be designed for operation in a horizontal position and shall

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have a vertical operating shaft.

2.6 WATER SERVICES

- A. Water service shall be polyethylene tubing, SDR 9, with a minimum working pressure of 200 PSI.
- B. All water service tubing and fittings shall be in conformance with "Broward County Water and Wastewater Services- Minimum Design and Construction Standards"

PART 3 EXECUTION

3.1 INSTALLATION, GENERAL

- A. Unloading Material: The DBF shall exercise care in unloading and handling pipe, valves, fittings, and all other material. Dropping pipe from trucks and allowing pipe to roll against another pipe will not be permitted.
- B. Excavation: Pipeline trenches shall be excavated to required depth as shown on the drawings or as directed by the DBF. In general, water distribution lines shall have a minimum of 30 inches cover for DIP pipe. If rock is encountered, excavation shall be carried a minimum of 8 inches below bottom of pipe, and trench backfilled with sand or earth and thoroughly tamped. Width of trench shall be sufficient to allow laborers to perform all operations incidental to constructing the pipeline. Hand dug bell holes shall be provided to permit proper joint making. No section of pipe shall bear on rock or on placed blocks/boulders. All excavations will be dewatered to permit dry joints.
- C. Work shall be properly braced where necessary. Where wood sheeting or certain designs of steel sheeting are used, the sheeting shall be cut off at a level two feet above the top of the installed pipe and that portion below that level shall be left in place. If interlocking steel sheeting of a design approved by the DBF is used, it may be removed providing removal can be accomplished without disturbing the bedding or alignment of the pipe. Any damage to the pipe bedding, pipe or alignment of the constructed main caused by removal of sheeting shall be cause for rejection of the affected portion of the work.

3.2 PIPE

- A. Installation of Pipe: All installation shall conform to AWWA C-600. Pipe shall not be rolled or pushed into the trench from the bank. Before pipe is lowered into the trench, it shall be thoroughly inspected by the DBF, as necessary, to ensure sound conditions and eliminate the possibility of leakage or bursting under test pressure.
- B. Water mains shall be laid at least 6 feet horizontally (10 feet preferred) from any existing or proposed sewer mains. A vertical distance of at least 18 inches should be maintained when a sewer pipe crosses under a water main per County standards. If it is not possible to obtain at least a minimum 12 inches clearance per the F.A.C. Rule, then the sewer pipe materials must be of a water main material quality with 20-foot lengths of pipe centering on the point of crossing. If a crossing where the sewer is laid above a water line is unavoidable, then the above-mentioned precautions shall be observed regardless of the distance of vertical separation between water mains and sewer piping.

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- C. Pipes and valves, fittings, and all other materials showing defects shall not be used for construction. All such defective materials shall be removed from the construction site immediately. Before pipe is lowered into the trench, it shall be swabbed or brushed to ensure that no dirt or foreign matter will be in the finished line.
- D. Pipe shall be laid on a flat bottom trench and backfill tamped to 6 inches above the top to the pipe. Pipe installation shall conform to "Type B Method" as adopted by Committee A-21 of the American Standards Association. A firm even bearing shall be provided throughout the length of each section of pipe. Pipe shall not bear on any unyielding structures, nor shall it support any other structures. All dead ends shall be plugged or capped, anchored and held in place with restrained joints as required. Except while work is in progress, all pipe openings shall be suitably plugged to prevent entrance of water or any foreign matter. Material deemed unstable for providing adequate support for pipe shall be removed and replaced by suitable material. Adequate backfill shall be deposited on the pipe to prevent floating. Any pipe, which has floated, shall be removed from the trench and reinstalled as directed by the CITY.
- E. Joints: All joints shall be suitable for the type of pipe being jointed and shall be made in accordance with manufacturer's recommendations.
 - 1. Mechanical joints: Mechanical joints shall be of the stuffing box type. The gland, followed by the rubber gasket, shall be placed over the plain end of the pipe, which is inserted into the socket. The gasket is then pushed into position so that it is evenly seated in the socket. The gland shall be moved into position against the face of the socket, bolts inserted and made finger-tight. Bolts shall be tightened by a ratchet wrench suitable for the size of pipe being connected alternately, bottom, then top, etc., until the joint is completed.
 - 2. Compression Pipe joints: Compression joints shall be a rubber seal joint, made pressure tight by a molded rubber gasket and lubricated to facilitate assembly. The joint shall be made tight by inserting the plain end into the bell after lubrication. Joints shall be made up as recommended by the manufacturer.
 - 3. Flanged joints: Flanged joints shall be made with rubber gaskets. Bolts shall have rough square heads and hexagonal nuts and made to American Standard rough dimensions and shall be recommended size trimmed. Bolts shall be recommended size for the diameter of the pipe being jointed and shall be tightened as to distribute evenly the stress in the bolts and bring the pipe into alignment.

3.3 INSTALLATION OF FITTINGS

- A. Applicable portions of these specifications shall apply to installation of fittings. Reaction of restrained joints shall be applied at bends and tees and where changes in pipe diameter occur at reducers or in fittings.

SECTION 02713
WATER DISTRIBUTION SYSTEM**3.4 INSTALLATION OF FIRE HYDRANTS**

- A. All hydrants shall stand plumb and burial line shall be set at finished grade. The pumper nozzle shall be set at 18 inches above finished grade.

3.5 INSTALLATION OF VALVES

- A. All valves shall stand plumb unless otherwise shown on the plans or directed by the OWNER's Representative. The operation of installing tapping sleeves and valves shall be done by an experienced organization that has been engaged in this type of work not less than one (1) year with a representative list of successful installations. All valves shall be tagged per BCWWS.

3.6 PRESSURE TESTS

- A. After pipe has been adequately backfilled, all laid pipes shall be subjected to hydrostatic pressure of 150 PSI. HDPE pressure test shall be as follows:
1. Pre-pressure Testing Phase
 - a. Safety precautions shall follow ASTM F2164.
 - b. Fill the test section slowly. Purge all air. Take all appropriate precaution to ensure that no air is trapped in the test section. Use air release valves or corporation stops to allow bleeding of trapped air, prior to beginning the test. Allow the test section and the test liquid to equalize to a common temperature.
 2. Initial Expansion Phase (4 hours)
 - a. When the test section is completely filled and purged of air, gradually increase pressure in the test section to the required maximum pressure as determined by the DBF.
 - b. Add make-up water as necessary to maintain maximum test pressure for a minimum of 4 hours.
 - c. If test pressure cannot be attained, or if it takes an unreasonable long time to reach test pressure, there may be faults such as excessive leakage, entrapped air, or open valves, or the pressurizing equipment may be inadequate for the size of the test section. If such faults, exist, discontinue pressurizing, and correct them before continuing.
 3. Test Phase (1 hour)
 - a. Reduce the pressure by 10 psi and monitor pressure for 1 hour. Do not increase pressure or add make-up water.
 - b. If no visual leakage is observed and pressure during the test phase remains steady, within +/- 5 psi, for the 1-hour test period, a passing test is indicated.
 - c. If retesting is necessary, depressurize the test section and correct any faults or leaks in the test section. Do not attempt to correct faults or Dix leaks while the test section is under pressure.
 - d. The rime required to pressurize, stabilize, hold test pressure, and depressurize should not exceed 8 hours. If re-testing is necessary: the test section should be depressurized for 8 hours prior to retesting.

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3.7 LEAKAGE TEST (PVC or DIP)

- A. After the main has been brought up to test pressure, it shall be held at this pressure and make up water shall be carefully measured by use of displacement meter or by pumping water from a vessel of known volume. The pipeline shall be walked, and all visible joints inspected for leakage and movement of pipe. All visible leaks shall be repaired. Should any section of pipeline disclose joint leakage greater than that permitted, the DBF shall at DBF'S own expense, locate and repair the defective joints until leakage is within the permitted allowance.
- B. The leakage test shall be conducted in accordance with AWWA Specification C-600, latest revision. Leakage shall be less than the number of gallons per hour as determined by the formula:

$$L = \frac{SD P^{1/2}}{148,000}$$

in which L equals the allowable leakage in gallons per hour, S is the pipe length of the main tested, D is the nominal diameter of the pipe in inches, and P is the average test pressure during the leakage test, in pounds per square inch, gauge. Length of test shall not be less than two (2) hours. Test pressure shall be 150% of working pressure at point of test but not less than 125% of normal working pressure at highest elevation. The test shall be conducted as directed by the DBF.

3.8 BACKFILL

- A. No trenches or excavations shall be backfilled until the trench and installation has been inspected and written approval given by the CITY. All backfill shall be carefully placed to avoid movement of the pipeline. Backfill shall be free from rock, large stones, boulders, brush, or other unsuitable material. It shall be placed in the trench uniformly on both sides of the pipe for full width of the trench and to the horizontal diameter of the full length of the pipe. This backfill shall be thoroughly tamped to provide support free from voids.
- B. Additional backfill shall then be placed between joints to an average depth of 12 inches over the top of the pipe where pipe is of 8 inch and smaller diameter, and 24 inches over larger pipe. Pipe joints shall remain exposed until completion of the pressure and leakage tests unless otherwise directed by the ENGINEER.
- C. On completion of pressure and leakage tests, the exposed joints shall be backfilled to a depth of 12 inches above the top of the pipe. Backfill shall be carefully compacted until 12 inches of cover exists over the pipe. The remainder of the backfill shall then be placed and compacted thoroughly by puddling and tamping as required. Where directed, puddling and tamping may be omitted, and backfill shall be neatly rounded over the trench to a sufficient height to allow for settlement to grade after consolidation.

3.9 STERILIZATION OF COMPLETE PIPELINE

- A. Before the final acceptance of complete pipeline, all requirements of the OWNER and Florida Department of Health of Broward County (BCHD) shall be satisfied. Satisfactory bacteriological test results from the DBF shall be forwarded to the

SECTION 02713
WATER DISTRIBUTION SYSTEM

CITY.

- B. Prior to chlorination of mains, all dirt and foreign matter shall be removed by high velocity flushing through fire hydrants or other approved blow-offs. The main shall then be filled with a chlorine solution of at least 50 parts per million of chlorine and retained in the pipe not less than twenty-four (24) hours. Chlorine residual after retention period shall be not less than 30 parts per million. After chlorination, the mains shall be thoroughly flushed with potable water and required samples taken for bacteriological analysis. Sampling to be witnessed by the ENGINEER.

3.10 RESTORATION OF SURFACE AND/OR STRUCTURES

- A. The DBF shall restore and/or replace paving, curbing, sidewalks, fences, sod, survey points and other disturbed surfaces to a condition equal to that before the work was begun and to satisfaction of the ENGINEER, and shall furnish all labor and materials incidental thereto. Relative restoration of surfaces and/or structures, the DBF shall comply with all governing agencies requirements including city, town, county and state.

3.11 CONNECTION TO EXISTING SYSTEM

- A. The DBF shall make proper arrangements for compliance with the regulations for connection to any existing distribution system with the OWNER of that system. Taps-in and connection will be made in strict accordance with the ENGINEER. When making connections to the existing system, the existing pipe will need to be restrained in accordance with the County Standard restraint joint requirements as noted in the Contract Documents.

3.12 ABANDONMENT OF EXISTING PIPELINE

- A. All water mains to be abandoned in place as shown on the drawings shall be cut and plugged after new mains and services are installed and service is properly restored to the homeowner. The pipeline shall be filled with concrete 12 inches from the end of the pipe as specified in Division 3 - Concrete, section 03010. Excavation, backfill and restoration shall be executed in accordance with the requirements of removing existing and installing new pipelines.

END OF SECTION 02713

SECTION 02900
LANDSCAPE WORK**PART 1 GENERAL****1.1 RELATED DOCUMENTS**

- A. All applicable provisions of the Bidding and Contract Requirements, and Division 1- General Requirements shall govern the WORK under this section.

1.2 WORK INCLUDED

- A. The work included in this section consists of furnishing all labor, supplies equipment and materials necessary to complete the installation of all landscaping as shown on the Plans as base bid including the installation of sod and seeding as shown, as well as all other related responsibilities as described in these Specifications and accompanying plans.
- B. Installation: All plant materials included shall be of the specific size and quality indicated on the plans and in these specifications and shall be installed in strict accordance with sound nursery practices and shall include maintenance and watering for all work outlined on the plans and specifications until final acceptance.
- C. Quantities and Locations: The CITY reserves the right to adjust the number and locations of the designated types and species to be used at any of the locations shown in order to provide for any modifications which might become necessary.

1.3 QUALITY ASSURANCE

- A. Responsibility for Assuring Quality Work: The DBF'S Superintendent shall be well versed in Florida plant material, planting operations, blueprint reading, and coordination with other performing contracts or services in the job area.
- B. All employees shall be competent and highly skilled in their particular job in order to properly perform the work assigned to them. The DBF shall be responsible for maintaining the quality of the material on the job throughout the duration of the CONTRACT.
- C. Correct Grade of Plants: In the event that it becomes apparent that any nursery supplying plants for this work has knowingly and consistently represented the grade of plants as being higher than their actual grades as determined under these provisions, all plants already delivered from such sources shall be removed from the job at the DBF'S expense, and no further plants will be accepted from such nursery until written evidence is submitted and confirmed that all material for delivery has been inspected and approved by inspectors of the State Plant Board as being of the grade as represented.
- D. Authority for Nomenclature, Species, Etc.: All plant material shall conform to the names given in Hortus Third, 1976 edition. Names of varieties not included therein conform generally with names accepted in the nursery trade.
- E. Grade Standards: All plant materials shall be nursery grown except where specified as collected material, and shall comply with all required inspections, grading standards and plant regulations as set forth by the Florida Department of Agriculture's "Grades and Standards for Nursery Plants" revised 1973, or with any superseding specifications that may be called for on the Plans or in the Specifications. ALL PLANTS NOT LISTED IN THE GRADES AND STANDARDS FOR NURSERY PLANTS, shall conform to a Florida No. 1 as to: (1) Health and

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LANDSCAPE WORK

Vitality, (2) Condition of Foliage, (3) Root System, (4) Freedom from Pest or Mechanical Damage, (5) Heavily Branched and Densely Foliated according to the accepted normal shape of the species, or sport, (6) Form and branching habit.

- F. Balled and Burlapped (B&B) and Wire Balled and Burlapped (WB&B) Plants: These plants shall be properly protected until they are planted. The plant shall be handled only by the earth ball and not be the plant itself.
- G. Any (B&B) or (WB&B) plant which shows evidence of having handled by a method other than the method outlined above and resulting in a cracked or broken ball or of the roots being loosened within the ball shall be rejected.
- H. For plants grown in soil of loose texture, which does not readily adhere to the root system, (especially in the case of large plant material), WB&B plants may be specified. For WB&B plants, before plant is removed from the hole, sound hog wire shall be placed around the burlapped ball and looped and tensioned until the burlapped ball is substantially packaged by the tightened wire netting, such as to prevent disturbing of the loose soil around the roots during handling. Any wire, synthetic material or chemically treated material will be removed from the rootball at planting time, all ties shall be removed from the rootball and around the trunk at planting.
- I. Container Grown Plants (CG): Any Container Grown (CG) plants, which have become "pot bound" or for which the top system is out of proportion (larger) to the size of the container, will not be acceptable.
- J. With metal containers, unless the root-ball system slips easily and unbroken from the can, a nursery can-cutter shall be used to slit the can in such a way that the can may be opened fully.
- K. CG plants shall not be removed from the can until immediately before planting, and with all due care to prevent damage to the root system.
- L. Submit to the CITY the names and locations of nurseries proposed as sources of acceptable plant material. The CITY reserves the right to visit the nursery to inspect and/or select the specified material.
- M. The CITY will be included in the hand selecting of all Live Oaks for the project.

1.4 DELIVERY, STORAGE AND HANDLING

- A. Inspection and Transporting: Movement of nursery stock shall comply with all Federal, State, and local laws and regulations. Therefore, required inspection certificates shall accompany each shipment, and shall be filed with the CITY.
- B. Wrap root balls with burlap. Wire wraps burlap if root ball is not sufficiently compacted. Palms will not require burlap wrapping if the following requirements are met:
 - 1. Dug from marl or heavy soil that adheres to roots and retains shape without shattering.
 - 2. Moistened material used to cover ball and roots not exposed to wind and sun.
 - 3. Transport material on vehicles large enough to allow plants not to be crowded. Plants shall be covered to prevent wind damage during transit and shall be kept moist, fresh and protected at all times. Such protection shall encompass the entire period, which the plants are in transit, being handled,

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or are in temporary storage.

- C. All plant material shall not remain on the work site longer than two (2) days prior to being installed.

1.5 SUBSTITUTIONS

- A. Substitutions of plant types or change in the size of plant material will only be permitted upon submission of documented proof that the particular plant type and size specified is not obtainable.
- B. Where B&B or WB&B plants are specified, CG plants of the same species, etc., will not be accepted. Where a B&B or WB&B is not specified on a particular plant material, B&B, WB&B or CG plants may be used provided they meet all specifications.

1.6 GUARANTEE

- A. All plant material shall be guaranteed for a minimum of one (1) calendar year from the time of final acceptance.

1.7 REPLACEMENT

- A. The guaranteeing of plant material shall be construed to mean the complete and immediate replacement of plant material if it is:
1. Not in a healthy growing condition.
 2. There is a question to its survival ability at the end of the guarantee period.
 3. It is dead.

1.8 SIZE, QUALITY AND GRADE OF REPLACEMENT

- A. Replacement plant material shall be of the same species, quality and grade as that of the plant to be replaced. The size of the replacement shall not necessarily be the same size as the original specified plant at its initial planting but shall closely match specimens of the same species. Replacements shall be guaranteed for a period equal to the originally specified guarantee. This guarantee period shall begin at time of plant replacement.

1.9 GUARANTEE NULL AND VOID

- A. The guarantee shall be null and void for plant material which is damaged or dies as a result of "Act of God" limited to hail, freeze, lightening, winds which exceed hurricane force, and lethal yellowing, providing the plant was in a healthy growing condition prior to these "Acts of God".

PART 2 MATERIALS

2.1 PLANT MATERIAL

- A. Florida No. 1: Except where another grade is specifically called for in the Plans, all plant material shall be no less than Florida No. 1 at the time of final inspection immediately prior to the acceptance by the OWNER.
- B. Habit of Growth: All plant material shall have a habit of growth that is normal for that species and shall be sound, healthy, vigorous and free from insects, plant

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- diseases, injuries, and dead limbs.
- C. Branching, Leafing, Measurements and Ball Sizes:
1. Trees and Shrubs: Requirements for the measurement, branching character, ball diameter, depth and other standards shall follow the Code of Standards recommended by the American Association of Nursery Stock, Bulletin Z-60. 1-1973 and as revised.
 2. Palms: Requirements for the measurement of clear trunk, clear wood and graywood ball diameter and depth shall comply with requirements as set forth by the Florida department of Agriculture's "Grades and Standards for Nursery Plants, Part II for Palms and Trees".
- D. Die-Back and Leaf-Drop: Plant material showing signs of die-back or leaf-drop will not be accepted and must be removed from the job immediately if so directed by the CITY. Therefore, any plant material with tendencies toward leaf-drop or dieback must be root pruned early enough to provide a sound network of hair roots prior to relocation to the job site.
- E. Mechanical Destruction of Foliage: Mechanical destruction of foliage resulting from root pruning shall not effect more than 10% of the total foliage prior to planting on the job site. Loss of foliage caused by seasonal change will be accepted.
- F. Spanish Moss: If Spanish Moss (*Tillandsia usneoides*) exists on plant material, it shall be completely removed prior to planting on the job site.
- G. Palms: Before transporting, see Delivery, Storage and Handling; for requirements related to wrapping of rootballs.
1. Remove a minimum of fronds from the crown of the palms to facilitate transporting and handling.
 2. Palms with burn marks, nail holes, and frond boots on trunk shall not be accepted.
 3. Using untreated burlap strip or untreated cotton twine, tie Sabal Palmetto buds and leave in place until Palmetto is established. Tying shall be as set forth in Florida Department of Agriculture's "Grades and Standards for Nursery Plants". Tying of other palms shall be at the option of the DBF.
 4. To reduce head volume, Palm fronds may be taper trimmed by not more than one-third (1/3).
 5. Palm trees showing cable or chain marks and equipment scars shall be rejected.
- H. Chlorosis: The allowable level of Chlorosis in foliage shall be as set forth in the Florida Department of Agriculture's "Grades and Standards for Nursery Plants".

2.2 **PLANTING SOILS**

- A. General Type: All plant material with the exception of Sabal Palmetto shall be planted with planting soil mixed with 50% original soil, if the soil is of good quality, as determined by the CITY. The planting soils shall be sandy loam (50% sand, and 50% muck) typical of the locality. The soil must be taken from ground that has never been stripped, with a slight acid reaction (5.5 to 6.5 ph) and without an excess of calcium or carbonate. Soil shall be delivered in a loose friable condition.
- B. Special Type: Planting soil for palms shall be a good grade of salt free sand, which

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is free of all weeds.

2.3 WATER

- A. Water shall be potable, from municipal water supplies or other sources, which are approved by a public health department.

2.4 MULCH

- A. Mulch shall be Eucalyptus mulch or other approved non-native tree bark mulch. It must be uniformly shredded and be free from pieces of bark larger than 1 inch, foreign matter, weed seeds and any other organic or inorganic material. Submit sample for approval. DBF shall apply one application at initial installation and a second application prior to final acceptance.

2.5 FERTILIZER

- A. New Plant Material: Trees, palms and shrubs, fertilize with Agriform planting tablets, 20- 20-5 formula, 21 gram or approved equal.
- B. New Ground Covers: Fertilize with an approved fertilizer of fifty percent (50%) or greater organic 6-6-6 or 8-8-8 with minor elements including, but not limited to, iron zinc and manganese.
- C. Composition of Quality: All fertilizer shall be uniform in composition and dry. Granular fertilizer shall be free flowing and delivered in manufacturers standard container with name of material, weight and guaranteed analysis printed on container. Tabletized fertilizer shall be delivered in unopened containers or boxes. All bags, containers or boxes shall be fully labeled with the manufacturer's analysis. Submit labels to CITY for approval prior to placement of fertilizer.
- D. All shall comply with the State of Florida fertilizer laws.

2.6 PRUNING PAINT

- A. Pruning paint shall be commercial tree paint, which is waterproof, antiseptic, adhesive, elastic and free of kerosene, water, cresol, and any other substances harmful to plant material.

2.7 VEGETATIVE ROOT INHIBITOR

- A. A vegetative root inhibitor shall consist of a polypropylene fabric with root control time- release modules of Trifluralin with an effective life of 100 years or approved equal
- B. Vegetative root inhibitor shall be Bio-Barrier as manufactured by Reemay, Inc. or approved equal.

PART 3 EXECUTION

3.1 INSPECTION

- A. Utilities: The location and existence of utilities (overhead and underground) shall be thoroughly investigated and verified by the DBF before the work begins in the area of said utilities. The DBF shall exercise care in digging and work so as not to damage existing utilities in said areas, such as underground pipes, cables, wires,

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etc. Should such overhead or underground obstructions be encountered which interfere with planting, the CITY shall be consulted immediately in order for a decision to be made on the relocations of plant material to clear such obstruction. The DBF shall be responsible for the immediate repair of any damage to utilities caused by DBF's work.

3.2 PREPARATION

- A. Staking Plant Locations: Plant locations must be staked or marked prior to plant hole excavation or placing on deck, by scaling the plants from existing features found on-site and shown on the plans or by given dimensions if shown.
- B. Spacing of Shrubs: Shrub beds located next to another bed, walkway, structure, etc., shall have the plants along the perimeter spaced so that the plants can mature properly without growing into the other bed, walkway, structure, etc.
- C. Excavation of Plant Holes: Excavation of plant holes shall be roughly cylindrical in shape with the sides approximately vertical. The CITY reserves the right to adjust the size and shape of the plant hole and the location of the plant in the hole to compensate for unanticipated structures or unanticipated factors. All plant holes shall be sufficiently deep to allow the rootball to set on existing soil and have root collar at grade level. Plants shall be centered in the holes with the tree trunk locations scaled from existing permanent structures as shown on the drawings. Plants shall be set straight or plumb in locations.

All plant holes to accommodate plants with ball sizes less than 24 inches in diameter shall be at least 18 inch greater than the diameter of the ball. All plants holes to accommodate plants with ball sizes two feet (2') and larger in diameter shall be at least twice the diameter of the ball. The excavated material from the plant holes may not be used to back-fill around the plant material. Such material shall be disposed of either on the project site or off the site as directed by the CITY. Plant holes for shrub material planted in mass shall meet all requirements listed above for plant holes. However, they shall not be individual holes but one continuous hole or excavation. Plant holes for hedge material shall also meet all requirements listed above for plant holes, however, a continuous trench shall be used in lieu of individual holes.

3.3 INSTALLATION

- A. Setting of Plants:
 - 1. When lowered into the hole the plant shall rest on the prepared hole bottom such that the roots after settlement are level, or slightly above the level of its previous growth condition and the final level of the ground around the plant shall conform to the surrounding grade. The plants shall be set straight or

plumb or normal to the relationship of their growth prior to transplanting. The CITY reserves the right to realign any plant material after it has been set.
 - 2. Palms of the Sabal species may be set deeper than the depth of their original growth condition in order to lessen the necessity for support or bracing. For such deeper planting however, it will be required that the underlying soil be

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- friable and that the clear trunk requirements set forth in the plant list be maintained from the finished grade and NOT from the previous grade of the palm trees before it was transplanted.
3. Plant material of the shrub category and smaller must be handled by the ball only. Plant material too large for hand handling, if moved by winch or crane, must be thoroughly protected from chain, rope or cable marks, girdling, bark slippage, limb breakage and any other damage that might occur by improper handling or negligence.
 4. All palm trees handled by the trunks must be wrapped with burlap and wood battens, held in place by banding strips as called for in the details.
- B. Backfilling:
1. Use planting soils approved by the City. Backfill to the bottom two thirds of the planting hole and firmly tamp and settle by watering as backfilling progresses. After having tamped and settled the bottom two thirds (2/3) of the hole, thoroughly puddle with water and fill remaining one third (1/3) of the hole with planting soil, tamping and watering to eliminate air pockets.
- C. Application of Fertilizer:
1. Fertilize New Planting (Trees, Palms and Shrubs) as follows:
 - a. Specified Container Size Application

Rate 1 gallon container	1 tablet
3-gallon container	2 tablets
5-gallon container	3 tablets
7-gallon container	5 tablets
 - b. Large tubs or boxes and B&B material shall receive one (1) tablet for each one-half (1/2) inch of trunk diameter (measured three (3) feet from ground). For large shrubs, one (1) tablet for each one (1) foot of height or spread.
- D. Mulch: Within 24 hours after planting, planting areas must be mulched as called for in these specifications. The mulch shall be uniformly applied to a depth of two (2) inches over all shrub, tree and groundcover areas and any areas indicated on the plans.
- E. Staking and Guying shall be installed within 24 hours, in accordance with details.
- F. Initial Watering: Initially, water the plant material to develop uniform coverage and deep-water penetration of at least six inches (6"). Avoid erosion, puddling, and washing soil away from plant roots.
- G. Hand Watering: Provide hand watering of plant material as necessary subject to weather conditions, to maintain healthy growing conditions until final acceptance. This shall be in addition to water received from irrigation system, if any.
- H. Pruning:
1. The amount of general pruning shall be limited to the minimum necessary to remove dead or injured twigs and branches and to compensate for the loss of roots as a result of transplanting operations. Pruning shall be done in such a manner as not to change the natural habit of shape of a plant, and in accordance with National Arborist Association standards for pruning.
 2. All broken or damaged roots shall be cut off smoothly. The tops of all trees

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shall be pruned in a manner complying with standard horticultural practices. All cut surfaces of one-half inch (1/2") or more in diameter above ground level shall be treated with approved commercial tree paint.

- I. Weeding: In the event that weeds, or undesirable vegetation becomes prevalent to such an extent that they threaten plant material, they shall be removed as directed by the CITY. If necessary, the plant material and/or planting soil shall be replaced as needed to eliminate the weeds at the expense of the DBF.

3.4 CLEANING AND PROTECTION

- A. Disposal of Trash: All debris and other objectionable material created through planting operations and landscape construction shall be removed completely on a daily basis from the job or as directed by the CITY. Excess soil shall be disposed of as directed by the CITY.
- B. Responsibility for Protection and Restoration of Property: The DBF shall be responsible for all damage to property whether it is accidental or necessary for the completion of the contract.
- C. Protection Against Mechanical Damage: The DBF's responsibility for protection against mechanical damage shall include providing protection from vehicles and providing warning signs and barricades as might be necessary and DBF shall repair, restore and replace any planting areas which become damaged as a result of any negligence of the DBF or DBF's employees in complying with these requirements. Coordination shall be with the OWNER.
- D. Responsibility Prior to Final Acceptance:
 1. Maintenance shall begin immediately after each plant is planted and continue until final acceptance.
 2. Plants shall be watered by hose, soaking thoroughly each day for the first two weeks (14 calendar days) and every other day for the following two-week period. Soaking then shall continue on a twice weekly basis for another period of three (3) weeks for material over five feet (5') height, amounting to a total of 28 days after installation of planting under five feet (5') and a total of 45 days for plants over five feet (5'). All watering is required without regard to an irrigation system.
 3. Plant maintenance shall include watering, pruning, weeding, cultivating, mulching, tightening and repairing of guys, stakes, braces, etc., replacement of sick or dead plants, resetting plants to proper grades or upright position and maintenance of the watering saucer, and all other care needed for proper growth of the plants. Plant material rejected during the course of the construction shall be removed within five(5) working days and replaced before the inspection for completion will be scheduled.
 4. During the maintenance period and up to the issuance of Certificate of Final Acceptance, the DBF shall do all seasonal spraying and/or dusting of all planting. The materials and methods shall be in accordance with the highest standard nursery practices and as recommended by the CITY prior to implementation.
 5. Planting areas and plants shall be protected against trespassing and

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damage. If any plants become damaged or injured, they shall be treated or replaced, as directed and in compliance with this specification. No work shall be done within or over planting areas or adjacent to plants without proper safeguards and protection.

END OF SECTION 02900

SECTION 03010
CONCRETE**PART 1 GENERAL****1.1 RELATED DOCUMENTS**

- A. All applicable provisions of the Bidding and Contract Requirements, and Division 1- General Requirements shall govern the WORK under this section.

1.28 WORK INCLUDED

- A. Provide all labor, materials, necessary equipment and services to complete the concrete work, as indicated on the drawings, as specified herein or both, except as for items specifically indicated as "NIC ITEMS".
- B. Including but not necessarily limited to the following:
 - 1. Form work, shoring, bracing and anchorage.
 - 2. Concrete reinforcement and accessories.
 - 3. Cast-in-place concrete.
 - 4. Plugging abandoned pipelines and/or structures in place.

1.29 RELATED WORK

- A. Section 02510 - Concrete sidewalk
- B. Section 02513 - Asphaltic Concrete Paving – General
- C. Section 03300 - Cast-in-Place Concrete.
- D. All applicable sections of Division 1, 2, and 3.

1.30 QUALITY ASSURANCE

- A. All work shall be in accordance with ACI 301, latest edition, a copy of which shall be maintained on site.
- B. Requirements of Regulatory Agencies: perform work in accordance with local building and other applicable codes.
- C. Installation: Performed only by skilled laborers with satisfactory record of performance on completed projects of comparable size and quality
- D. Inspection and Testing
 - 1. Test Cylinders - As per ASTM C-39.
 - a. Minimum of three (3) concrete test cylinder shall be taken for every 75 or less cubic yards of concrete placed each day.
 - b. Minimum of one (1) slump test shall be taken during any cold weather concreting, and be cured on job site under same conditions as the concrete it represents.
 - 2. Slump Test - As per ASTM C-143.
 - a. Minimum of one (1) slump test shall be taken for each set of test cylinders taken.

1.31 SUBMITTALS

- A. Test Reports: Reports of concrete compression, yield, air content and slump tests.
- B. Certificates:
 - 1. Manufacturer's certification that materials meet specification requirements.
 - 2. Material content per cubic yards of each class of concrete furnished.
 - a. Dry weights of cement.

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- b. Saturated surface-dried weights of fine and coarse aggregate.
- c. Quantities, type and name of all mixtures.
- d. Weight of water.
- 3. Ready-mix delivery tickets as per ASTM C-94.
- C. Shop Drawings:
 - 1. Show sizes and dimensions for fabrication and placing of reinforcing steel and bar supports.
 - 2. Indicate reinforcement sizes, spaces, locations and quantities or reinforcing steel, and wire fabric, bending and cutting schedules, splicing and supporting and spacing devices.
 - 3. Indicate formwork dimensioning, materials, arrangement of joints and ties.
 - 4. Shop drawings shall be prepared under seal of a Professional Structural Engineer, registered in the State of Florida.

1.32 DELIVERY, STORAGE AND HANDLING

- A. Deliver reinforcement to project site in bundles marked with metal tags indicating bar size and length.
- B. Handle and store materials to prevent contamination.

1.33 JOB CONDITIONS

- A. Allowable concrete temperatures:
 - 1. Hot weather: Maximum 90 degrees F as per ASTM C-94.
- B. Do not place concrete during rain, unless protection is provided.

PART 2 PRODUCTS

2.1 FORM MATERIALS

- A. Materials shall conform to ACI 301, latest edition
- B. Plywood forms: Douglas Fir Species, solid one side, form grade, sound undamaged sheets.
- C. Lumber: Southern Pine Species, No. 2 Grade, with grade stamp clearly visible.
- D. Form Ties: Removable, snap-off metal, of fixed and adjustable length, cone ends.
- E. Tubular Column Type: Round, spirally wound laminated fiber material, clearly visible.

2.2 REINFORCING STEEL

- A. Reinforcing steel shall conform to ASTM A615, 60 ksi yield grade billet steel reformed bars; uncoated finish.
- B. Welded steel wire fabric shall conform to ANSI/ASTM A185, plain type; coiled rolls, uncoated finish.

2.3 CONCRETE MATERIALS

- A. Cement: shall conform to ASTM C150, normal Type II Portland, gray color.
- B. Fine and coarse aggregate shall conform to ASTM C33.
- C. Water: clean and not detrimental to concrete.

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SECTION 03010
CONCRETE**2.4 ADMIXTURES**

- A. Air Entraining: ASTM C-260
- B. Chemical: Type (as required) ASTM C-494.
- C. Fly Ash and Pozzolans: ASTM C-618
- D. Color - Conditioned Concrete: ASTM C-494 and ASTM C-979

2.5 ACCESSORIES

- A. Non-shrink grout: pre-mixed compound with non-metallic aggregate, cement, water reducing and plasticizing agents; capable of minimum compressive strength of 3500psi.
- B. Construction joints: locate and install construction joints, which are not shown on drawings, so as not to impair strength and appearance of the structure, as acceptable to the CITY. Place construction joints perpendicular to the main reinforcement, continue reinforcement across construction joints.
- C. Expansion joints: shall be a minimum of 3/4-inch thick asphalt impregnated fiberboard as per ASTM D-1751.
- D. Form release agent shall be a colorless material, which will not stain concrete, absorb moisture or impair natural bonding or color characteristics of coating intended for use on concrete.
- E. Water shall be clear and potable.

2.6 CURING MATERIALS

- A. Water shall be clean and potable.
- B. Absorptive mat shall be burlap fabric of 9 oz./sq. yd. clean, roll goods complying with AASHTO M182, Class 3.
- C. Membrane curing compound shall conform to ASTM C309.
- D. Clear Sealer: "Clear Bond" as manufactured by Guardian Chemical Co., Dayton Day-Chem Cure-W (J-9-A) or approved equal.
- E. Color curing compound shall be liquid membrane-forming conforming to ASTM C 309 two- component Lithochrome Colorwax by L.M. Scofield Company, or approved equal, color to match admixture for color-conditioned concrete.

2.7 CONCRETE MIX

- A. Mix concrete in accordance with ASTM C94.
- B. Concrete:
 - 1. Compressive strength (28 days): 3000 psi.
 - 2. Slump: 4(±) 1 inch.
- C. Concrete / Flowable fill for grouting and plugging:
 - 1. Compressive strength (28 days) 2000 psi.
 - 2. Slump: as required to grout and plug.

PART 3 EXECUTION**3.1 FORMWORK ERECTION**

- A. Verify lines, levels, and measurement before proceeding with formwork.

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CONCRETE

- B. Hand trimmed sides and bottom of earth forms; remove loose dirt.
- C. Align form joints.
- D. Do not apply form release agent where concrete surfaces receive special finishes or applied coatings, which may be affected by agent.
- E. Coordinate work of other sections in forming and setting openings, slots, recesses, chases, sleeves, bolts, anchors and other inserts.

3.2 REINFORCING

- A. Place, support and secure reinforcement against displacement.

3.3 PLACING CONCRETE

- A. Color Conditioned concrete, when batching, shall not be less than one-third of the capacity of the mixing drum (a minimum of four yards for a ten-yard mixer) and will be in full cubic yard increments.
- B. Notify CITY minimum 24-hours prior to commencement of concreting operations.
- C. Scratch, float, trowel, broom or belt finish surfaces, as scheduled or indicated on the Drawings.
- D. Place 2000 psi concrete for pugging and grouting pipelines and structures in-place as required after proper connection to new service and function of system is completes.

3.4 TOLERANCES

- A. Provide Class B tolerance to floor slabs according to ACI 301. Pitch to drains 1/4 inch per foot.

3.5 FINISHES FOR EXPOSED SURFACES

- A. Provide exposed surfaces with finishes as called for on the Drawings.

3.6 CONCRETE CURING

- A. Curing for standard grey work after finishing, cure concrete by keeping moist for one (1) week after placement. Floors and vertical surfaces may be sprayed with an approved curing compound to retard evaporation of water if spraying is not objectionable because of future finishing requirements. Begin curing operations as soon as concrete has attained its initial set. Keep exposed concrete surface moist for at least one (1) week.
- B. Apply a liquid membrane-forming compound, conforming with ASTM C 309, color to match that of the color condition concrete. Apply on flat work immediately after the finishing operation pursuant to the manufacturer's recommendations.

END OF SECTION 03010

SECTION 03100
CONCRETE FRAMEWORK**PART 1 GENERAL****1.1 RELATED DOCUMENTS**

- A. All applicable provisions of the Bidding and Contract Requirements, and Division 1- General Requirements shall govern the WORK under this section.

1.2 WORK INCLUDED

- A. Formwork for Cast-In-Place Concrete, with shoring, bracing, and anchorage.
- B. Openings for other affected work.
- C. Form accessories.
- D. Stripping forms.

1.3 RELATED WORK

- A. Section 03010 - Concrete.
- B. Section 03300 - Cast-In-Place Concrete.

1.4 SYSTEM DESCRIPTION

- A. Design, engineer and construct formwork, shoring and bracing to meet design code requirements, so that resultant concrete conforms to required shapes, lines, and dimensions.

1.5 QUALITY ASSURANCE

- A. Construct and erect concrete formwork in accordance with ACI 301 and 347.

1.6 SUBMITTALS

- A. Indicate pertinent dimensions, materials, and arrangement of joints and ties.
- B. Prepare shop drawings under seal of Professional Structural Engineer registered in the State of Florida.
- C. Manufacturer's certification that materials meet specification requirements.

1.7 DELIVERY, STORAGE AND HANDLING

- A. Deliver, store and handle materials in accordance with manufacturers recommendations.
- B. Deliver form materials in manufacturer's packaging with installation instructions.
- C. Store off ground in ventilated and protected area to prevent deterioration from moisture or damage.
- D. Remove packaging from void forms.

PART 2 PRODUCTS**2.1 FORM MATERIALS**

- A. Plywood: Douglas Fir Species; medium density overlaid one side grade; sound, undamaged sheets with straight edges.
- B. Lumber: Southern Pine Species; No. 2 grade; with grade stamp clearly visible.
- C. Tubular Column: Round, of spirally wound laminated fiber type; surface treated with release agent; of size required.

SECTION 03100
CONCRETE FRAMEWORK

2.2 FORMWORK ACCESSORIES

- A. Form Ties: Snap-off metal of adjustable length; cone type; 1 1/2 inch break back dimension; free of defects that will leave holes no larger than 1-1/4 inches diameter in concrete surface.
- B. Form Release Agent: Colorless material which will not stain concrete, absorb moisture, or impair natural bonding in color characteristics of coating intended for use on concrete.
- C. Fillets for Chamfered Corners: Wood strips or rigid PVC plastic in maximum possible lengths.
- D. Nails, Spikes, Lag Bolts, Through Bolts, Anchorages: Sized as required; or strength and character to maintain formwork in place while placing concrete.

PART 3 EXECUTION**3.1 INSPECTION**

- A. Verify lines, levels, and measurements before proceeding with formwork.

3.2 PREPARATION

- A. Hand-trim sides and bottoms of earth forms; remove loose dirt prior to placing concrete.
- B. Minimize form joints. Symmetrically align joints and make weathertight to prevent leakage of mortar.
- C. Arrange and assemble formwork to permit dismantling, stripping, so that concrete is not damaged during its removal.
- D. Arrange forms to allow stripping without removal of principal shores, where required to remain in place.

3.3 ERECTION

- A. Provide bracing to ensure stability of formwork. Strengthen formwork liable to be overstressed by construction loads.
- B. Camber slabs and beams to achieve ACI 301 tolerances.
- C. Provide temporary ports in formwork to facilitate cleaning and inspection. Locate openings at bottom of forms to allow flushing water to drain. Close ports with tight fitting panels, flush with inside face of forms, neatly lifted so that joints will be apparent in exposed concrete surfaces.
- D. Provide expansion strips on external corners of beams and columns, where exposed.
- E. Install void forms. Protect from moisture before concrete placement. Protect from crushing during concrete placement.
- F. Construct formwork to maintain tolerances in accordance with ACI 301.

3.4 APPLICATION OF FORM RELEASE AGENT

- A. Apply form release agent on formwork in accordance with manufacturer's instructions. Apply prior to placing reinforcing steel, anchoring devices, and embedded items.
- B. Do not apply form release agent where concrete surfaces are scheduled to receive

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SECTION 03100
CONCRETE FRAMEWORK

special finishes or applied coverings, which may be affected by agent. Soak contact surfaces of untreated forms with clean water. Keep surfaces wet prior to placing concrete.

3.5 INSERTS, EMBEDDED PARTS, AND OPENINGS

- A. Provide formed openings where required for work embedded in or passing through concrete.
- B. Coordinate work of other sections in forming and setting openings, slots, recesses, chases, sleeves, bolts, anchors, and other inserts.
- C. Install accessories in accordance with manufacturer's instructions, level and plumb. Ensure items are not disturbed during concrete placement.

3.6 FORM REMOVAL

- A. Notify CITY prior to removing formwork.
- B. Do not remove forms and shoring until concrete has sufficient strength to support its own weight, and construction and design loads which may be imposed upon it. Remove load-supporting forms when concrete has attained 75 percent of required 28-day compressive strength, provided construction is reshored.
- C. Formwork not supporting weight of concrete, such as sides of beams, walls, columns, and similar parts of the work, may be removed after cumulatively curing at not less than 50 degrees F for 24-hours after placing concrete, provided concrete is sufficiently hard to not be damaged by form removal operations, and provided curing and protection operations are maintained.
- D. Formwork supporting weight of concrete, such as beam soffits, joints, slabs and other structural elements, may not be removed in less than 14 days and until concrete has attained design minimum compressive strength at 28-days. Determine potential compressive strength of in place concrete by testing field-cured specimens' representative of concrete location of members.
- E. Reshore structural members due to design requirements or construction conditions to permit successive construction.
- F. Remove formwork progressively so no unbalanced loads are imposed on structure.
- G. Do not damage concrete surfaces during form removal.
- H. Store reusable forms for exposed architectural concrete to prevent damage to contact surfaces.
- I. Remove formwork in same sequence as concrete placement to achieve similar concrete surface coloration.

3.7 CLEANING

- A. Clean forms to remove foreign matter as erection proceeds.
- B. Ensure that water and debris drain to exterior through clean-out ports.

END OF SECTION 03100

SECTION 03300
CAST-IN-PLACE CONCRETE**PART 1 GENERAL****1.1 RELATED DOCUMENTS**

- A. All applicable provisions of the Bidding and Contract Requirements, and Division 1- General Requirements shall govern the WORK under this section.

1.2 WORK INCLUDED

- A. Provide all labor, materials, necessary equipment and services to complete the Cast-In- Place Concrete Work, as indicated on the drawings, as specified herein or both except as for items specifically indicated as "NIC ITEMS".
- B. Including but not necessarily limited to the following:
 - 1. Cast-In-Place concrete walls, footings, foundation walls, paving, walks, slabs, formwork, reinforcing and all other components as indicated on the Drawings.

1.3 RELATED WORK

- A. Section 03010 - Concrete.
- B. Section 03100 - Concrete Form work.
- C. Section 03370 - Concrete Curing.
- D. Section 02510 - Concrete Sidewalk

1.4 QUALITY ASSURANCE

- A. Applicator Qualifications: Minimum of five years' experience on 5 comparable concrete projects.
- B. Requirements of Regulatory Agencies: Perform work in accordance with local building codes.
- C. Allowable Tolerances: Flat work true to plane 1/8 inch in 10 feet.
- D. Slump tests as per ASTM C-143, and test cylinders as per ASTM C-39.

1.5 TESTS

- A. Submit proposed mix design of each class of concrete to appointed firm for review prior to commencement of work.
- B. Testing firm will take cylinders and perform slump and air entrainment tests in accordance with ACI 301
- C. Tests of cement and aggregates will be performed to ensure conformance with requirements stated herein.
- D. Three (3) concrete test cylinders will be taken for every 75 cubic yards. or less of each class of concrete placed each day.
- E. One (1) slump test will be taken for each set of test cylinders taken.
- F. All testings shall be at the expense of the DBF.

1.6 SUBMITTALS

- A. Provide product data for specified products.
- B. Test Reports: Reports of concrete compression, yield, air content, and slump tests.
- C. Certificates:

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CAST-IN-PLACE CONCRETE

1. Manufacturer's certification that materials meet specification requirements.
 2. Material content per cubic yard of each class of concrete furnished.
 - a. Dry weights of cement.
 - b. Saturated surface-dried weights of fine and coarse aggregate.
 - c. Quantities, type and name of admixtures.
 - d. Weight of water.
 3. Ready-mix delivery tickets, ASTM C-94.
- D. Shop Drawings:
1. Show sizes and dimensions for fabrication and placing of reinforcing steel and bar supports.
 2. Indicate bar schedules, stirrup spacing, and diagrams of bend bars.
 3. Detail items of form systems affecting appearance of architectural concrete surfaces such as joints, tie holes, liners, patterns and textures. Show items in relation to entire form system.

1.7 DELIVERY, STORAGE AND HANDLING

- A. Deliver reinforcement to project site in bundles marked with metal tags indicating bar size and length.
- B. Handle and store materials to prevent contamination.

1.8 ENVIRONMENTAL REQUIREMENTS

- A. Allowable concrete temperatures:
 1. Hot Weather: Maximum 90° F as per ASTM C-94.
- B. Do not place concrete during rain unless protection is provided.

4 PRODUCTS

4.1 MATERIALS & MANUFACTURERS

- A. Concrete Ready-Mix concrete ASTM C-94.
 1. Cement:
 - a. ASTM C 150, Type II
 2. Admixtures:
 - a. Air entraining: ASTM C-260
 - b. Chemical: Type (as required) ASTM C-494.
 - c. Fly ash and pozzolans: ASTM C-618
 - d. Vapor Barrier: 6-mil thick film of type recommended for below grade application.
 3. Coarse aggregate: Not less than 50% clean, hard, crushed stone conforming to requirements of Table 2, size number 467 ASTM C-33.
 4. Slump 4 inch maximum; plus tolerance 0, minus tolerance 1 inch.
 5. Air content: 5% + 1%.
 6. Mix proportioning:
 - a. In accordance with ASTM C-94.
 - b. 28 day compressive strength of moist cured laboratory samples 3,000 PSI.
 - c. Use set retarding admixtures during hot weather only when approved by

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SECTION 03300
CAST-IN-PLACE CONCRETE

- the CITY.
- d. Minimum cement contents 5 sacks/cubic yards.
 - e. Add air-entraining agent to concrete work exposed to exterior.
7. Curing Material: Liquid membrane, ASTM C-309, Type 1.
8. Mixes:
- a. ASTM C-94.
 - b. Mix concrete only in quantities for immediate use.
 - c. Do not retemper or use set concrete.
- B. Bars.
- 1. Deformed billet steel: ASTM A 615, Grade 60.
- C. Wire Fabric:
- 1. Welded Wire Fabric Steel: ASTM A 185
- D. Tie Wire: FS QQ-W-461-G, annealed steel, black 16 ga. minimum.
- E. Bar supports: Conform to "Bar Support Specification," CRSI Manual of Standard Practice.
- F. Forms:
- 1. Conform with ACI 347, Chapter 3, Material and Form Work.
- G. Lumber:
- 1. Softwood framing lumber: Kiln dried, PS-20.
 - 2. Boards less than 1 1/2 inch thick and 2 inch wide, used for basic forms and form liners: Kiln dried.
 - 3. Grade marked by grading rules agency approved by American Lumber Standards Committee.
 - 4. Light framing or studs for board or plywood forms, 2 inch to 4 inch width and thickness Construction Standard grade.
 - 5. Boards for basic forms Construction Standard grade.
 - 6. Board surface: Smooth.
- H. Plywood:
- 1. Exterior type softwood plywood, PS 1-66.
 - 2. Each panel stamped or branded indicating veneer grades, species, type and identification.
 - 3. Wood faced plywood for architectural concrete surfaces.
 - 4. Panel veneer grades: B - C.
 - 5. Mill-oiled sides and mill-sealed edges of panels.
- I. Ties:
- 1. Materials: Stainless Steel.
 - 2. Type: Snap Ties.
 - 3. Depth of breakback: 1 inch.
 - 4. Maximum diameter 1/4 inch.
- J. Form coatings:
- 1. Non-staining type.
 - 2. Agent: Pine oil derivative.
- K. Water: Clean and potable.

SECTION 03300
CAST-IN-PLACE CONCRETE**PART 3 EXECUTION****4.2 FORMWORK**

- A. Conform to ACI 347, Chapter 2, Construction; and Article 4.2, architectural Concrete.
- B. Framing, Bracing and Plywood Form Liners: APA Form V 345-72.
- C. Provide temporary openings in framework for concrete placement.
- D. Fill voids of plywood joints with sealant and tool smooth.
- E. DBF is responsible for the design, construction, removal and complete safety of formwork and shoring.
- F. Form construction shall be provided to shape, lines dimensions of members shown; substantial, tight enough to prevent leakage, and properly braced or tied to maintain position and size, form sides and bottoms of members unless specifically excepted.

4.3 REINFORCING

- A. Fabrication shall be provided to latest ACI Manual of Practice ACI-315.
- B. Reinforcing free from excessive rust, scale or coating reducing bond. Bars bent cold in fabrication plant. Chairs, support bars, and other accessories furnished to carry and provide coverage as required by ACI Manual.
- C. Unless otherwise indicated the minimum coverage is 3-inch for footings (slabs to have 3/4 inch minimum). Call any "crowding" of reinforcement to CITY's attention during placing.
- D. Splices shall be Mesh 6-inch lap, bars 30 X diameter minimum.
- E. Conduit or pipes embedded in concrete must have specific approval and be located to avoid cracking or reduction in strength. Provide extra strong pipe sleeves where pipes are allowed to pierce concrete beams or walls.
- F. Placement:
 1. Bar supports: CRSI 65.
 2. Reinforcing bars: CRSI 63.
- G. Steel Adjustment:
 1. Move within allowable tolerances to avoid interference with other reinforcing steel, conduits, expansion joints, or embedded items.
 2. Do not move bars beyond allowable tolerances without concurrence of CITY.
 3. Do not heat, bend, or cut bars without concurrence of CITY.
- H. Splices:
 1. Lap splices: Tie securely with wire to prevent displacement of splices during placement of concrete.
 2. Splice devices: Install in accordance with manufacturer's written instructions.
 3. Welding: Perform in accordance with AWS Standards.
 4. Do not splice bars except at locations shown on drawings without concurrence of CITY.
- I. Wire Fabric:
 1. Install in longest practicable length.
 2. Lap adjoining pieces one full mesh minimum, and lay splices with 16-gauge

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- wire.
3. Offset end laps in adjacent widths to prevent continuous laps.
- J. Cleaning: Remove dirt, grease, oil, loose mill scale, excessive rust, and foreign matter that will reduce bond with concrete.
 - K. Protection During Concreting: Keep reinforcing steel in proper position during concrete placement.

4.4 JOINTS

- A. Construction pours shall be continuous pours except where joints are indicated. No additional joints except by special acceptance in writing by the CITY. Allow no construction or interrupted pour joints in any exposed surface, unless treated as part of design.
 1. Where indicated and as detailed, provide saw cut type construction joints of sizes as called for on the drawings.
- B. Expansion joints shall be constructed as shown on drawings.
 1. Expansion material shall be ½ inch continuous full depth strips set ½ inch below finish surface with ½ inch x ½ inch joint sealant filler above.

4.5 BUILT-IN ANCHORING DEVICES, FIXTURES, PIPE SLEEVES AND OTHER INSERTS

- A. Build-in and coordinate as required and called for on the drawings all items to be constructed into concrete such as anchoring devices, fixtures, piping, sleeves and other inserts and items as required for a complete installation.

4.6 INSPECTION

- A. Assure that excavation and formwork are completed, with smooth rubbed finish, and that excess water is removed.
- B. Check that reinforcement is secured in place.
- C. Verify that expansion joint material, anchors, and other embedded items are secured in position.
- D. Verify anchors, seats, plates, reinforcement, and other items to be cast into concrete are accurately placed, held securely, and will not cause hardship in placing concrete.

4.7 CONCRETE QUALITY

- A. Design of mix shall be a laboratory designed mix to satisfy the following requirements and shall be approved by the CITY.
 1. Ready mixed concrete as per ASTM C-94 with 28 day strength 3,000 PSI minimum, for all standard grey concrete work.
 2. Proportion the concrete to work readily into forms and around reinforcement, without excessive manipulation, segregation or water gain. Approved additives may be used to achieve the above results.
 3. Slump shall be maximum 3 inch for footings, and for all other concrete shall be 3 inch to 5 inch.
 4. Submit for approval representative test results by independent laboratory to

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substantiate proposed mix design.

4.8 PREPARATION FOR POURS

- A. Notify the OWNER's Representative, CITY and other inspectors at least 36 hours prior to inspection.
- B. Equipment forms, and reinforcing shall be clean and wet down, reinforcing firmly secured in place, runways set up and not resting on or displaying reinforcing.
- C. Prepare previously placed concrete by cleaning with steel brush and applying bonding agent. Apply bonding agent in accordance with manufacturer's instruction.
- D. At locations where new concrete is dowelled to existing work, drill holes in existing concrete, insert steel dowels, and pack solid with non-shrink grout.

4.9 PLACING

- A. Mixing and conveying shall be as per ASTM C-94 and as follows:
 - 1. Maximum elapsed time from addition of water to placing in forms -60 minutes, (total mixing time).
 - 2. Concrete handled and placed by methods, which keep concrete plastic, prevent separation of materials, and do not displace reinforcement.
- B. Deposit as close as possible to final position to avoid segregation of materials. Restrict drop to 3 foot maximum (less for exposed concrete), using tremie if necessary.
 - 1. Compact by mechanical vibration to thoroughly work around reinforcing and eliminate honeycomb.
- C. Place concrete in accordance with ACI 301.
- D. Hot Weather Placement: ACI 301.
- E. Cold Weather Placement: ACI 301.
- F. Ensure reinforcement, inserts, embedded parts and formed joints are not disturbed during concrete placement.
- G. Maintain concrete cover around reinforcing as follows:

Item	Coverage
Beams	1 1/2 inch
Supported Slabs	3/4 inch
Column Ties	1 1/2 inch
Walls (exposed to weather or backfill)	2 inch
Footings and Concrete Formed Against Earth	3 inch
Slabs on Fill	2 inch
- H. Place concrete continuously between predetermined construction and control joints. Do not break or interrupt successive pours such that cold joints occur.
- I. Saw cut control joints at an optimum time after finishing. Use 3/16 inch thick blade, cutting 1/3 depth of slab thickness.
- J. Separate exterior slabs on fill from vertical surfaces with joint filler. Extend joint filler from bottom of slab to within 1/2 inch of finished slab surface.
- K. Excessive honeycomb or embedded debris in concrete is not acceptable. Notify CITY upon discovery.

SECTION 03300
CAST-IN-PLACE CONCRETE**4.10 CONCRETE CURING**

- A. Curing for standard grey work after finishing, cure concrete by keeping moist for one (1) week after placement. Floors and vertical surfaces may be sprayed with an approved curing compound to retard evaporation of water if spraying is not objectionable because of future finishing requirements. Begin curing operations as soon as concrete has attained its initial set. Keep exposed concrete surface moist for at least one (1) week.
- B. Apply a liquid membrane-forming compound, conforming to ASTM C 309, color to match that of the color condition concrete. Apply on flat work immediately after the finishing operation pursuant to the manufacturer's recommendations.

4.11 CONCRETE FINISHING

- A. Unexposed concrete work shall be patched and repaired immediately after removal of forms.
1. Cut off metal ties a minimum of 1 inch back from surface of concrete.
 2. Moderate honeycomb cut out and prepared for patching. Severe honeycomb with exposed steel reinforcing is to be removed or "united" at the discretion of the CITY.
 3. Wet areas for patching and pack carefully with rich mortar rubbed to match surface.
- B. Provide concrete surfaces to be left exposed, walls, columns, beams, with smooth rubbed finish.
- C. Provide Class B tolerances to floor slabs and toppings according to ACI 301.
- D. Pitch to drains 1/4 inch per foot.
- E. Exposed concrete work shall be patched and repaired as accepted by CITY after consultation. Patching and rubbing will be kept to a minimum, if possible, but when necessary, will be done with great care to obtain maximum degree of matching in color and texture to adjacent finished concrete surfaces
- F. Monolithic finish using care to obtain a level surface; floors out of level or with variation greater than 1/8 inch in 10 feet shall be corrected.
- G. All finishes shall be as called for on the drawings.

4.12 SEPARATE FLOOR TOPPINGS

- A. Prior to placing, roughen concrete base course and remove foreign materials. Broom and vacuum clean.
- B. Place dividers, edge strips, reinforcing and other items to be cast in.
- C. Apply bonding agent on base course in accordance with manufacturer's instructions. Apply sand and cement slurry coat on base course immediately prior to placing toppings.
- D. Place concrete floor toppings to required lines and levels.

4.13 PATCHING

- A. Notify CITY immediately upon removal of forms.
- B. Patch imperfections.

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SECTION 03300
CAST-IN-PLACE CONCRETE

4.14 DEFECTIVE CONCRETE

- A. Modify or replace concrete not conforming to required levels and lines, details, and elevations.
- B. Repair or replace concrete not properly placed or of the specified type.

4.15 FIELD QUALITY CONCRETE

- A. Maintain records of placed concrete items. Record date, location of pour, quantity, air temperature, and test samples taken.

4.16 PROTECTION

- A. Immediately after placement, protect concrete from premature drying, excessively hot or cold temperatures, and mechanical injury.
- B. Maintain concrete with minimal moisture loss at relatively constant temperature for period necessary for hydration of cement and hardening of concrete.
- C. During curing period, protect concrete from damaging mechanical disturbances, water flow, loading, shocking, and vibration.

4.17 APPLICATION OF BOND COAT FOR CONCRETE LEVELING COAT FOR PAVERS AND TEXTURED SURFACES

- A. Provide installation as per manufacturer's standard printed specifications, instructions and recommendations.

END OF SECTION 03300

SECTION 03370
CONCRETE CURING**PART 1 GENERAL****1.1 RELATED DOCUMENTS**

- A. All applicable provisions of the Bidding and Contract Requirements, and Division 1- General Requirements shall govern the WORK under this section.

1.2 WORK INCLUDED

- A. Maintenance of conditions for proper concrete curing.

1.3 RELATED WORK

- A. Section 03010 - Concrete.
- B. Section 03300 – Cast-in-Place Concrete
- C. Section 02510 - Concrete Sidewalk

1.4 QUALITY ASSURANCE

- A. Conform to requirements of ACI 301.

1.5 REFERENCES

- A. ACI 301 - Specifications for Structural Concrete for Buildings.
- B. ASTM C309 - Liquid Membrane-Forming Compounds for Curing Concrete.

1.6 SUBMITTALS

- A. Provide product data for specified products.

1.7 ENVIRONMENTAL REQUIREMENTS

- A. Maintain ambient temperature at 70 degrees F for three (3) days.

PART 2 PRODUCTS**2.1 MATERIALS**

- A. Water: Clean and not detrimental to concrete.
- B. Absorptive Mat: Burlap fabric of 9 ounce per square yard. Clean, roll goods.
- C. Curing Compound: As per ASTM C309.

PART 3 EXECUTION**3.1 INSPECTION**

- A. Verify concrete surfaces are ready for curing.

3.2 CURING COMPOUND

- A. Apply curing compound in two (2) coats with second coat at right angles to first.
- B. Apply in accordance with manufacturer's instructions.

3.3 SPRAYING

- A. Spray water over slab areas; maintain wet for three (3) days.

3.4 ABSORPTIVE MAT

SECTION 03370
CONCRETE CURING

- A. Saturate burlap side of burlap fabric mat. Place over slab areas, burlap side down; lap edges and ends 12 inches. Maintain in place for seven (7) days.

3.5 CONCRETE CURING

- A. Curing for standard grey work after finishing, cure concrete by keeping moist for one (1) week after placement. Floors and vertical surfaces may be sprayed with an approved curing compound to retard evaporation of water if spraying is not objectionable because of future finishing requirements. Begin curing operations as soon as concrete has attained its initial set. Keep exposed concrete surface moist for at least one (1) week.
- B. Apply a liquid membrane-forming compound, conforming to ASTM C 309, color to match that of the color condition concrete. Apply on flat work immediately after the finishing operation pursuant to the manufacturer's recommendations.
- C. Cure concrete as scheduled or indicated.
- D. Remove absorptive mat after curing.

END OF SECTION 03370



EXHIBIT C

CONCEPTUAL LAYOUTS

Pumping Station A-16 Upgrade (Court House) 30" WM DCP
City of Fort Lauderdale Project 12412
CMA Project No. 047.057



CITY OF FORT LAUDERDALE

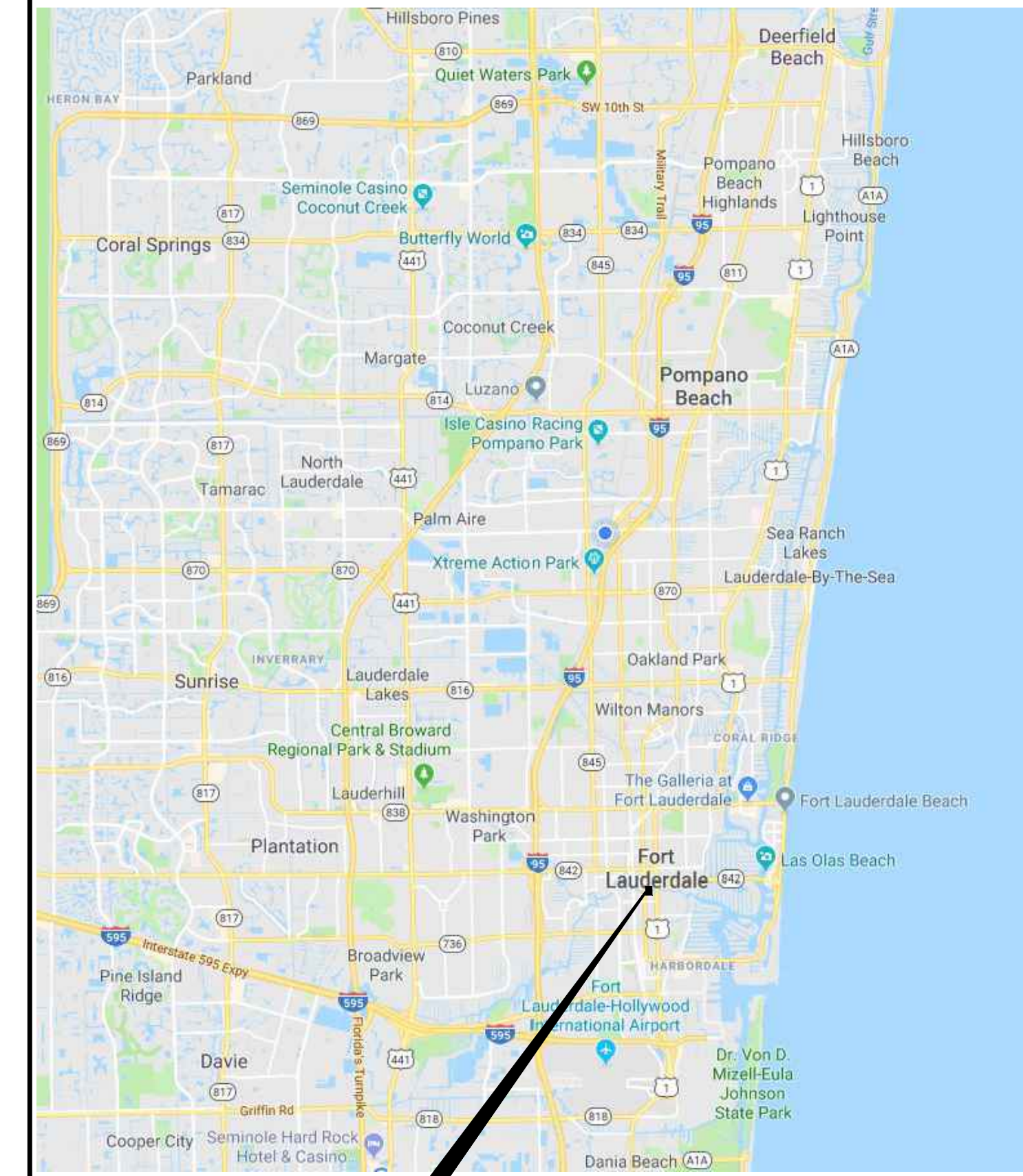
PROJECT # 12412 PS A-16 UPGRADE 30IN WM DCP CONCEPTUAL PLANS (NOT FOR CONSTRUCTION) FORT LAUDERDALE, FLORIDA



chen moore and associates
500 West Cypress Creek Road,
Suite 630
Ft. Lauderdale, FL 33309
954.730.0707
www.chenmoore.com

DRAWING INDEX

SHT #	DWG #	SHEET TITLE
01	G01	COVER SHEET
02	G02	KEY MAP
03	GN-1	GENERAL NOTES
04	GN-2	GENERAL NOTES
05	GN-3	GENERAL NOTES
06	GN-4	GENERAL NOTES
07	WM-1	WATER MAIN PLAN AND PROFILES
08	WM-2	WATER MAIN PLAN AND PROFILES
09	WM-3	WATER MAIN PLAN AND PROFILES
10	WM-4	WATER MAIN ABANDONMENT PLAN
11	WM-5	WATER MAIN ABANDONMENT PLAN
12	D-1	DETAILS
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PROJECT LOCATION



LOCATION SKETCH

PROJECT # 12412
PS A-16 UPGRADE 30IN WM DCP
CONCEPTUAL PLANS
(NOT FOR CONSTRUCTION)

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

FORT LAUDERDALE CITY COMMISSION

DEAN J. TRANTALIS	MAYOR
HEATHER MORAITIS	COMMISSIONER - DISTRICT I
STEVEN GLASSMAN	COMMISSIONER - DISTRICT II
ROBERT L. McKINZIE	COMMISSIONER - DISTRICT III
BEN SORENSEN	COMMISSIONER - DISTRICT IV

PROJECT MANAGER	JOB TITLE	PHONE NO.
JORGE HOLGUIN	P12412	954-828-5675

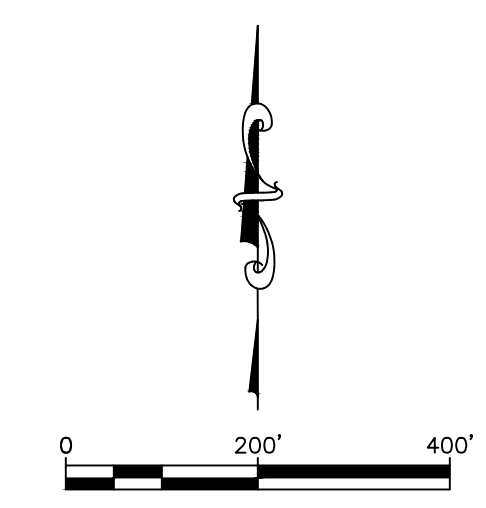
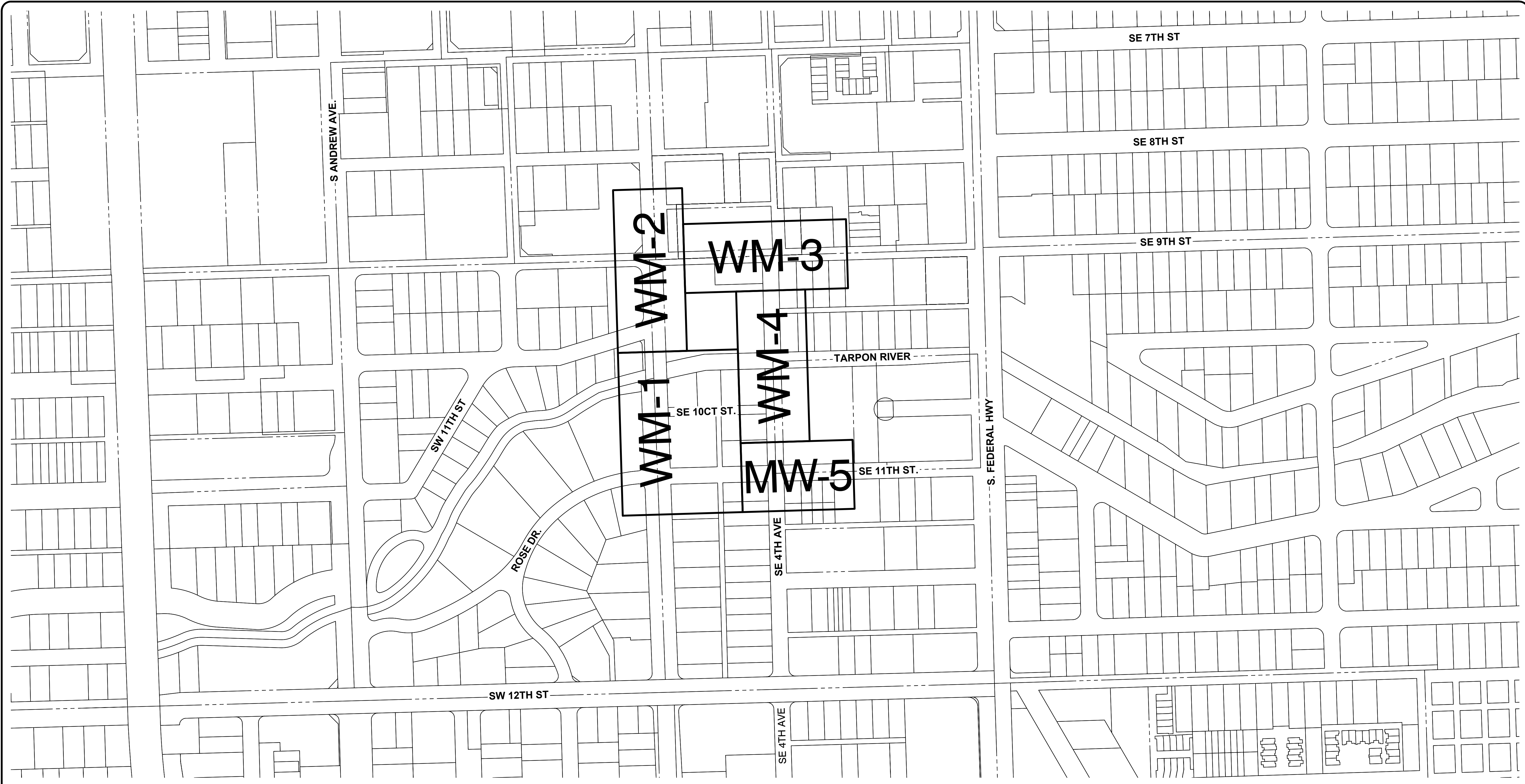
DATE: 8/29/21

CAD FILE: 12412-G01-COVR

DRAWING FILE No.: ####

NOT FOR CONSTRUCTION

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Folder Path: V:\Projects\2021\21-047.057 - ps a-16 upgrade(court house)\30_wm_dcp\Design\CAD\Sheets
Filename: 12412-C00-KMAP.dwg



Sunshine 811
 Call 811 or www.sunshine811.com two full business days before digging to have utilities located and marked.
Check positive response codes before you dig!

NOT FOR CONSTRUCTION

**CITY PROJECT # 12412
 PS A-16 UPGRADE 30IN WM DCP
 CONCEPTUAL PLANS
 (NOT FOR CONSTRUCTION)
 KEY MAP**

DRAWING #	SHT #
G02	02
TOTAL:	15
CAD FILE:	12412-C00-KMAP
DRAWING FILE NO.	###2-0163

NO.	DATE	BY	CHK'D	DESCRIPTION

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE

100 North Andrews Avenue, Fort Lauderdale, Florida 33301

DRAWN BY:	DATE:
JT	8/29/21
DESIGNED BY:	SCALE:
DL	###
CHECKED BY:	###
DD	###
FIELD BOOK:	###

GENERAL NOTES:

- 1. CONTRACTOR SHALL MAINTAIN ACCESS TO PRIVATE PROPERTIES AT ALL TIMES.
2. HORIZONTAL CONTROL IS REFERENCED TO THE FLORIDA STATE PLANE COORDINATE SYSTEM, EAST ZONE, BASED ON THE NORTH AMERICAN DATUM OF 1983 (NAD 83)...

CITY OF FORT LAUDERDALE PUBLIC WORKS DEPARTMENT ENGINEERING DETAILS SHEET 1 GNRL 001 20170719

- 14. DURING EXCAVATION AND PLACEMENT OF UTILITIES THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE SAFETY REGULATIONS AND SHALL SUBMIT TO THE ENGINEER FOR APPROVAL SHEET PILING, SHORING AND/OR BRACING DESIGNS AS MAY BE NECESSARY TO COMPLY WITH THESE REGULATIONS.
15. GROUNDWATER FROM ALL DEWATERING OPERATIONS SHALL BE DISCHARGED TO AN ENVIRONMENTALLY ACCEPTABLE LOCATION IN ACCORDANCE WITH THE CONTRACT DOCUMENTS...

CITY OF FORT LAUDERDALE PUBLIC WORKS DEPARTMENT ENGINEERING DETAILS SHEET 2 GNRL 001 20170719

- 29. ALL WORK WITHIN STATE DEPARTMENT OF TRANSPORTATION (FDOT) RIGHT-OF-WAYS SHALL BE IN CONFORMANCE WITH FDOT SPECIFICATIONS AND PERMIT REQUIREMENTS.
30. ALL WORK WITHIN BROWARD COUNTY RIGHT-OF-WAYS SHALL BE IN CONFORMANCE WITH THE BROWARD COUNTY MINIMUM STANDARDS AND/OR REQUIREMENTS.

CITY OF FORT LAUDERDALE PUBLIC WORKS DEPARTMENT ENGINEERING DETAILS SHEET 3 GNRL 001 20170719

- 44. CONTRACTOR SHALL RESTORE EXISTING PAVEMENT AND PAVEMENT MARKINGS/SIGNAGE TO ORIGINAL PRE-CONSTRUCTION CONDITION OR AS OTHERWISE SPECIFIED IN CONTRACT DOCUMENTS. THIS WORK SHALL BE CONSIDERED INCIDENTAL.
45. ALL CONSTRUCTION WITHIN FDOT R/W MUST CONFORM WITH FDOT SPECIFICATIONS, STANDARDS, AND PERMIT REQUIREMENTS...

CITY OF FORT LAUDERDALE PUBLIC WORKS DEPARTMENT ENGINEERING DETAILS SHEET 4 GNRL 001 20170719

Table with columns: DRAWN BY, DATE, DESIGNED BY, SCALE, CHECKED BY, FIELD BOOK. Values include JT, 8/29/21, DL, ###, DD, ####.

CITY OF FORT LAUDERDALE PUBLIC WORKS DEPARTMENT ENGINEERING & ARCHITECTURE 100 North Andrews Avenue, Fort Lauderdale, Florida 33301

Table with columns: NO., DATE, BY, CHG'D, DESCRIPTION. Revision table for the drawing.

CITY PROJECT # 12412 PS A-16 UPGRADE 30IN WM DCP CONCEPTUAL PLANS (NOT FOR CONSTRUCTION) GENERAL NOTES DRAWING # GN-1 SHT # 03 TOTAL: 15 CAD FILE: 12412-MULTI-NOTE DRAWING FILE NO. 954-730-0707

GENERAL NOTES:

- 1. DBF SHALL MAINTAIN ACCESS TO PRIVATE PROPERTY AT ALL TIMES.
2. RECORD DRAWINGS MAY BE OBTAINED FROM THE OWNER UPON REQUEST.
3. DBF SHALL VERIFY FIELD CONDITIONS BEFORE COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES...

- 17. PIPING, FITTINGS, AND APPURTENANCES SHALL BE RESTRAINED JOINT.
18. NO CONNECTIONS FOR THE PURPOSE OF OBTAINING WATER SUPPLY DURING CONSTRUCTION SHALL BE MADE TO ANY FIRE HYDRANT OR BLOW-OFF STRUCTURE WITHOUT FIRST OBTAINING PERMISSION AND A CONSTRUCTION METER FROM THE CITY OF FORT LAUDERDALE...

1012-MULTI-NOTE Tables, October 05, 2021 GENERAL DEMOLITION SPECIFICATIONS: 1. THE LOCATIONS, ELEVATIONS AND DIMENSIONS OF ALL EXISTING UTILITIES SHOWN ON THE DRAWINGS HAVE BEEN DETERMINED FROM THE BEST INFORMATION AVAILABLE...

LEGEND ABBREVIATIONS C.L.F. = CHAIN LINK FENCE CMP = CORRUGATED METAL PIPE CONC. = CONCRETE F.H. = FIRE HYDRANT GAS = GAS MAIN INV. = PIPE INVERT OHW = OVERHEAD WIRES R/W = RIGHT-OF-WAY LINE RCP = REINFORCED CONCRETE PIPE SAN = SANITARY SEWER PIPE SMH = SANITARY MANHOLE S.V. = SEWER VALVE T.O.P. = TOP OF PIPE UNK. = UNKNOWN TREE TYPE U.T.O. = UNABLE TO OBTAIN DATA U.V. = UNKNOWN VALVE W.V. = WATER VALVE B.C.H.C.E.D. = BROWARD COUNTY HIGHWAY CONSTRUCTION AND ENGINEERING DEPARTMENT.

VERTICAL DATUM INFORMATION ALL ELEVATIONS SHOWN ARE IN NORTH AMERICAN VERTICAL DATUM OF 1988 (NAV88) CONVERSION FACTOR: NAVD88+1.58 TBOGVD29 IN THIS AREA cma chen moore and associates 500 West Cypress Creek Road, Suite 630 Ft. Lauderdale, FL 33309 954.730.0707 www.chenmoore.com

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Plot Date: 10/5/2021 3:25:59 PM Username: JTammo Layout Name: GN-1 Folder Path: V:\Projects\2021\12412-047.057 - ps a-16 upgrade(court house)\30_wm_dcp\Design\CAD\Sheets Filename: 12412-MULTI-NOTE.dwg

1312-1643-NOTE Title, October 08, 2021

13. ALL EXISTING SEWERS, PIPING AND UTILITIES SHOWN ON THE DRAWINGS ARE NOT TO BE INTERPRETED AS THE EXACT LOCATION, OR AS THE ONLY OBSTACLES THAT MAY OCCUR ON THE SITE. THE CONTRACTOR SHALL VERIFY EXISTING CONDITIONS AND PROCEED WITH CAUTION AROUND ANY ANTICIPATED FEATURES. GIVE NOTICE TO ALL UTILITY COMPANIES REGARDING DESTRUCTION AND REMOVAL OF ALL SERVICE LINES AND CAP ALL LINES BEFORE PROCEEDING WITH THE WORK.

14. THE CONTRACTOR SHALL COORDINATE WITH THE APPROPRIATE UTILITY COMPANY PRIOR TO REMOVAL OR RELOCATION OF ANY ELECTRICAL, TELEPHONE, CABLE AND/OR GAS LINES. SUFFICIENT TIME SHALL BE PROVIDED FOR RELOCATION AND CLOSE COORDINATION WITH THE UTILITY COMPANY TO PROVIDE A SMOOTH TRANSITION IN UTILITY SERVICE.

15. CONTRACTOR MUST STOP OPERATION AND NOTIFY THE OWNER/ENGINEER FOR PROPER DIRECTION IF ANY ENVIRONMENTAL OR HEALTH RELATED CONTAMINANT IS ENCOUNTERED DURING THE DEMOLITION/EXCAVATION PROCESS.

16. FILL FOR LOWER LEVELS OF DEMOLISHED STRUCTURES MAY INCLUDE CONCRETE OR MASONRY RUBBLE RESULTING FROM DEMOLITION, SUBJECT TO THE ENGINEER'S/ARCHITECT'S APPROVAL. RUBBLE SHALL PASS THROUGH A THREE-INCH RING.

17. REMOVE AND LEGALLY DISPOSE OF ALL OTHER RUBBISH, RUBBLE, AND DEBRIS. COMPLY WITH ALL APPLICABLE LAWS AND REGULATIONS GOVERNING DISPOSAL OF WASTES AND DEBRIS.

18. MAINTAIN ACCESS TO SURROUNDING PROPERTIES AND BUILDINGS.

19. PRIOR TO DEMOLITION OCCURRING ALL EROSION CONTROL DEVICES ARE TO BE INSTALLED.

20. ALL TRAFFIC SIGNS OUTSIDE THE DEMOLITION AREA ARE TO REMAIN UNLESS OTHERWISE SPECIFIED.

21. ANY MUCK ENCOUNTERED UNDER PROPOSED STRUCTURES SHALL BE REMOVED TO FIVE-FEET BEYOND THE FOOTPRINT OF THAT STRUCTURE. BACKFILL WITH APPROVED FILL MATERIAL SATISFYING ALL COMPACTION REQUIREMENTS.

22. ALL EXISTING UTILITIES WITHIN THE DEMOLITION SITE AREA SHALL BE ADJUSTED, REMOVED OR RELOCATED AT THE CONTRACTOR'S EXPENSE. WORK SHALL BE COORDINATED BY THE CONTRACTOR DIRECTLY WITH THE APPROPRIATE UTILITY COMPANY. ALL EXPENSES SHALL BE INCLUDED IN THE CONTRACTOR'S BID.

23. ALL TRASH, DEBRIS AND OTHER MATERIAL REMOVED FROM THE SITE SHALL BE PROPERLY DISPOSED OF BY THE CONTRACTOR IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS.

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DEMOLITION NOTES SHEET 2

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PRE-DEMOLITION RESPONSIBILITIES:

1. UPON RECEIPT OF NOTICE OF AWARD, THE CONTRACTOR SHALL ARRANGE A PRE-DEMOLITION CONFERENCE TO INCLUDE ALL INVOLVED GOVERNMENTAL AGENCIES, ALL AFFECTED UTILITY OWNERS, THE OWNER, THE ENGINEER AND THE CONTRACTOR.

2. PRIOR TO DEMOLITION, THE CONTRACTOR SHALL BE REQUIRED TO SUBMIT A DEMOLITION SCHEDULE DEPICTING EACH PHASE OF THE WORK.

3. PRIOR TO DEMOLITION, CONTRACTOR TO PROVIDE FOR THE OWNER A LISTING OF THE FACILITIES THE CONTRACTOR SHALL UTILIZE FOR RECYCLING AND DISPOSAL OF SPECIFIC MATERIALS. CONTRACTOR TO INDICATE THE MATERIALS INTENDED FOR RECYCLING AND THE MATERIALS INTENDED FOR DISPOSAL FOR OWNER'S APPROVAL.

4. PRIOR TO DEMOLITION, CONTRACTOR TO PROVIDE THE OWNER SKETCHES SHOWING PROPOSED HAULING ROUTES TO RECYCLING AND DISPOSAL FACILITIES FOR APPROVAL.

5. PRIOR TO DEMOLITION, THE CONTRACTOR SHALL VERIFY THE SIZE, LOCATION, ELEVATION, AND MATERIAL OF ALL EXISTING UTILITIES WITHIN THE AREA OF DEMOLITION.

6. EXISTING UTILITY LOCATIONS SHOWN ON THESE PLANS ARE APPROXIMATE. THE CITY AND THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF EXISTING UTILITIES SHOWN OR FOR ANY EXISTING UTILITIES NOT SHOWN.

7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO ANY EXISTING UTILITIES FOR WHICH IT FAILS TO REQUEST LOCATIONS FROM THE UTILITY OWNER. THE CONTRACTOR IS RESPONSIBLE AS WELL FOR DAMAGE TO ANY EXISTING UTILITIES WHICH ARE PROPERLY LOCATED.

8. THE LOCATIONS OF EXISTING UTILITIES AND STORM DRAINAGE SHOWN ON THE PLANS HAVE BEEN DETERMINED FROM THE BEST INFORMATION AVAILABLE AND ARE GIVEN FOR THE CONVENIENCE OF THE CONTRACTOR. ENGINEER ASSUMES NO RESPONSIBILITY FOR INACCURACY.

9. PRIOR TO THE START OF ANY DEMOLITION ACTIVITY, THE CONTRACTOR SHALL FIELD LOCATE EXISTING UNDERGROUND UTILITIES WITH THE UTILITY OWNERS.

10. THE CONTRACTOR IS RESPONSIBLE FOR RELOCATION'S OF THE VARIOUS EXISTING UTILITIES WITH THE UTILITY OWNERS, WHICH SHALL BE DONE IN A TIMELY MANNER TO MINIMIZE IMPACT ON DEMOLITION SCHEDULE. ANY DELAY CAUSED BY THE CONTRACTOR BY THE RELOCATION OF UTILITIES SHALL BE INCIDENTAL TO THE CONTRACT AND NO EXTRA COMPENSATION WILL BE ALLOWED.

11. SUNSHINE STATE ONE CALL OF FLORIDA, INC. REQUIRES THE CONTRACTOR TO CALL TWO (2) FULL BUSINESS DAYS (BUT NOT MORE THAN FIVE) PRIOR TO BREAKING GROUND TO FIND OUT WHERE BURIED FACILITIES (ELECTRICAL, GAS, TELEPHONE, CABLE, WATER) ARE LOCATED.

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DEMOLITION NOTES SHEET 3

1312-1643-NOTE Title, October 08, 2021

DEMOLITION SAFETY:

1. ALL DEMOLITION SHALL BE DONE IN A SAFE MANNER. SPECIFICALLY, THE RULES AND REGULATIONS OF THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA), THE FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT) AND THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) SHALL BE STRICTLY OBSERVED.

2. PROVIDE ADEQUATE PROTECTION FOR PERSONS AND PROPERTY AT ALL TIMES. EXECUTE THE WORK IN A MANNER TO AVOID HAZARDS TO PERSONS AND PROPERTY AND PREVENT INTERFERENCE WITH THE USE OF AND ACCESS TO ADJACENT BUILDINGS, STREETS AND SIDEWALKS SHALL NOT BE UNNECESSARILY BLOCKED BY DEBRIS AND EQUIPMENT.

3. BUILDING MATERIALS TO BE REMOVED SHALL BE TESTED FOR ASBESTOS AND LEAD PAINT.

4. IF PETROLEUM PRODUCTS ARE FOUND WHILE DEMOLISHING, DISPOSE OF PETROLEUM WASTE IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS.

PAVEMENT DEMOLITION:

1. WHERE EXISTING PAVEMENT IS TO BE REMOVED, SAW-CUT THE SURFACING LEAVING A UNIFORM AND STRAIGHT EDGE WITH MINIMUM DISTURBANCE TO THE REMAINING ADJACENT SURFACING. IF DEMOLITION RESULTS IN RAVELING OF SAW CUT SURFACE, RECUT BACK FROM THE RAVELED EDGE PRIOR TO RESTORATION.

2. WHERE EXISTING PAVEMENT, CURB, CURB AND GUTTER, SIDEWALK, DRIVEWAY, OR VALLEY GUTTER IS REMOVED FOR INLETS, MANHOLES, APPURTENANCES, FACILITIES OR STRUCTURES, SAID PAVEMENT, ETC., SHALL BE REPLACED WITH NEW PAVEMENT, ETC. CONTRACTOR SHALL PROVIDE ALL NECESSARY LABOR, MATERIALS, EQUIPMENT, TOOLS, SUPPLIES, AND OTHER EQUIPMENT AS REQUIRED.

3. CONTRACTOR MAY LIMIT SAW-CUT AND PAVEMENT REMOVAL TO ONLY THOSE AREAS WHERE IT IS REQUIRED AS SHOWN ON THE DRAWINGS. HOWEVER, IF ANY DAMAGE IS INCURRED ON ANY OF THE SURROUNDING PAVEMENT, SIDEWALK, BUILDINGS, UTILITIES, ETC., THEN THE CONTRACTOR SHALL BE RESPONSIBLE FOR ITS REMOVAL AND REPLACEMENT. REPLACEMENT PAVEMENT, SIDEWALK, ETC., SHALL BE NEW.

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DEMOLITION NOTES SHEET 4

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DEMOLITION PERMITTING:

1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN ANY REQUIRED PERMITS FOR DEMOLITION FROM RESPONSIBLE REGULATORY AGENCIES WHILE FULLY ACKNOWLEDGING AND COMPLYING WITH ALL REQUIREMENTS PRIOR TO COMMENCING DEMOLITION WORK.

2. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE THE EXTENT OF DEMOLITION, RECYCLING OR REUSE REQUIRED TO PERFORM THE CONTRACT WORK FOR THIS PROJECT. THE CONTRACTOR SHALL CONDUCT SITE VISITS AND SHALL EXAMINE ALL THE INFORMATION WITHIN THESE DOCUMENTS. ALL DISCREPANCIES AND/OR OMISSIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO BID SUBMITTAL.

3. THE CONTRACTOR SHALL COORDINATE WITH OWNER PRIOR TO COMMENCEMENT OF ANY WORK. ACTUAL REMOVAL AND/OR RELOCATION OF ALL EXISTING LANDSCAPING WITHIN DEMOLITION AREAS TO BE CONDUCTED BY A LANDSCAPE CONTRACTOR. IT IS THE RESPONSIBILITY OF THE SITEMARK DEMOLITION CONTRACTOR TO COORDINATE DEMOLITION ACTIVITIES WITH THE LANDSCAPE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING AND PRESERVING TREES AS INDICATED ON THE PLANS. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING A TREE REMOVAL PERMIT OR ANY OTHER APPLICABLE PERMIT TO REMOVE, RELOCATE, OR PRESERVE EXISTING LANDSCAPE AND TREES.

4. ANY TREES FOR REMOVAL FOUND TO BE GREATER THAN OR EQUAL TO THREE (3) INCHES IN DIAMETER AT BREAST HEIGHT (DBH) SHALL REQUIRE A PERMIT WITH THE BROWARD COUNTY ENVIRONMENTAL PROTECTION AND GROWTH MANAGEMENT DEPARTMENT (BCEGEMD).

5. SHOULD REMOVAL AND/OR RELOCATION ACTIVITIES DAMAGE THE LIGHTING, STORM INLET STRUCTURES, OR OTHER STRUCTURES DESIGNATED TO BE SAVED, THEN THE CONTRACTOR SHALL PROVIDE NEW MATERIALS/STRUCTURES IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

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DEMOLITION NOTES SHEET 5

CITY OF FORT LAUDERDALE PUBLIC WORKS DEPARTMENT ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

DRAWN BY: JT DATE: 8/29/21
DESIGNED BY: SCALE: DL #####
CHECKED BY: DD
FIELD BOOK: #####

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DEMOLITION EROSION AND SEDIMENT CONTROL NOTES:

1. THE SCHEDULING, SEQUENCING AND CONTROL MEASURES, ARE SUBJECT TO THE FINAL DEFINITION BY THE CONTRACTOR WHO SHALL BE SELECTED TO PERFORM THE WORK AND SHALL BE RESPONSIBLE FOR IMPLEMENTATION AND COMPLIANCE.

2. PRIOR TO DEMOLITION, THE CONTRACTOR SHALL BE REQUIRED TO SUBMIT A DEMOLITION SCHEDULE DEPICTING EACH PHASE OF THE WORK. THE CONTRACTOR SHALL ALSO BE REQUIRED TO SUBMIT AN EROSION AND SEDIMENT CONTROL PLAN ENCOMPASSING THE PRINCIPALS AND THE REQUIREMENTS DESCRIBED HEREIN AND A SCHEDULE FOR THEIR IMPLEMENTATION AND MAINTENANCE FOR THE PROJECT DURATION.

3. DURING DEMOLITION, THE CONTRACTOR SHALL TAKE ALL REASONABLE MEASURES TO ENSURE AGAINST POLLUTING, SILTATION OR DISTURBANCE TO SUCH AN EXTENT AS TO CAUSE AN INCREASE IN TURBIDITY TO THE EXISTING DRAINAGE SYSTEMS AND ADJACENT WATER BODIES AND WETLANDS, IN COMPLIANCE WITH ALL PERMIT REQUIREMENTS RELATED TO SUCH MEASURES.

4. METHODS MAY INCLUDE TEMPORARY EROSION AND SEDIMENT CONTROLS SUCH AS SEDIMENT BASINS, SEDIMENT CHECKS, SILT BARRIERS, SILT SCREENS, TURBIDITY BARRIERS OR THE BEST MANAGEMENT PRACTICES AVAILABLE TO THE INDUSTRY.

5. EROSION AND SEDIMENT CONTROL INSTALLATIONS SHALL BE MAINTAINED THROUGHOUT THE DEMOLITION PERIOD AND UNTIL NEW VEGETATIVE GROWTH HAS BEEN ESTABLISHED.

6. THROUGHOUT THE DEMOLITION PERIOD, THE CONTRACTOR SHALL INSPECT DAILY THE EROSION AND SEDIMENT CONTROL INSTALLATIONS FOR FAILURE OR SIGNS OF FAILURE OR MALFUNCTION. REPAIR OR REPLACE THE EROSION AND SEDIMENT CONTROL INSTALLATIONS IMMEDIATELY UPON DISCOVERY OF FAILURE OR MALFUNCTION.

7. INLETS AND CATCH BASINS, EXISTING ON-SITE AND OFF-SITE, SHALL BE PROTECTED FROM SEDIMENT STORM RUNOFF.

8. THE CONTRACTOR SHALL PROMPTLY REMOVE ALL MUD, DIRT OR OTHER MATERIALS TRACKED OR SPILLED ONTO EXISTING PUBLIC ROADS AND FACILITIES DUE TO DEMOLITION.

9. DEWATERING ACTIVITIES SHALL NOT RESULT IN ANY DISCHARGE OF TURBID WATER FROM THE PROJECT SITE WITHOUT PROPER EROSION AND SEDIMENT CONTROL AND APPROVAL FROM ENGINEER.

10. PHASING OF EROSION CONTROL DEMOLITION SHALL BE RECOMMENDED AS FOLLOWS:

10.1. PLACEMENT OF PERIMETER PROTECTIVE MEASURES (SILT FENCE, HAY BALES, TURBIDITY BARRIERS, ETC.) AROUND ON-SITE FEATURES TO BE RETAINED, AT POINTS OF OFF-SITE DISCHARGE AND AROUND WORK AREAS TO BE EXCAVATED OR FILLED.

10.2. REROUTE RUNOFF FROM AREAS OUTSIDE OF THE DEMOLITION AREA TO MINIMIZE FLOW THROUGH AREAS TO BE DISTURBED BY DEMOLITION. BERMS, SWALES AND OTHER MEANS USED FOR SUCH CONVEYANCE SHALL BE VEGETATED AND MEASURES TAKEN TO PROVIDE PROTECTION UNTIL STABILIZATION OCCURS (AS APPLICABLE TO THE PROJECT).

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10.3. SELECT LOCATIONS FOR PLACEMENT OF EXCAVATED MATERIAL, WHERE SUITABLE FOR FILL OR UNSUITABLE MATERIAL, AND CONSTRUCT CONTAINMENT BERMS AROUND THE AREA. THE USE OF STRIPING FOR THIS PURPOSE MAY ACCELERATE BERM REVEGETATION. CONSTRUCT TEMPORARY OUTLETS FOR CONTAINMENT AREAS WITH SCREENS, HAY BALES, SETTLING BASINS OR OTHER MEASURES TO PREVENT SILT TRANSPORT.

10.4. SELECT / DESIGNATE ACCESS ROUTING FOR DEMOLITION EQUIPMENT AND VEHICLES AND PROVIDE PERIMETER PROTECTIVE MEASURES WHERE EXISTING TERRAIN SHALL BE SUBJECT TO DISRUPTION BY SUCH TRAFFIC.

10.5. CONSTRUCT ABOVE GROUND OR OTHER CONTAINMENT AREAS FOR DEMOLITION AREA RUNOFF. PROVIDE SCREENS, HAY BALES, ETC. TO FILTER DISCHARGE FROM THOSE AREAS.

10.6. SPOIL MOUNDS SHALL NOT BE LEFT FOR MORE THAN ONE WEEK PRIOR TO REPLACEMENT UNLESS PROTECTIVE CONTAINMENT MEASURES IN THE WORK AREA ARE APPLIED.

10.7. GRASSING, SODDING, ETC. SHALL BE IN PLACE IMMEDIATELY UPON COMPLETION OF REGRADING, SWALE SLOPES AND THE CONSTRUCTED OR DISTURBED AREAS.

11. THE CONTRACTOR IS REQUIRED TO ADHERE TO THE REQUIREMENT OF THE NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES). THE CONTRACTOR SHALL INSTITUTE BEST MANAGEMENT PRACTICES (BMPs) TO ENSURE COMPLIANCE WITH THE NPDES PROGRAM AND TO MINIMIZE THE IMPACT TO PUBLIC STORMWATER FACILITIES. A NOTICE OF INTENT (NOI) SHALL BE FILED BY THE CONTRACTOR PRIOR TO BEGINNING CONSTRUCTION ACTIVITIES.

12. THE CONTRACTOR SHALL PREPARE A STORMWATER POLLUTION PREVENTION PLAN (SWPPP) AND MAINTAIN ALL RECORDS REQUIRED BY ITS NPDES STORMWATER PERMIT FOR ITS CONSTRUCTION ACTIVITIES.

13. PRIOR TO CONSTRUCTION, A SILT FENCE IN ACCORDANCE WITH CITY'S DETAIL SHALL BE ERECTED AS NOTED ON PLANS. ALL PROPOSED CATCH BASINS SHALL HAVE THEIR INLETS PROTECTED BY THE INSTALLATION OF FILTER INLET INSERTS INTO THE FRAME AND GRATE. SILT FENCES AND FILTER INLET INSERTS SHALL REMAIN IN PLACE DURING THE ENTIRE DURATION OF CONSTRUCTION.

14. CONTRACTOR SHALL BRACE ALL EXISTING LANDSCAPING TO REMAIN PRIOR TO BEGINNING ANY WORK AND SHALL ENSURE ITS STABILIZATION THROUGHOUT THE ENTIRE CONSTRUCTION PROCESS. EXISTING SOD DISTURBED BY CONSTRUCTION THAT IS NOT AFFECTED BY PROPOSED GRADING SHALL BE RESTORED TO NEW CONDITION UPON COMPLETION OF CONSTRUCTION. SODDED SLOPES STEEPER THAN FOUR HORIZONTAL TO ONE VERTICAL SHALL BE PEGGED.

15. ALL WASTE GENERATED FROM THE CONSTRUCTION SHALL BE DISCARDED IN ACCORDANCE WITH ALL APPLICABLE STATE, LOCAL AND FEDERAL REGULATIONS. CONTRACTOR SHALL OBTAIN ALL APPLICABLE CODES AND BECOME FAMILIAR WITH STATE, LOCAL AND FEDERAL REGULATIONS PRIOR TO BEGINNING CONSTRUCTION.

16. TO ENSURE THAT OFF-SITE VEHICLE TRACKING OF SEDIMENTS AND THE GENERATION OF DUST IS MINIMIZED, CONTRACTOR SHALL PUT INTO PRACTICE THE METHODS DETAILED IN FLORIDA DEPARTMENT OF TRANSPORTATION INDEX 106 (2010 DESIGN STANDARDS) AND BMPs.

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17. DUST GENERATED FROM CONSTRUCTION SHALL BE MINIMIZED BY DAILY WATERING OF THE SITE.

18. AT ANY TIME DURING CONSTRUCTION THAT THE SILT FENCING IS DISTURBED, THE SILT FENCING SHALL BE RESTORED TO ITS ORIGINAL STATE WITHIN 24 HOURS. AT NO TIME DURING CONSTRUCTION SHALL WORK BE PERFORMED WITHOUT THE INTEGRITY OF THE SILT FENCING SECURED.

19. A QUALIFIED INSPECTOR, PROVIDED BY THE CONTRACTOR, SHALL INSPECT ALL POINTS OF DISCHARGE INTO NEARBY SURFACE WATER. THE INSPECTION SHALL OCCUR AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A STORM THAT IS 0.5 INCHES OR GREATER. INSPECTION INCLUDES THE WRITTEN RECORDING OF THE CONDITION OF ALL DISCHARGE POINTS. INTEGRITY OF SILT FENCING, DAILY DUST CONTROL MEASURES, VEHICULAR TRAFFIC AND CONSTRUCTION MATERIAL STORAGE AND DISPOSAL. WRITTEN RECORD OF ALL INSPECTIONS SHALL BE STORED BY THE CONTRACTOR.

20. THE INSPECTION REPORT SHALL INCLUDE, BUT IS NOT LIMITED TO, THE FOLLOWING INFORMATION: NAME AND QUALIFICATION OF PERSONNEL MAKING THE INSPECTION, DATE OF INSPECTION, RAINFALL DATE, MAJOR OBSERVATIONS RELATING TO THE SWPPP, ACTIONS TAKEN BY CONTRACTOR AND ANY INCIDENT OF NONCOMPLIANCE WITH PERMIT. WHERE AN INSPECTION DOES NOT IDENTIFY ANY INCIDENT OF NONCOMPLIANCE, THE REPORT SHALL CONTAIN A CERTIFICATION THAT THE FACILITY IS IN COMPLIANCE WITH THE SWPPP AND THE PERMIT.

21. THE CONTRACTOR SHALL RETAIN A COPY OF THE SWPPP AND ALL REPORTS, RECORDS AND DOCUMENTATION REQUIRED BY THE PERMIT AT THE CONSTRUCTION SITE, OR AN APPROPRIATE ALTERNATIVE LOCATION AS SPECIFIED IN THE NOTICE OF INTENT, FROM THE DATE OF PROJECT INITIATION TO THE DATE OF FINAL STABILIZATION.

22. THE CONTRACTOR SHALL RETAIN THE SWPPP, NOI AND ALL RECORDS ASSOCIATED THEREWITH FOR A PERIOD OF AT LEAST THREE (3) YEARS FROM THE DATE THAT THE SITE IS FINALLY STABILIZED.

23. SEE LANDSCAPE PLANS FOR TREE REMOVAL AND LANDSCAPE DEMOLITION.

24. CONTRACTOR SHALL COORDINATE THROUGH CITY'S CONSTRUCTION DIVISION AND CITY'S PARKS DEPARTMENT ON HOW TO STOCK AND RE-USE EXCAVATED SOIL FROM SITE (AS APPLICABLE TO THE PROJECT).

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DEMOLITION NOTES SHEET 8

LEGEND

A = CENTRAL ANGLE (DELTA)
A/C = AIR CONDITIONING
A.K.A. = ALSO KNOWN AS
A.L.P. = ALUMINUM LIGHT POLE
ALTA = AMERICAN LAND TITLE ASSOCIATION
A OR L = ARC LENGTH
B.C.R. = BROWARD COUNTY RECORDS
B.F.P. = BACK FLOW PREVENTOR
B.H. = BULKHEAD
B = BASE LINE
C.A.T.V. = CABLE TV TERMINAL OR BOX
CALC. = CALCULATED
C.B.S. = CONCRETE BLOCK AND STUCCO
C/L = CENTERLINE OF RIGHT-OF-WAY
CH = CHORD
CH.BRG. = CHORD BEARING
C.C.C.L. = COASTAL CONSTRUCTION CONTROL LINE
C.L.F. = CHAIN LINK FENCE
C.L.P. = CONCRETE LIGHT POLE
C.P.P. = CONCRETE POWER LIGHT POLE
C.P.P. = CONCRETE POWER POLE
CONC. = CONCRETE
C/O = CLEAN OUT
D.B. = DEED BOOK
DESC. = DESCRIPTION FROM FORMER DESCRIPTION
DIA. = DIAMETER
D.B.H. = DIAMETER AT BREAST HEIGHT
ELEC. = ELECTRIC
ELEV. OR EL. = ELEVATION
Ft. = FEET
F.H. = FIRE HYDRANT
F.D.O.T. = FLORIDA DEPARTMENT OF TRANSPORTATION
F.P.L. = FLORIDA POWER AND LIGHT CO.
G.T.M. = GREASE TRAP MANHOLE
H.H. = HAND HOLE
I.C.V. = IRRIGATION CONTROL VALVE
INVT. = INVERT
L.B. = LICENSE BUSINESS
MAG. = MAGNET
M.D.C.R. = MIAMI DADE COUNTY RECORDS
M.E.S. = FIELD MEASURE
P = PARKING SPACES

M.H.W. = MEAN HIGH WATER
MISC. = MISCELLANEOUS
M.L.P.(D) = METAL LIGHT POLE
= MORE AND LESS
N.G.S. = NATIONAL GEODETIC SURVEY
N.S.P.S. = NATIONAL SOCIETY OF PROFESSIONAL SURVEYORS
NOVD29 = NATIONAL GEODETIC VERTICAL DATUM (1929)
NO. = NUMBER
NAVOD88 = NORTH AMERICAN VERTICAL DATUM (1988)
N.S.I.D. = NORTH SPRINGS IMPROVEMENT DISTRICT
O.R.B. = OFFICIAL RECORDS BOOK
O/S = OFFSET
O.U.M. = OVERHEAD UTILITY LINES
P.C. = PAGE
P.B. = PLAT BOOK
P.B.C.R. = PALM BEACH COUNTY RECORDS
P.C. = POINT OF CURVE
P.C.D. = POLLUTION CONTROL DEVICE
P.I. = POINT OF INTERSECTION
P.I.V. = POST INDICATOR VALVE
P.O.B. = POINT OF BEGINNING
P.O.C. = POINT OF COMMENCEMENT
P.R.C. = POINT OF REVERSE CURVE
P.R.M. = PERMANENT REFERENCE MONUMENT
R = RADIUS
R.C.P. = REINFORCED CONCRETE PIPE
R/W. = RIGHT-OF-WAY
S.B.T. = SOUTHERN BELL TELEPHONE
S.E. = SEWER VALVE
S.H.W. = SEASONAL HIGH WATER LINE
S.T.L. = SURVEY TIE LINE
TAN. = TANGENT
TAN.BRG. = TANGENT BEARING
W.M. = WATER METER
W.V. = WATER VALVE
W.B.H. = WET FACE OF BULKHEAD
W.F. = WET FACE OF CAP
W.P.L.P. = WOOD POWER STREET LIGHT POLE
W.P.P. = WOOD POWER POLE
W/M.L. CAP = WITH MCLAUGHLIN ENGINEERING CO. CAP
W/W.C. = WITH WITNESS CAP # 285
= HANDICAPPED PARKING SPACE

BACK FLOW PREVENTOR VALVE
BENCHMARK
BALLARD (UNLESS NOTED)
CATCH BASIN
DRAINAGE MANHOLE
ELECTRIC MANHOLE
ELECTRIC METER
EXISTING ELEVATION
FIRE HYDRANT
GUY ANCHOR
HAND HOLE
SANITARY MANHOLE
SIGN (UNLESS NOTED)
TELEPHONE MANHOLE
UNKNOWN MANHOLE
WATER METER
WATER VALVE
WOOD LIGHT POLE
WOOD UTILITY POLE
WOOD UTILITY POLE WITH LIGHT

UNDERGROUND LINE LEGEND

C = UNDERGROUND COMMUNICATIONS LINE
E = UNDERGROUND ELECTRICAL LINE
GAS = UNDERGROUND GAS LINE
S = UNDERGROUND SANITARY SEWER LINE
U = UNDERGROUND UNKNOWN LINE
W = UNDERGROUND WATER LINE

PROPOSED ASPHALT PAVEMENT REPAIR
PROPOSED MILL AND RESURFACE
PROPOSED GRASS REPAIR
REMOVE PIPE
GROUT AND ABANDON PIPE

VERTICAL DATUM INFORMATION
ALL ELEVATIONS SHOWN ARE IN NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVOD88)
CONVERSION FACTOR:
NAVOD88 + 1.58 TBONVD29 IN THIS AREA

NOT FOR CONSTRUCTION

CITY PROJECT # 12412
PS A-16 UPGRADE 30IN WM DCP
CONCEPTUAL PLANS
(NOT FOR CONSTRUCTION)
GENERAL NOTES

DRAWING # GN-2 SHT # 04
TOTAL: 15
CAD FILE: 12412-MULTI-NOTE
DRAWING FILE NO. #2-0163

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Plot Date: 10/5/2021 3:49:24 PM Username: JTammo Layout Name: GN-2
Folder Path: V:\Projects\2021\121-047,057 - ps a-16 upgrade(court house)\30_wm_dcp\Design\CAD\Sheets
Filename: 12412-MULTI-NOTE.dwg
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12412-MULTI-NOTE Tuesday, October 08, 2025

INTERRUPTION OF EXISTING UTILITIES:
1. ANY DEMOLITION WORK THAT REQUIRES INTERRUPTION OF SERVICE TO ANY CUSTOMER SHALL BE DONE SO WITH A MINIMUM OF SEVENTY-TWO (72) HOUR WRITTEN NOTICE TO, AND WRITTEN APPROVAL BY, THE APPROPRIATE UTILITY COMPANY.

TEMPORARY DEMOLITION FACILITIES:
1. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ARRANGE OR SUPPLY TEMPORARY WATER SERVICE, SANITARY FACILITIES AND ELECTRICITY TO ITS EMPLOYEES AND SUBCONTRACTORS FOR THEIR USE DURING DEMOLITION.

CITY OF FORT LAUDERDALE PUBLIC WORKS DEPARTMENT ENGINEERING DETAILS DEMOLITION NOTES SHEET 9

12412-MULTI-NOTE Tuesday, October 08, 2025

WASTE MANAGEMENT PLAN:
1. IMPLEMENT A WASTE MANAGEMENT PLAN FOR APPROVAL BY THE OWNER. PROVIDE HANDLING, CONTAINERS, STORAGE, SIGNAGE, TRANSPORTATION AND OTHER ITEMS AS NEEDED TO IMPLEMENT THE WASTE MANAGEMENT PLAN DURING THE ENTIRE DURATION OF THE CONTRACT.

RECYCLING DEMOLITION WASTE:
1. SEPARATE RECYCLABLE WASTE FROM OTHER WASTE MATERIALS, TRASH AND DEBRIS. SEPARATE RECYCLABLE WASTE BY TYPE AT THE PROJECT SITE TO THE MAXIMUM EXTENT PRACTICAL.

CITY OF FORT LAUDERDALE PUBLIC WORKS DEPARTMENT ENGINEERING DETAILS DEMOLITION NOTES SHEET 10

12412-MULTI-NOTE Tuesday, October 08, 2025

11. METALS: METALS FROM REINFORCED CONCRETE, REINFORCED MASONRY, STRUCTURAL STEEL MEMBERS, FLASHING AND SHEET METAL, CONDUIT PIPE, SIDING, PIPING AND WIRING SHALL BE SEPARATED BY TYPE.

DISPOSAL OF WASTE:
1. GENERAL: EXCEPT FOR ITEMS OR MATERIALS TO BE SALVAGED, RECYCLED OR OTHERWISE REUSED, REMOVE WASTE MATERIALS FROM PROJECT SITE AND LEGALLY DISPOSE OF THEM IN A LANDFILL OR OTHER PERMITTED DISPOSAL FACILITY.

CITY OF FORT LAUDERDALE PUBLIC WORKS DEPARTMENT ENGINEERING DETAILS DEMOLITION NOTES SHEET 11

12412-MULTI-NOTE Tuesday, October 08, 2025

TRAFFIC CONTROL PLAN NOTES:
1. THE TRAFFIC CONTROL PLANS FOR THE PROJECT SHALL COMPLY WITH THE LATEST EDITION OF THE FLORIDA DEPARTMENT OF TRANSPORTATION ROADWAY AND TRAFFIC DESIGN STANDARDS, INDEX NO. 600-660, MUTCD AND THE STANDARD SPECIFICATIONS. THE CONTRACTOR'S RESPONSE TIME TO ALL REPORTED MALFUNCTIONS OF TRAFFIC SIGNALS WITHIN THE PROJECT LIMITS SHALL BE NO MORE THAN TWO (2) HOURS AND SHALL RESTORE ALL MALFUNCTIONING TRAFFIC SIGNAL EQUIPMENT TO ITS LEVEL OF OPERATION PRIOR TO THE MALFUNCTIONING WITHIN TWENTY-FOUR (24) HOURS.

CITY OF FORT LAUDERDALE PUBLIC WORKS DEPARTMENT ENGINEERING DETAILS TRAFFIC CONTROL PLAN NOTES SHEET 12

Table with columns: DRAWN BY, DATE, DESIGNED BY, SCALE, CHECKED BY, FIELD BOOK.

CITY OF FORT LAUDERDALE PUBLIC WORKS DEPARTMENT ENGINEERING & ARCHITECTURE 100 North Andrews Avenue, Fort Lauderdale, Florida 33301

Plot Date: 10/5/2021 3:26:02 PM Username: JTammo Layout Name: GN-3 Folder Path: V:\Projects\2021\12412-047.057 - ps o-16 upgrade(court house)\30_wm_dcp\Design\CAD_Sheets

12412-MULTI-NOTE Tuesday, October 08, 2025

Table with columns: LOCATION, MATERIAL, MINIMUM DENSITY (% OF MAX), TESTING FREQUENCY. Rows include ROADS, MANHOLES AND VAULTS, PARKING AREAS, UTILITY TRENCH BACKFILL, ROADS AND PARKING.

NOTES:
1. THE DENSITY REQUIREMENTS PRESENTED ASSUME DRY TRENCH CONDITIONS.
2. UNLESS INDICATED OTHERWISE IN THE SPECIFICATIONS, TESTING SHALL COMPLY WITH THE REQUIREMENTS PRESENTED IN THIS TABLE.

CITY OF FORT LAUDERDALE PUBLIC WORKS DEPARTMENT ENGINEERING DETAILS DENSITY TESTING NOTES SHEET 13

12412-MULTI-NOTE Tuesday, October 08, 2025

MAINTENANCE OF TRAFFIC SCHOOL/PEDESTRIAN:
1. THE "MAINTENANCE OF TRAFFIC" PLAN, PROVIDED BY THE CONTRACTOR, SHALL INCLUDE PROVISIONS FOR PEDESTRIAN AND/OR SCHOOL STUDENT TRAFFIC AS WELL AS VEHICULAR TRAFFIC. THE FOLLOWING ARE MINIMUM REQUIREMENTS.

CITY OF FORT LAUDERDALE PUBLIC WORKS DEPARTMENT ENGINEERING DETAILS MAINTENANCE OF TRAFFIC SCHOOL/PEDESTRIAN SHEET 14

12412-MULTI-NOTE Tuesday, October 08, 2025

GENERAL CONSTRUCTION NOTES:
1. NO CONNECTIONS FOR THE PURPOSE OF OBTAINING WATER SUPPLY DURING CONSTRUCTION SHALL BE MADE TO ANY FIRE HYDRANT OR BLOW-OFF STRUCTURE WITHOUT FIRST OBTAINING PERMISSION AND A CONSTRUCTION METER FROM THE CITY OF FORT LAUDERDALE.

17. CONTRACTOR SHALL PROVIDE TEMPORARY FENCING AS REQUIRED BY AGENCIES HAVING JURISDICTION OVER THE PROJECT AND/OR WHEN REQUIRED FOR PUBLIC SAFETY.

CITY OF FORT LAUDERDALE PUBLIC WORKS DEPARTMENT ENGINEERING DETAILS GENERAL CONSTRUCTION NOTES SHEET 15

VERTICAL DATUM INFORMATION ALL ELEVATIONS SHOWN ARE IN NORTH AMERICAN VERTICAL DATUM OF 1988 (NAV88) CONVERSION FACTOR: NAVD88+1.58 TBOGVD29 IN THIS AREA

Table with columns: NO., DATE, REVISIONS, DESCRIPTION.

CITY PROJECT #12412 PS A-16 UPGRADE 30IN WM DCP CONCEPTUAL PLANS (NOT FOR CONSTRUCTION) GENERAL NOTES DRAWING # GN-3 SHT # 05

NOT FOR CONSTRUCTION

GENERAL DEMOLITION SPECIFICATIONS:

- 1. THE LOCATIONS, ELEVATIONS AND DIMENSIONS OF ALL EXISTING UTILITIES SHOWN ON THIS PLAN HAVE BEEN DETERMINED FROM THE BEST INFORMATION AVAILABLE... 2. CHAPTER 553.851 OF THE FLORIDA STATUTES REQUIRES THAT AN EXCAVATOR NOTIFY ALL UTILITIES A MINIMUM OF TWO (2) WORKING DAYS PRIOR TO EXCAVATING...

INTERRUPTION OF EXISTING UTILITIES

- 1. ANY DEMOLITION WORK THAT REQUIRES INTERRUPTION OF SERVICE TO ANY CUSTOMER SHALL BE DONE SO WITH A MINIMUM OF SEVENTY-TWO (72) HOUR NOTICE TO, AND WRITTEN APPROVAL BY, THE APPROPRIATE UTILITY COMPANY...

TEMPORARY DEMOLITION FACILITIES

- 1. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ARRANGE OR SUPPLY TEMPORARY WATER SERVICE, SANITARY FACILITIES AND ELECTRICITY TO ITS EMPLOYEES AND SUBCONTRACTORS FOR THEIR USE DURING DEMOLITION...

HORIZONTAL DIRECTIONAL DRILLING (HDD) WITH (HDPE) PIPE

I. WORK INCLUDED

- A. FURNISH ALL LABOR, MATERIALS AND EQUIPMENT REQUIRED TO INSTALL WATER MAIN PIPE USING DIRECTIONAL DRILLING METHOD OF INSTALLATION... B. THE DIRECTIONAL DRILL SHALL BE ACCOMPLISHED BY FIRST DRILLING A PILOT HOLE TO DESIGN STANDARDS; THEN ENLARGING THE PILOT HOLE TO SUFFICIENT SIZE TO ACCOMMODATE THE PULL BACK.

II. REFERENCE SPECIFICATIONS, CODES AND STANDARDS

- A. AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM) ASTM D 3261: BUTT HEAT FUSION POLYETHYLENE PLASTIC FITTINGS... B. AMERICAN WATER WORKS ASSOCIATION (AWWA) AWWA C 906: STANDARD FOR POLYETHYLENE PRESSURE PIPE AND FITTINGS, 4 IN. THROUGH 63 IN. FOR WATER DISTRIBUTION

III. GENERAL REQUIREMENTS

- A. DIRECTIONAL DRILLING AND PIPE INSTALLATION SHALL BE DONE ONLY BY AN EXPERIENCED, LICENSED CONTRACTOR... B. THE CONTRACTOR SHALL VISIT THE SITE AND DETERMINE THE PROXIMITY OF STRUCTURES ON EITHER SIDE OF THE CROSSINGS... C. PRIOR TO PRE-CONSTRUCTION MEETING CONTRACTOR IS TO SUBMIT FRAC-OUT PLAN PER STATE WATER QUALITY STANDARDS...

IV. SUBMITTALS

- A. THE CONTRACTOR SHALL SUBMIT FOR THE OWNER'S AND ENGINEER'S APPROVAL THE QUALIFICATIONS OF THE DIRECTIONAL DRILLING SPECIALTY PROVIDER... 1. DESCRIPTIONS OF SUCCESSFULLY COMPLETED SIMILAR PROJECTS... 2. DOCUMENTATION OF COMPLIANCE WITH THE FOLLOWING MINIMUM STANDARDS...

- E. UPON COMPLETION OF THE PILOT HOLE PHASE OF THE OPERATION, A COMPLETE SET OF AS-BUILT RECORDS SHOWING THE ACTUAL ALIGNMENT OF THE PILOT BORE AT INTERVALS NOT EXCEEDING 30 FEET SHALL BE SUBMITTED IN DUPLICATE TO THE ENGINEER... V. SAFETY A. THE CONTRACTOR SHALL, AT ALL TIMES, CONFORM TO ALL APPLICABLE STATE AND FEDERAL REGULATIONS...

VI. MATERIALS

- A. EQUIPMENT (GRADERS, SHOVELS, ETC.) AND MATERIALS (SUCH AS GROUND SHEETS, HAY BALES, BOOMS, AND ABSORBENT PADS) FOR CLEANUP AND CONTINGENCIES SHALL BE PROVIDED IN SUFFICIENT QUANTITIES BY CONTRACTOR... B. TECHNICAL CRITERIA FOR BENTONITE SHALL BE AS GIVEN IN API SPEC. 13A...

VII. HDPE PIPELINE IDENTIFICATION

- A. ALL POLYETHYLENE PIPE SHALL BE BLACK, AND SHALL CONTAIN A CONTINUOUS COLORED STRIPE, 2 INCHES WIDE, AT THREE SEPARATE LOCATIONS ALONG THE LENGTH OF THE PIPE... 3. POTABLE WATER MAINS - BLUE STRIPE 4. RECLAIMED WATER MAINS - PURPLE STRIPE...

VIII. DIRECTIONAL DRILLING OPERATION

- A. THE CONTRACTOR SHALL PROVIDE ALL MATERIAL, EQUIPMENT, AND FACILITIES REQUIRED FOR DIRECTIONAL DRILLING... B. THE POSITION OF THE DRILL STRING SHALL BE MONITORED BY THE CONTRACTOR WITH THE DOWNHOLE SURVEY INSTRUMENTS... C. BORING PITS SHALL BE SHORED WITH SHEETING OR SUCH OTHER MATERIALS AS REQUIRED...

IX. DRILLING FLUIDS AND CUTTINGS

- A. TO THE EXTENT PRACTICAL, THE CONTRACTOR SHALL MAINTAIN A CLOSED LOOP DRILLING FLUID SYSTEM AND UTILIZE DRILLING TOOLS AND PROCEDURES WHICH WILL MINIMIZE THE DISCHARGE OF ANY DRILLING FLUIDS... B. CONTRACTOR SHALL HAVE DIVERS PRESENT DURING THE DRILLING OPERATIONS... C. THE GUIDED HORIZONTAL DIRECTION DRILLING OPERATION IS TO BE OPERATED IN A MANNER TO ELIMINATE THE DISCHARGE OF WATER, DRILLING MUD AND CUTTINGS...

X. DIRECTION DRILL WORK PLAN & CONTINGENCY

- A. AT LEAST, TWO (2) WEEKS PRIOR TO THE START OF THE DIRECTIONAL DRILLING WORK, THE CONTRACTOR SHALL SUBMIT THE DIRECTIONAL DRILLING WORK PLAN FOR THE CITY AND ENGINEER'S REVIEW... 1. A PLAN SHOWING DETAILS OF THE PROPOSED METHOD OF CONSTRUCTION, SEQUENCE OF OPERATIONS TO BE PERFORMED... 2. A DRILLING FLUID PLAN WHICH DETAILS TYPES OF DRILLING FLUIDS, CLEANING AND RECYCLING EQUIPMENT...

C. PROTOCOL TO IMPLEMENT IN CASE OF FRAC-OUT

- 1. WORK WILL BE STOPPED IN THE EVENT OF A SPILL, INCLUDING THE RECYCLING OF DRILLING MUD/LUBRICANT... 2. DETERMINE THE AMOUNT OF DRILLING MUD RELEASED AND POTENTIAL FOR THE RELEASE TO REACH WATERBODIES... III. ONCE EXCESS DRILLING MUD IS REMOVED, THE AREA WILL BE REPLANTED USING SPECIES SIMILAR TO THOSE IN THE ADJACENT AREA...

XI. INSTALLING PIPE

- A. THE PIPE INSTALLED WITHIN THE BORING SHALL BE IN FULL CONFORMITY WITH THESE SPECIFICATIONS AND AS SHOWN ON THE DRAWINGS... B. THE TYPE AND SIZE OF THE PILOT STRING CUTTING HEAD SHALL BE AT THE CONTRACTOR'S DISCRETION... C. A MINIMUM DEPTH REQUIREMENT OF 6 FEET BELOW THE EXISTING CROSSING BOTTOMS SHALL BE MAINTAINED... D. UPON APPROVAL OF THE PILOT HOLE LOCATION BY THE ENGINEER, THE HOLE OPENING OR ENLARGING PHASE OF THE INSTALLATION SHALL BEGIN...

TRACKING, GUIDANCE SYSTEM, AND SURVEYING

- A. CONTRACTOR SHALL CAREFULLY PLAN THE DRILL PATH AND ENSURE ALL EXISTING UTILITIES ARE IDENTIFIED, ACCURACY OF THE DRILL PATH LOCATION IS A PRIORITY... B. CONTRACTOR SHALL TRACK AND MAINTAIN A DRILL LOG THAT PROVIDES LOCATION OF THE DRILL BIT LOCATION AT LEAST EVERY 30 FEET ALONG THE DRILL PATH... C. AS-BUILTS SHALL INDICATE THE SIZE PIPE, DR OF PIPE, VERTICAL AND HORIZONTAL LOCATION OF THE PIPE.

EXISTING UTILITIES

- A. THE DRAWINGS SHOW EXISTING BURIED UTILITIES THAT ARE BELIEVED TO BE NEAR THE DIRECTIONAL DRILL ALIGNMENT... B. UTILITY LINES AND STRUCTURES INDICATED ON THE DRAWINGS WHICH ARE TO REMAIN IN SERVICE SHALL BE PROTECTED BY THE CONTRACTOR... C. ALL UTILITIES IN CLOSE PROXIMITY TO THE DRILL PILOT BORE, BACK REAM OR CARRIER PIPE INSTALLATION MUST BE EXPOSED THROUGH A "POI-HOLE" OR OTHER OPENING...

VERTICAL DATUM INFORMATION ALL ELEVATIONS SHOWN ARE IN NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVVD88) CONVERSION FACTOR: NAVD88+1.58 TBOVD29 IN THIS AREA



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DRAWING # GN-4 SHT # 06

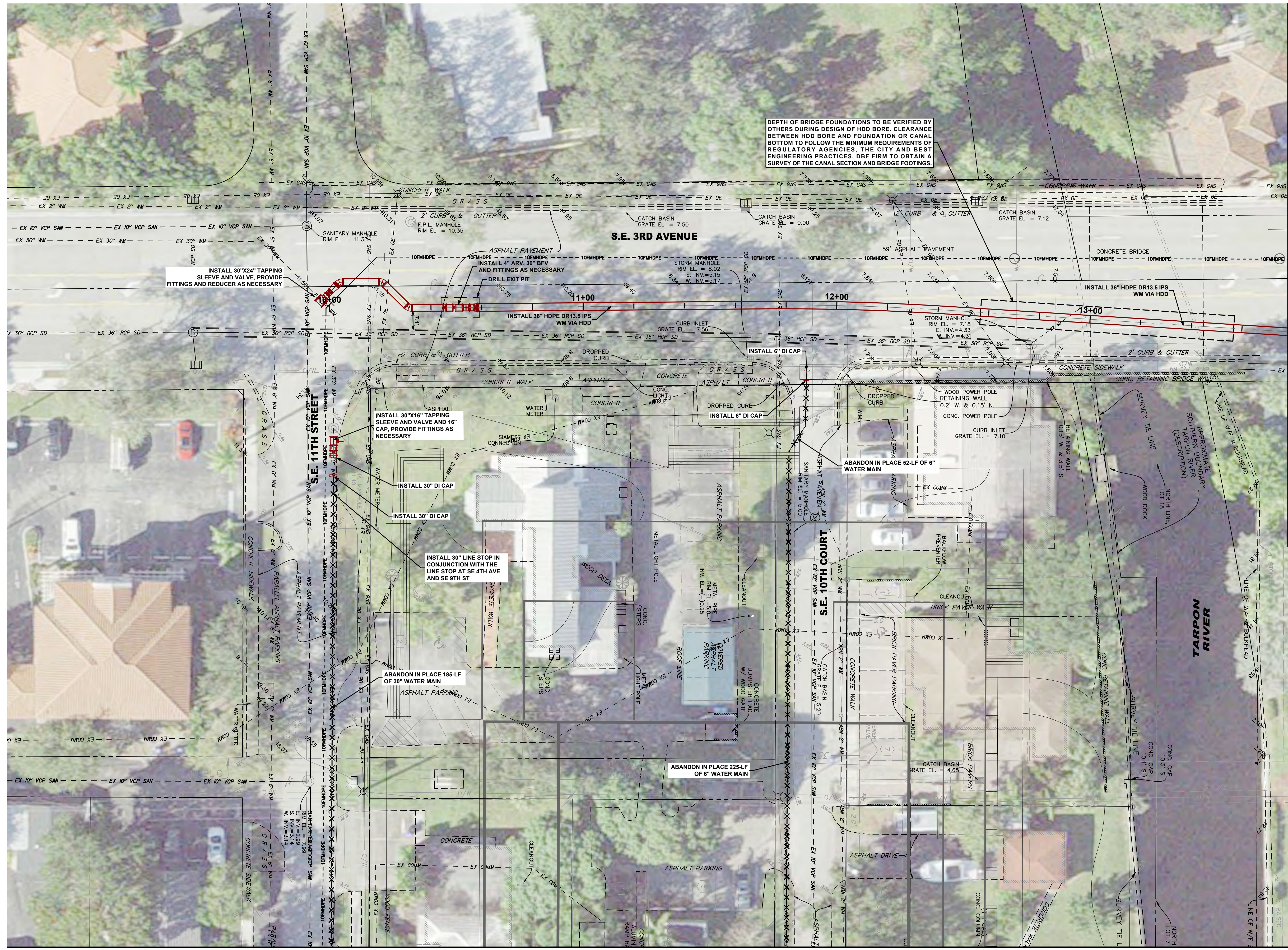
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CITY OF FORT LAUDERDALE PUBLIC WORKS DEPARTMENT ENGINEERING & ARCHITECTURE 100 North Andrews Avenue, Fort Lauderdale, Florida 33301

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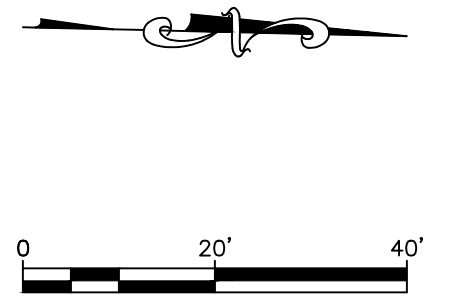
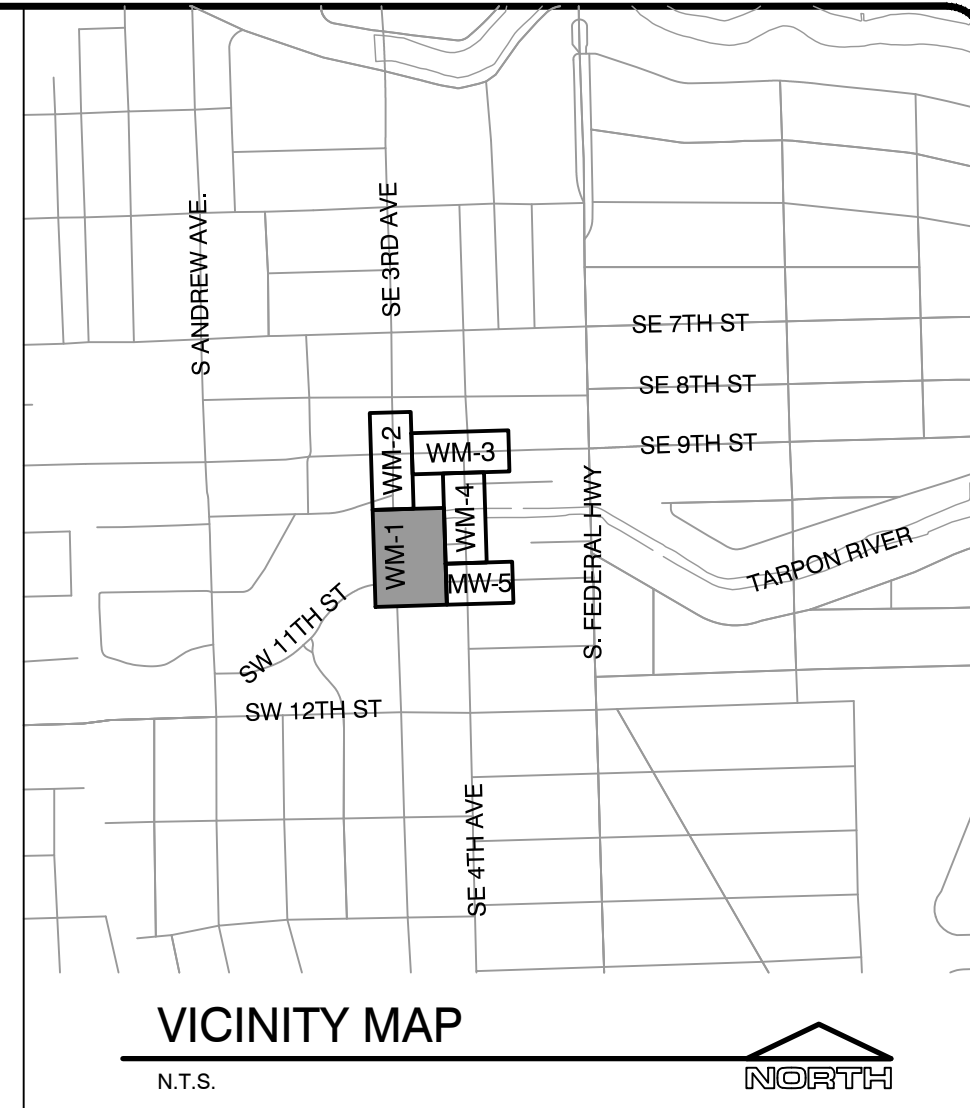
NOT FOR CONSTRUCTION CITY PROJECT # 12412 PS A-16 UPGRADE 30IN WM DCP CONCEPTUAL PLANS (NOT FOR CONSTRUCTION) GENERAL NOTES

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DEPTH OF BRIDGE FOUNDATIONS TO BE VERIFIED BY OTHERS DURING DESIGN OF HDD BORE. CLEARANCE BETWEEN HDD BORE AND FOUNDATION OR CANAL BOTTOM TO FOLLOW THE MINIMUM REQUIREMENTS OF REGULATORY AGENCIES, THE CITY AND BEST ENGINEERING PRACTICES. DBF FIRM TO OBTAIN A SURVEY OF THE CANAL SECTION AND BRIDGE FOOTINGS.

MATCHLINE SEE DRAWING NO. WM-2



MATCHLINE SEE DRAWING NO. WM-5

MATCHLINE SEE DRAWING NO. WM-4

PROFILE TO BE DEVELOPED BY DBF

- NOTES:**
- CONTRACTOR MUST EXERCISE EXTREME CARE TO AVOID DAMAGE OR DISRUPTIONS TO ANY EXISTING UTILITIES. ALL LOCATIONS ARE APPROXIMATE AND SHALL BE FIELD VERIFIED BEFORE STARTING CONSTRUCTION. CONSTRUCTION SHALL PROTECT AND SUPPORT ALL EXISTING STRUCTURES AFFECTED BY THE PROJECT. IF UPON EXCAVATION, AN EXISTING UTILITY IS FOUND TO BE IN DISCREPANCY WITH THE PLANS, THE CONTRACTOR SHALL NOTIFY THE CITY REPRESENTATIVE, IN WRITING, BEFORE PROCEEDING WITH THE WORK. CONTRACTOR TO USE RESTRAINED JOINTS FOR ALL PROPOSED CONNECTIONS.
 - A HORIZONTAL SEPARATION OF 6" MINIMUM SHALL ALWAYS BE ENFORCED WHENEVER THE WATER MAIN IS PARALLEL TO SEWERS OR RECLAIMED LINES.
 - CONTRACTOR TO PROVIDE PEDESTRIAN ACCESS TO ALL PROPERTIES AT ALL TIMES.
 - OPEN CUT AREAS MAY BE INSTALLED WITH HDPE OR DIP AT THE CONTRACTORS DISCRETION.
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Sunshine811
 Call 811 or www.sunshine811.com two full business days before digging to have utilities located and marked.
Check positive response codes before you dig!

VERTICAL DATUM INFORMATION
 ALL ELEVATIONS SHOWN ARE IN NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88)
 CONVERSION FACTOR:
 NAVD88 + 1.58 TBONGVD29 IN THIS AREA



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JT	8/29/21
DESIGNED BY:	SCALE:
DL	###
CHECKED BY:	FIELD BOOK:
DD	###

CITY OF FORT LAUDERDALE
 PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE

100 North Andrews Avenue, Fort Lauderdale, Florida 33301

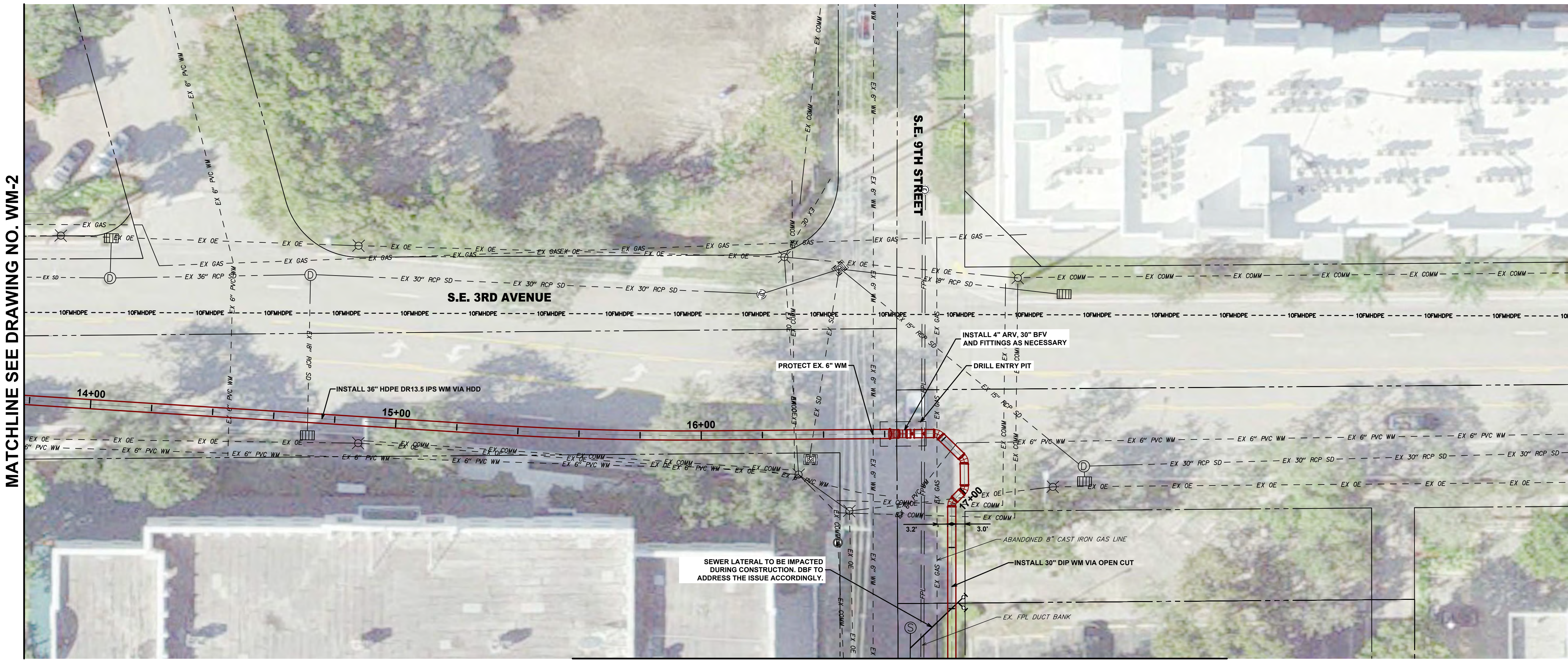
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NOT FOR CONSTRUCTION

CITY PROJECT #12412
 PS A-16 UPGRADE 30IN WM DCP
 CONCEPTUAL PLANS
 (NOT FOR CONSTRUCTION)
 WATER MAIN PLAN AND PROFILES

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CAD FILE:	12412-MULTI-WATR
DRAWING FILE NO.	###-0163

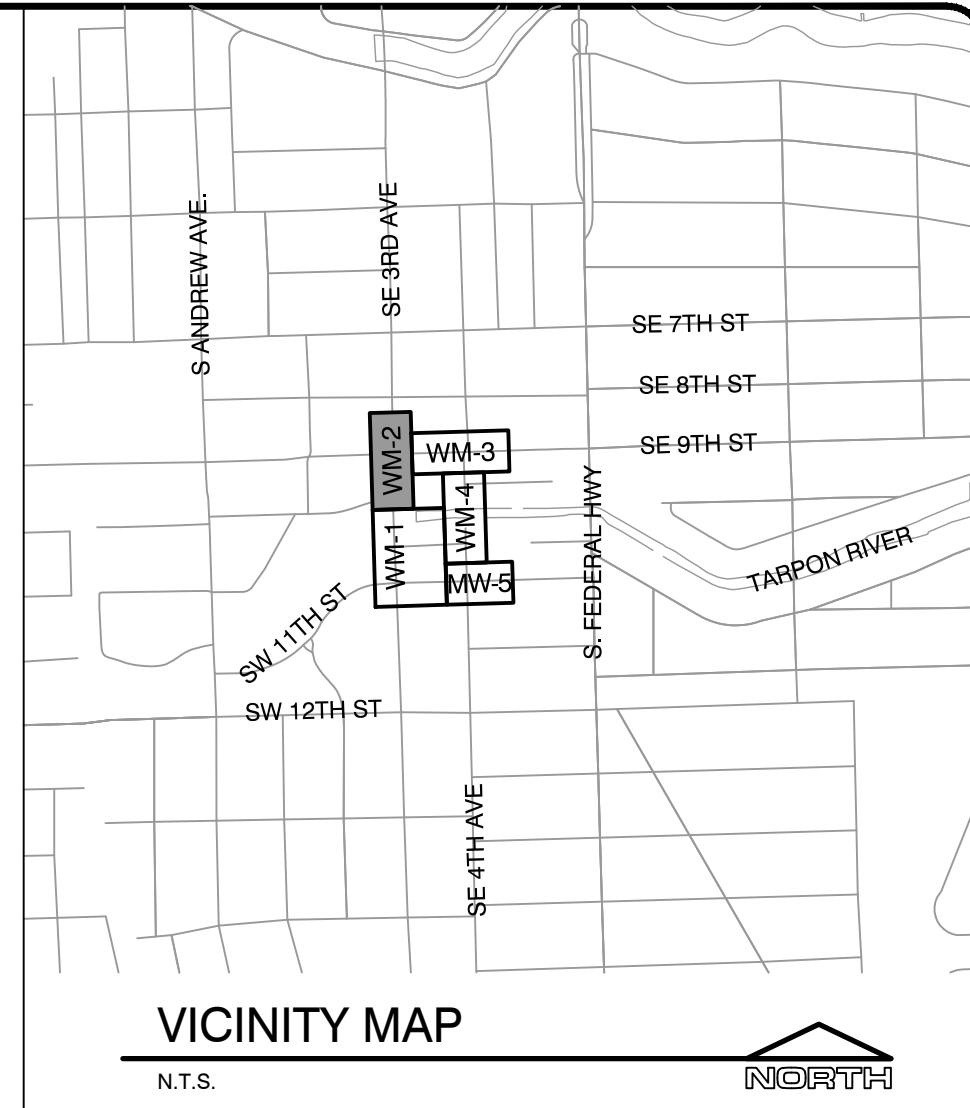
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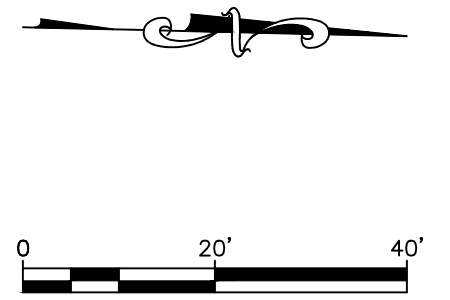
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MATCHLINE SEE DRAWING NO. WM-3

PROFILE TO BE DEVELOPED BY DBF



VICINITY MAP



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FIELD BOOK:	###

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE

100 North Andrews Avenue, Fort Lauderdale, Florida 33301

NO.	REVISIONS		DESCRIPTION
	DATE	BY	

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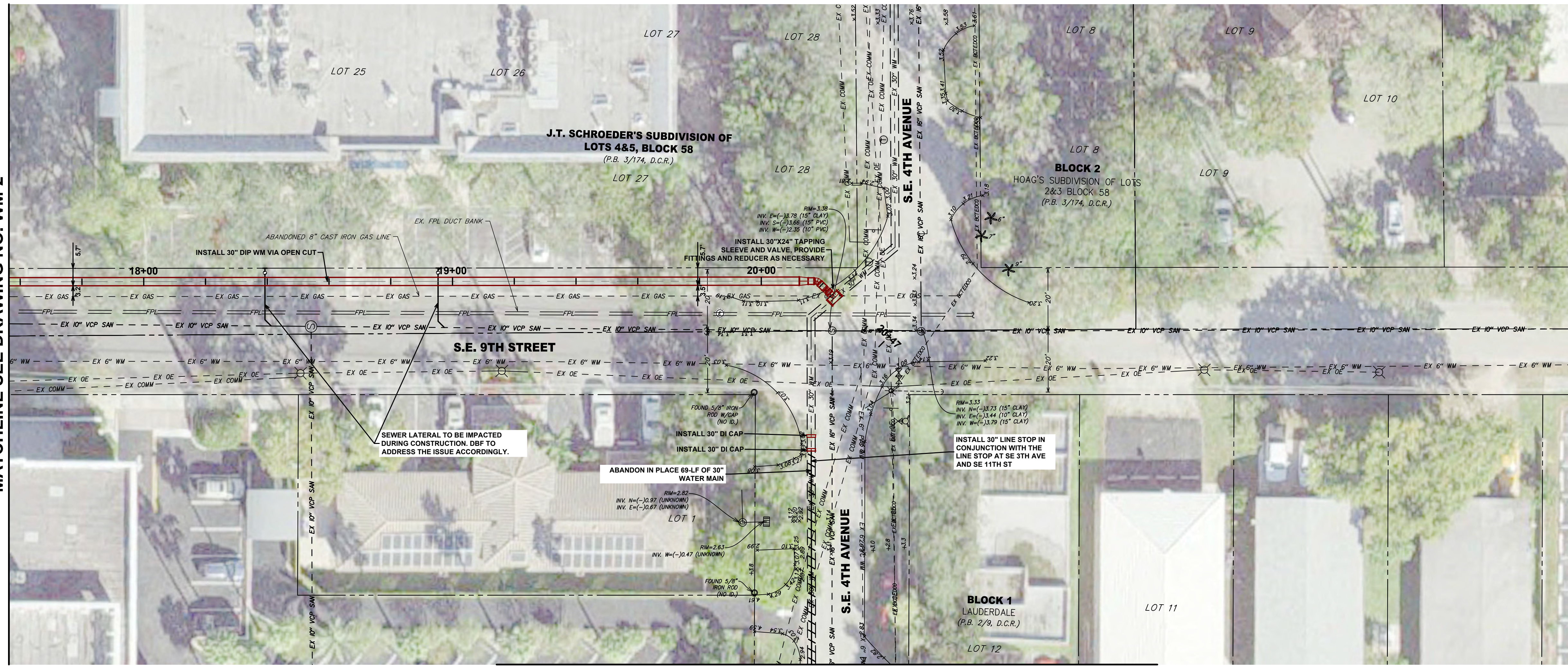
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CITY PROJECT #12412
PS A-16 UPGRADE 30IN WM DCP
CONCEPTUAL PLANS
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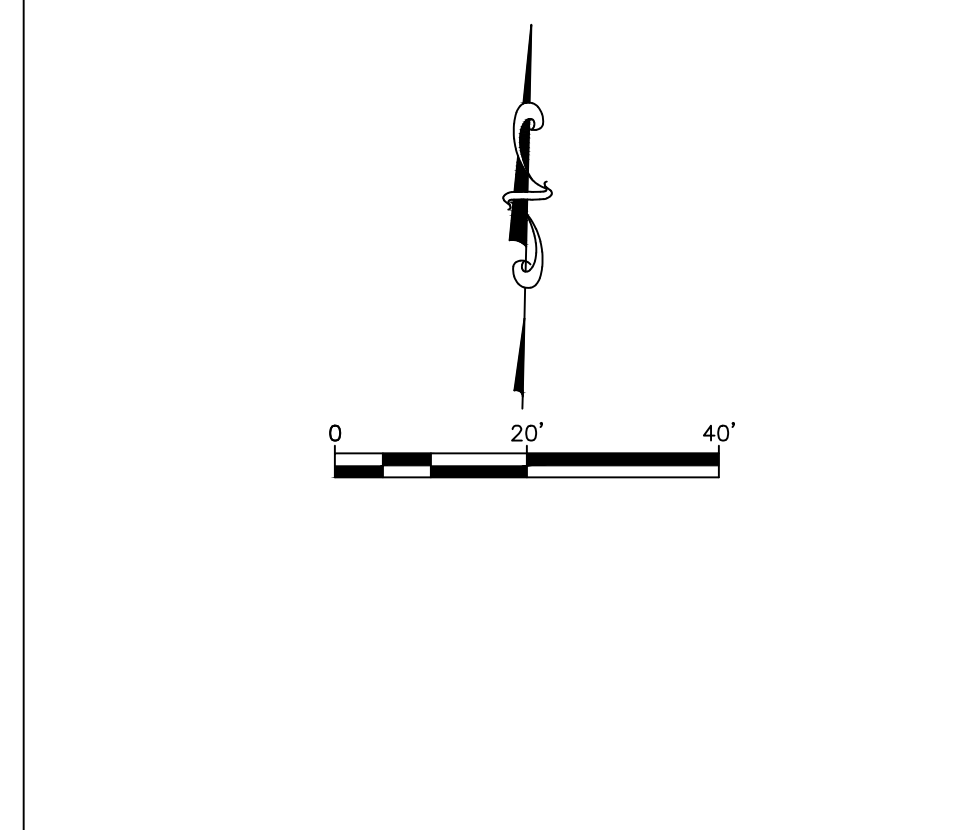
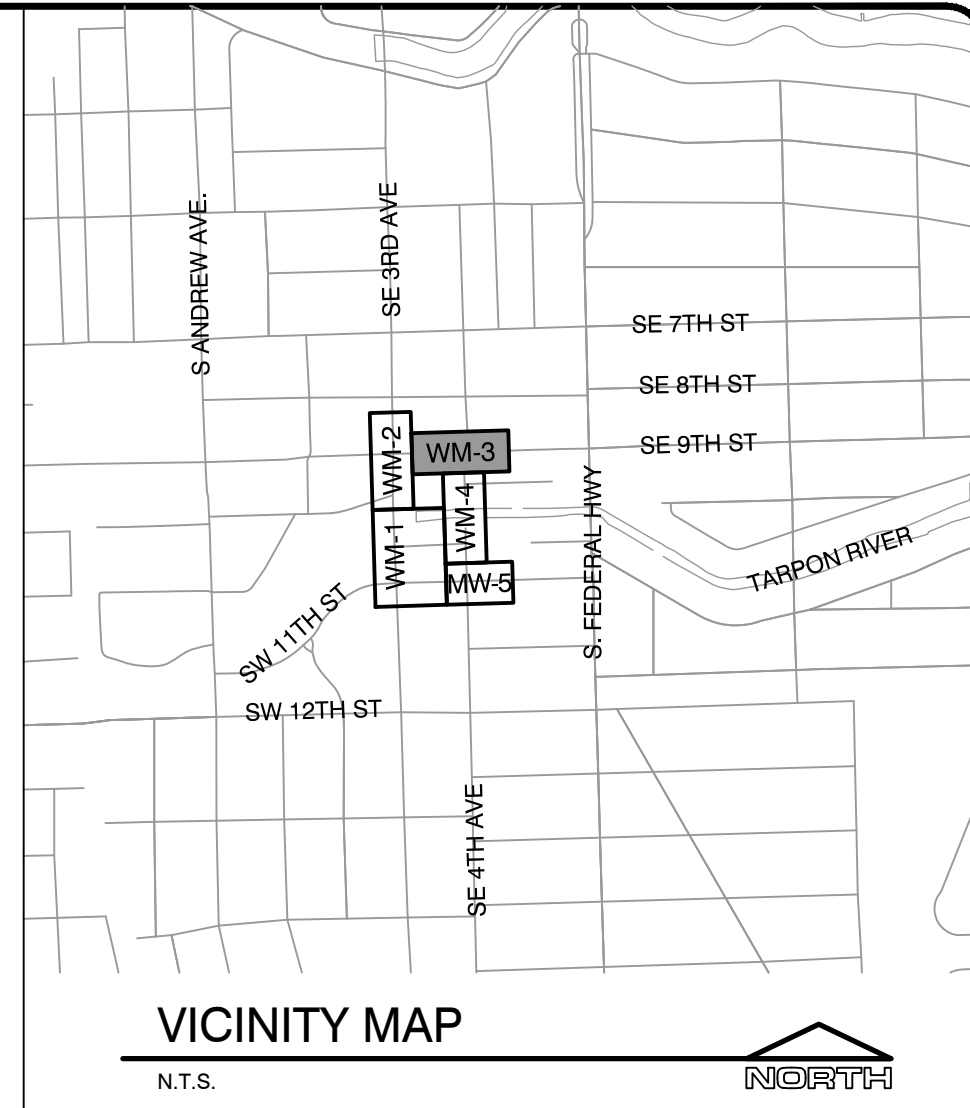
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MATCHLINE SEE DRAWING NO. WM-2



MATCHLINE SEE DRAWING NO. WM-4

PROFILE TO BE DEVELOPED BY DBF



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FIELD BOOK:			###

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE

100 North Andrews Avenue, Fort Lauderdale, Florida 33301

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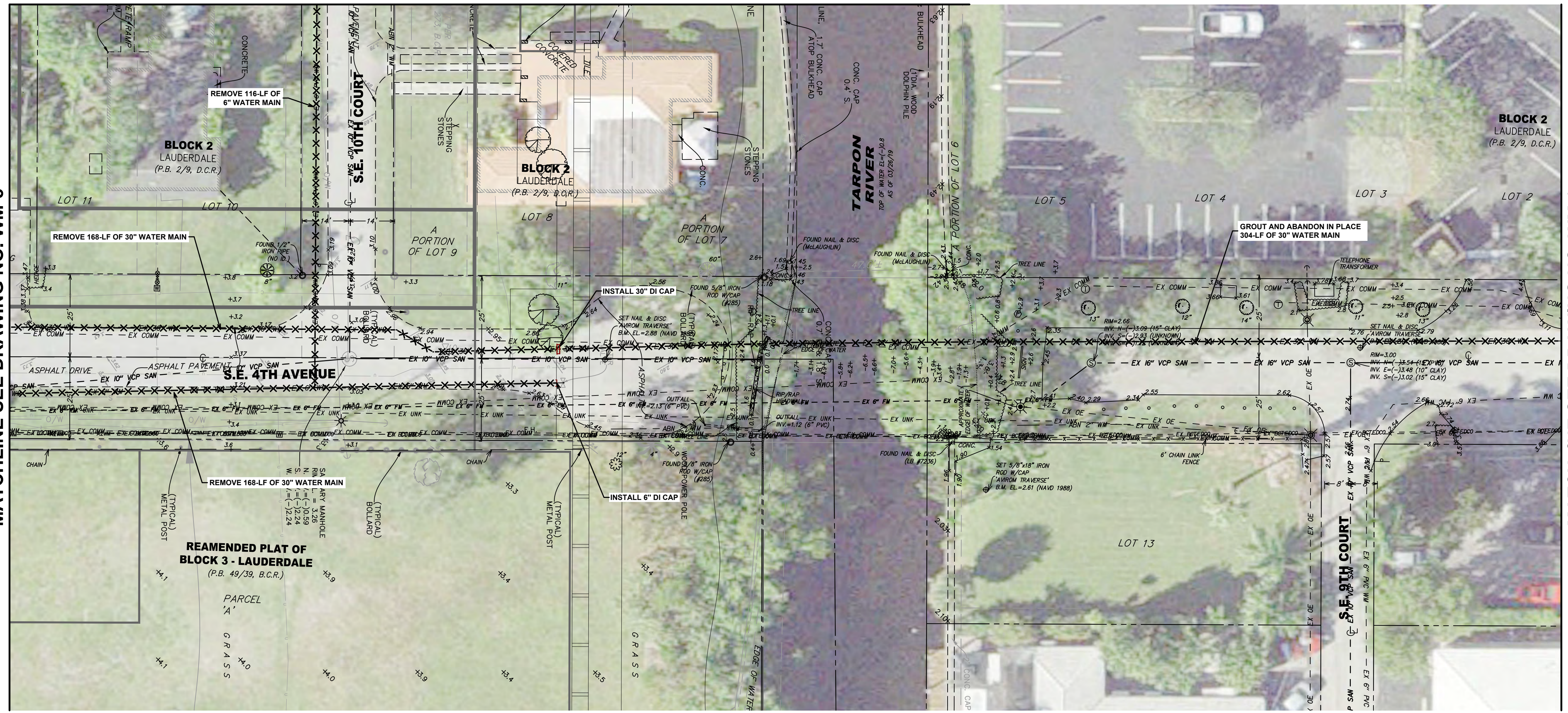
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CITY PROJECT #12412
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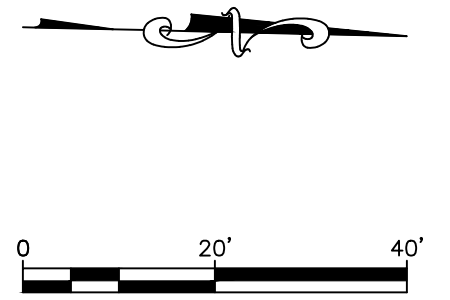
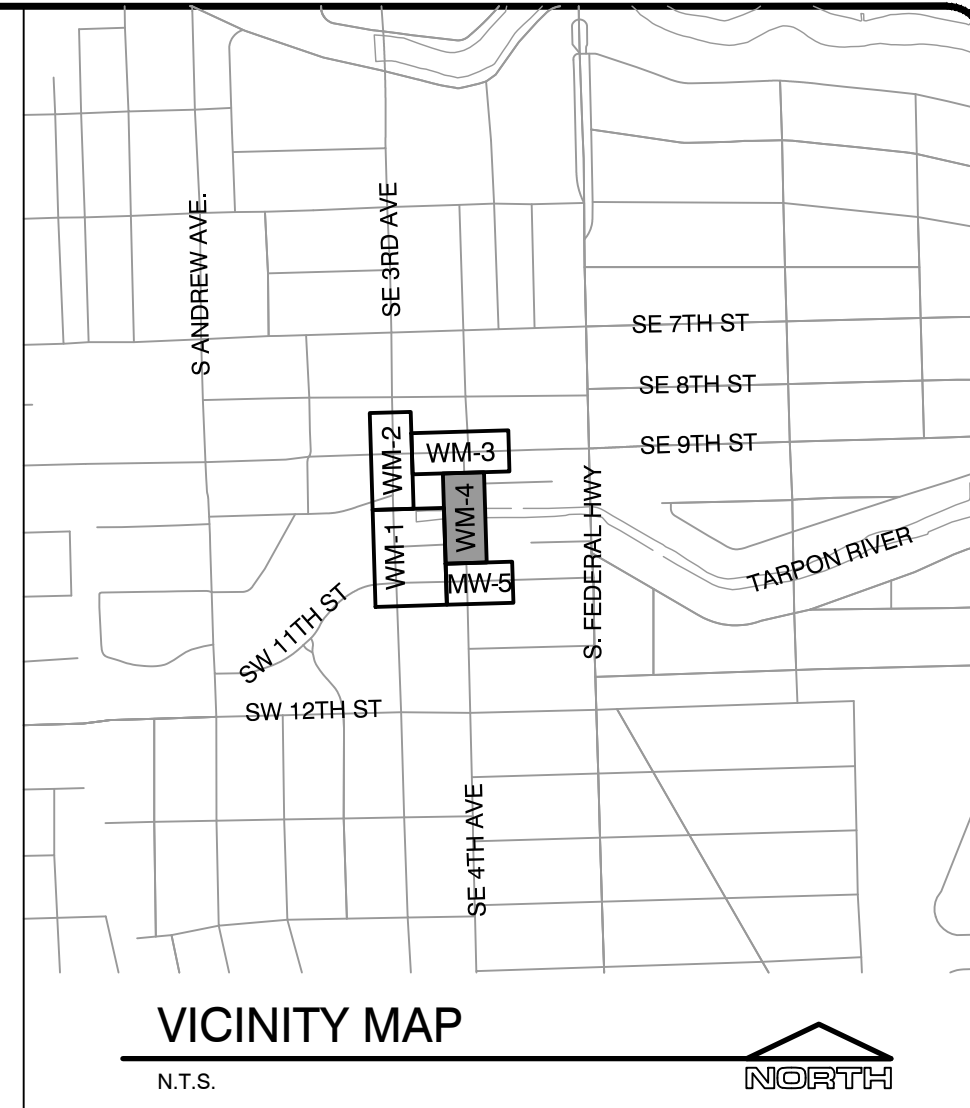
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TOTAL:	15
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DRAWING FILE NO.	###2-0163

MATCHLINE SEE DRAWING NO. WM-1

MATCHLINE SEE DRAWING NO. WM-5



MATCHLINE SEE DRAWING NO. WM-3



PROFILE TO BE DEVELOPED BY DBF

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 - DBF TO PROVIDE BYPASS AND INSERTION VALVES AS NECESSARY TO ACCOMPLISH CONSTRUCTION.

Sunshine 811

Call 811 or www.sunshine811.com two full business days before digging to have utilities located and marked.

Check positive response codes before you dig!

VERTICAL DATUM INFORMATION
 ALL ELEVATIONS SHOWN ARE IN NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
 CONVERSION FACTOR:
 NAVD88 + 1.58 TBONGVD29 IN THIS AREA



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NOT FOR CONSTRUCTION

CITY PROJECT # 12412
 PS A-16 UPGRADE 30IN WM DCP
 CONCEPTUAL PLANS
 (NOT FOR CONSTRUCTION)
 WATER MAIN ABANDONMENT PLAN

DRAWING #	SHT #
WM-4	10
TOTAL:	15
CAD FILE:	12412-MULTI-WATR
DRAWING FILE NO.	###2-0163

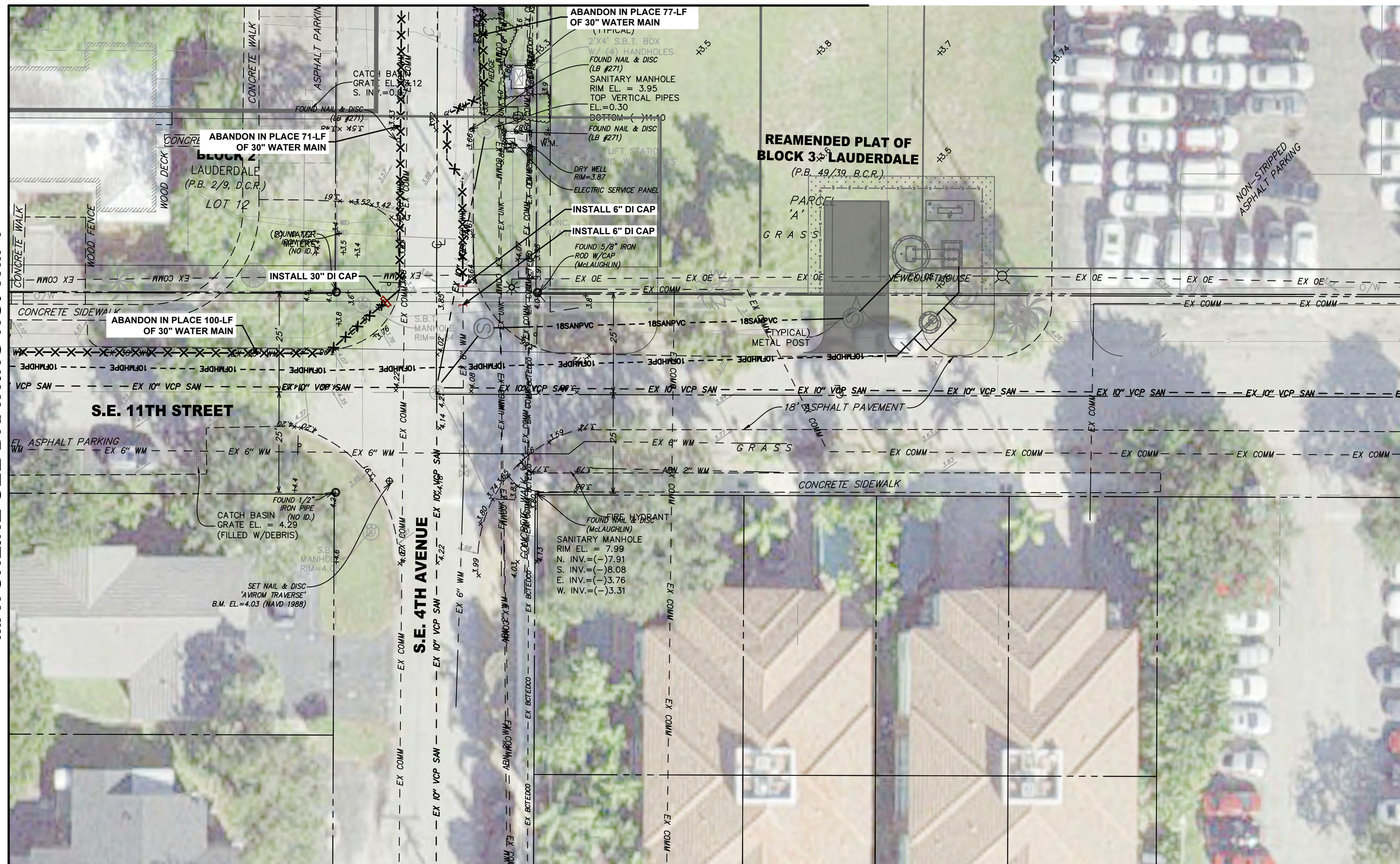
NO.	DATE	BY	CHK'D	DESCRIPTION

DRAWN BY:	DATE:
JT	8/29/21
DESIGNED BY:	SCALE:
DL	###
CHECKED BY:	DD
FIELD BOOK:	###

CITY OF FORT LAUDERDALE
 PUBLIC WORKS DEPARTMENT
 ENGINEERING & ARCHITECTURE

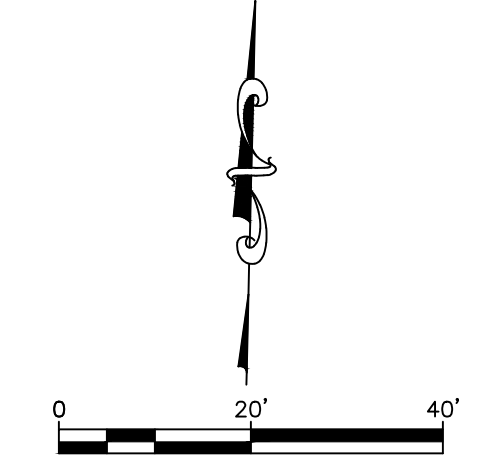
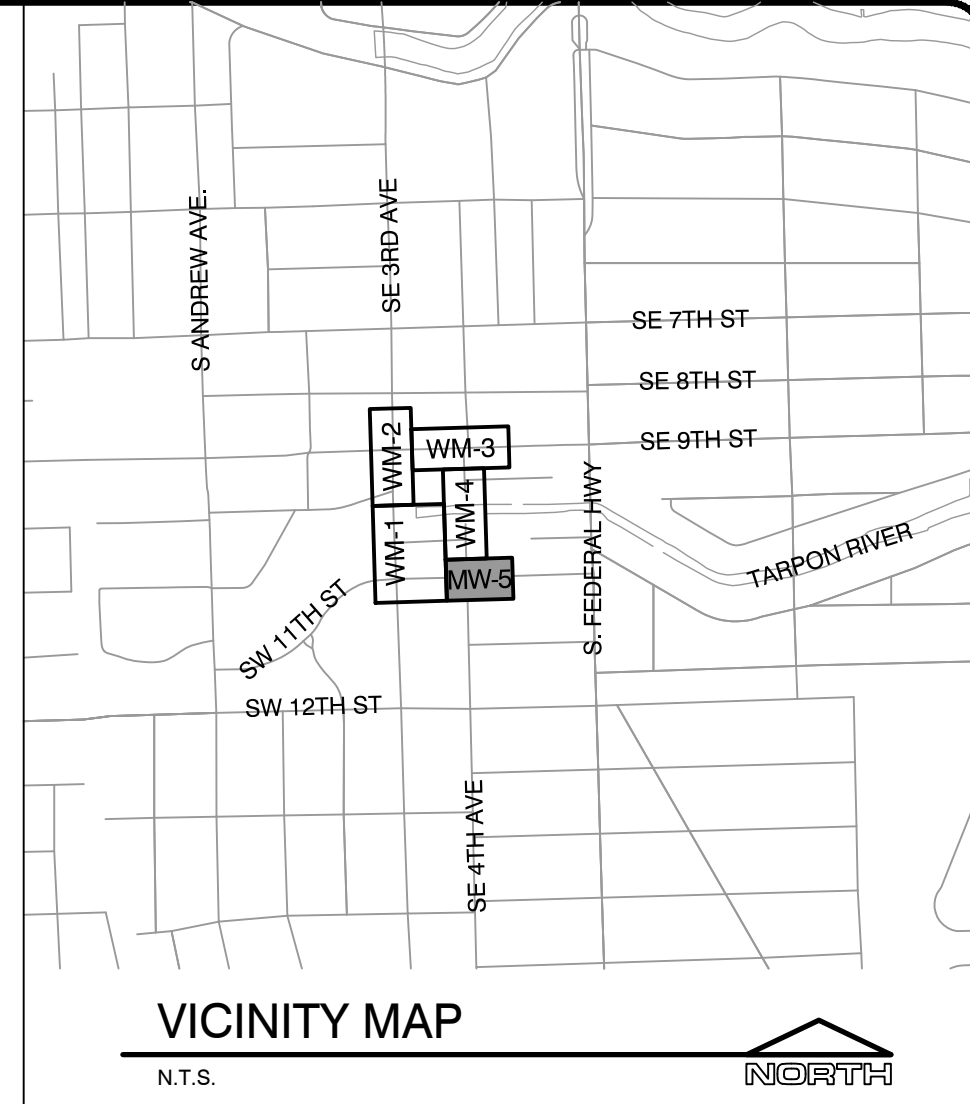
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

MATCHLINE SEE DRAWING NO. WM-4



MATCHLINE SEE DRAWING NO. WM-1

PROFILE TO BE DEVELOPED BY DBF



DRAWN BY:	DATE:
JT	8/29/21
DESIGNED BY:	SCALE:
DL	###
CHECKED BY:	###
DD	###
FIELD BOOK:	###

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NO.	REVISIONS		DESCRIPTION
	DATE	BY	

- NOTES:**
- CONTRACTOR MUST EXERCISE EXTREME CARE TO AVOID DAMAGE OR DISRUPTIONS TO ANY EXISTING UTILITIES. ALL LOCATIONS ARE APPROXIMATE AND SHALL BE FIELD VERIFIED BEFORE STARTING CONSTRUCTION. CONSTRUCTION SHALL PROTECT AND SUPPORT ALL EXISTING STRUCTURES AFFECTED BY THE PROJECT. IF UPON EXCAVATION, AN EXISTING UTILITY IS FOUND TO BE IN DISCREPANCY WITH THE PLANS, THE CONTRACTOR SHALL NOTIFY THE CITY REPRESENTATIVE, IN WRITING, BEFORE PROCEEDING WITH THE WORK.
 - CONTRACTOR TO USE RESTRAINED JOINTS FOR ALL PROPOSED CONNECTIONS.
 - A HORIZONTAL SEPARATION OF 6" MINIMUM SHALL ALWAYS BE ENFORCED WHENEVER THE WATER MAIN IS PARALLEL TO SEWERS OR RECLAIMED LINES.
 - CONTRACTOR TO PROVIDE PEDESTRIAN ACCESS TO ALL PROPERTIES AT ALL TIMES.
 - OPEN CUT AREAS MAY BE INSTALLED WITH HDPE OR DIP AT THE CONTRACTORS DISCRETION.
 - ALL DIP TO BE RESTRAINED.
 - MINIMUM PIPE COVER FOR DIP IS 30". ALL OTHER MATERIALS USE MINIMUM COVER OF 36".
 - DBF TO PROVIDE BYPASS AND INSERTION VALVES AS NECESSARY TO ACCOMPLISH CONSTRUCTION.

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VERTICAL DATUM INFORMATION
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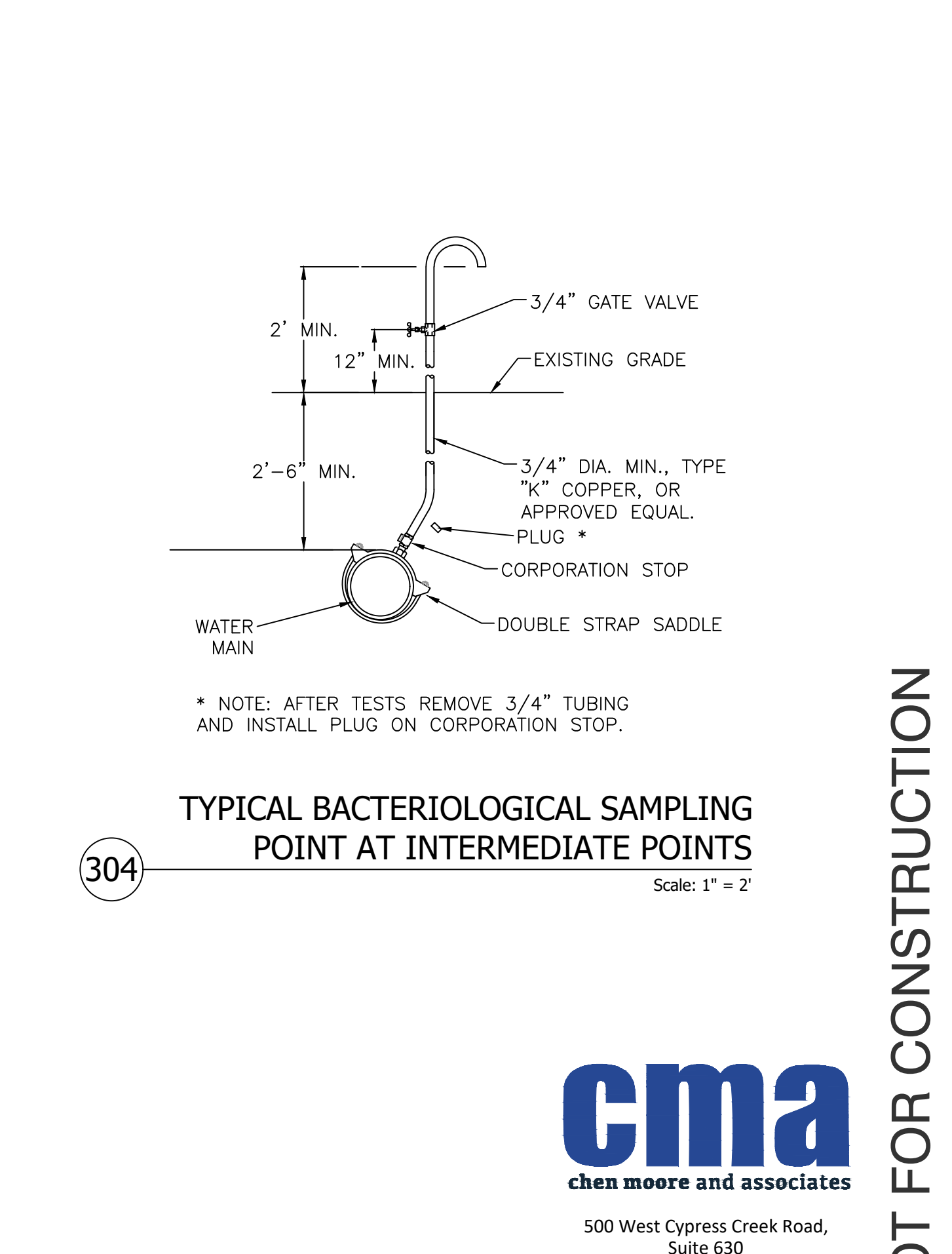
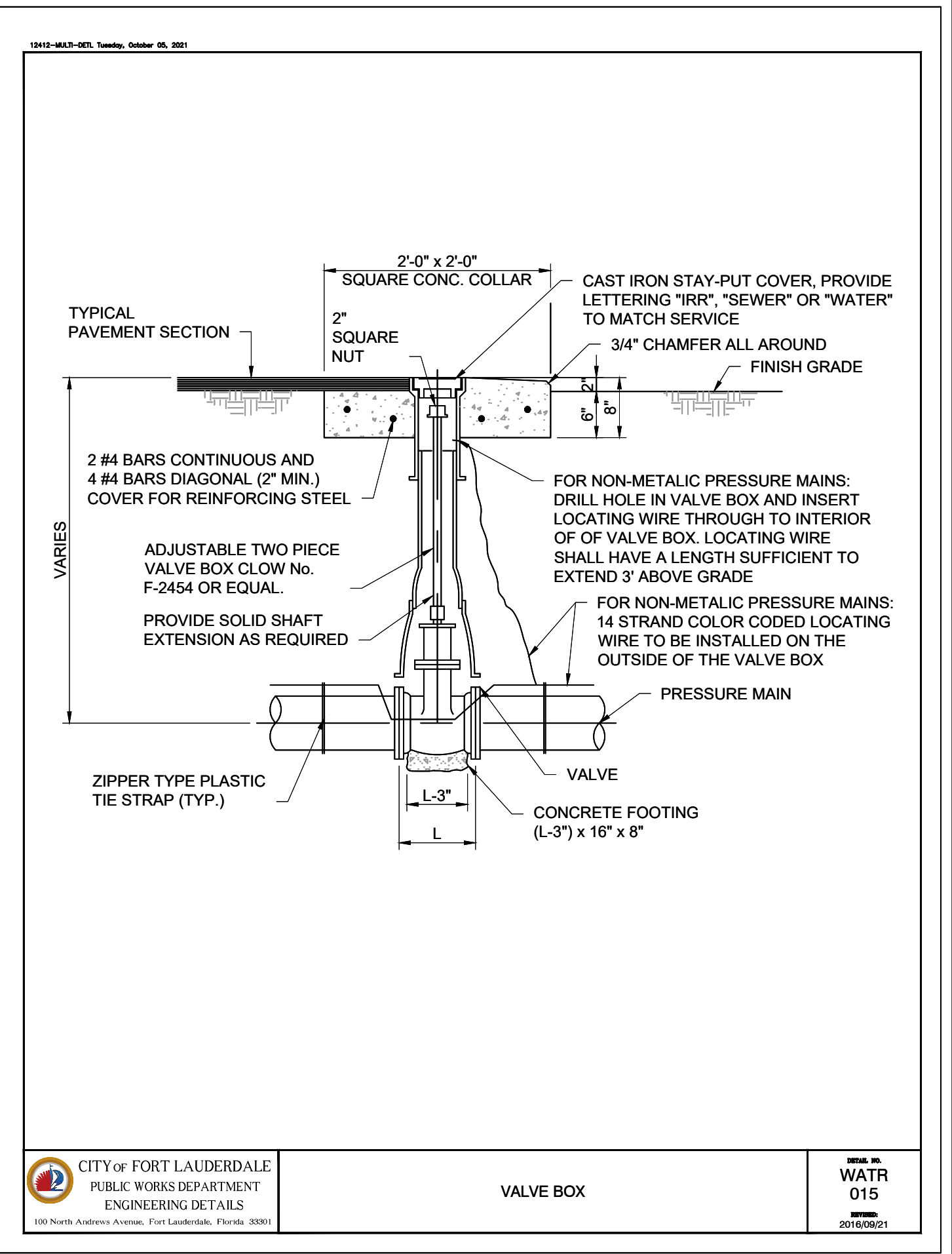
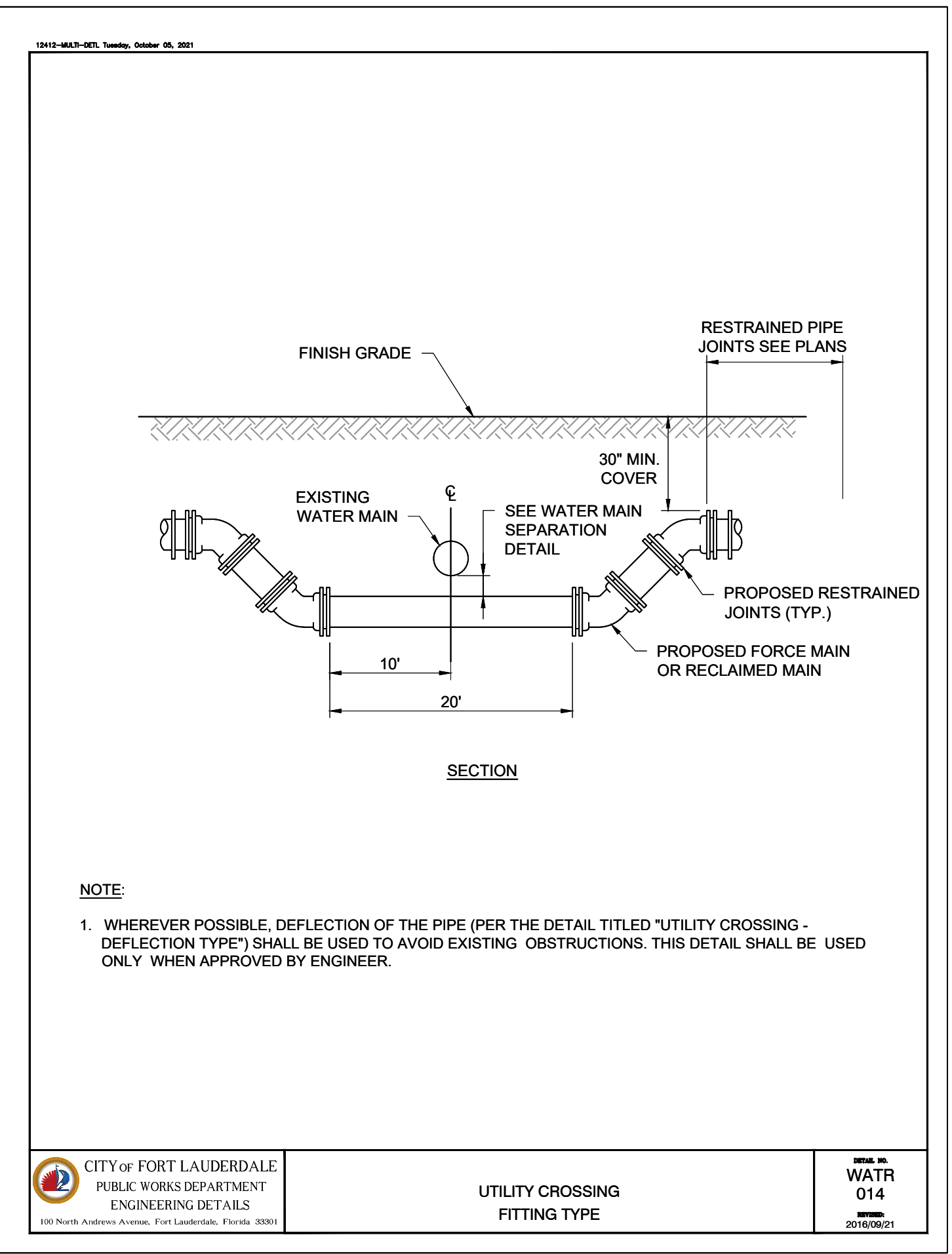
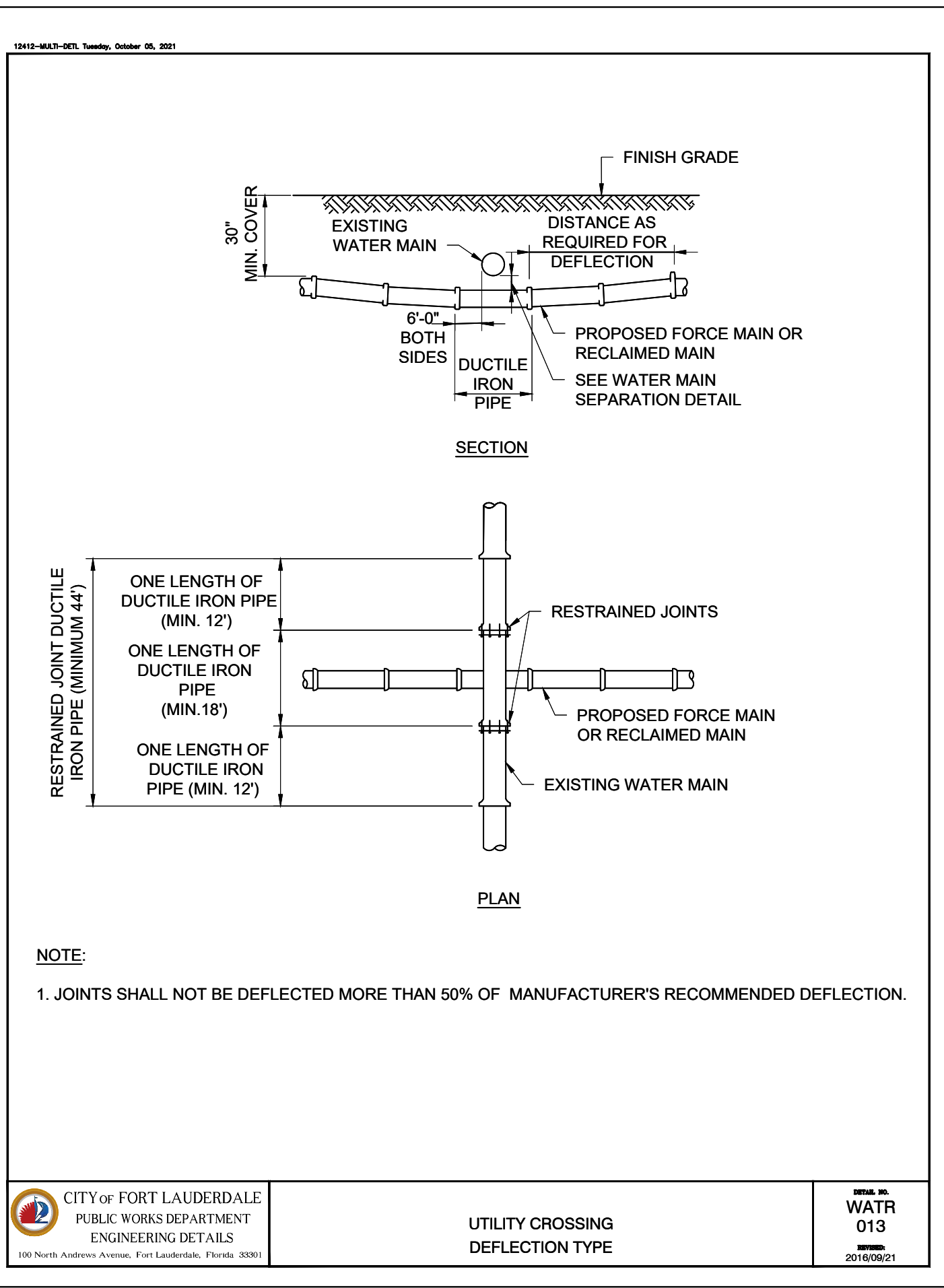
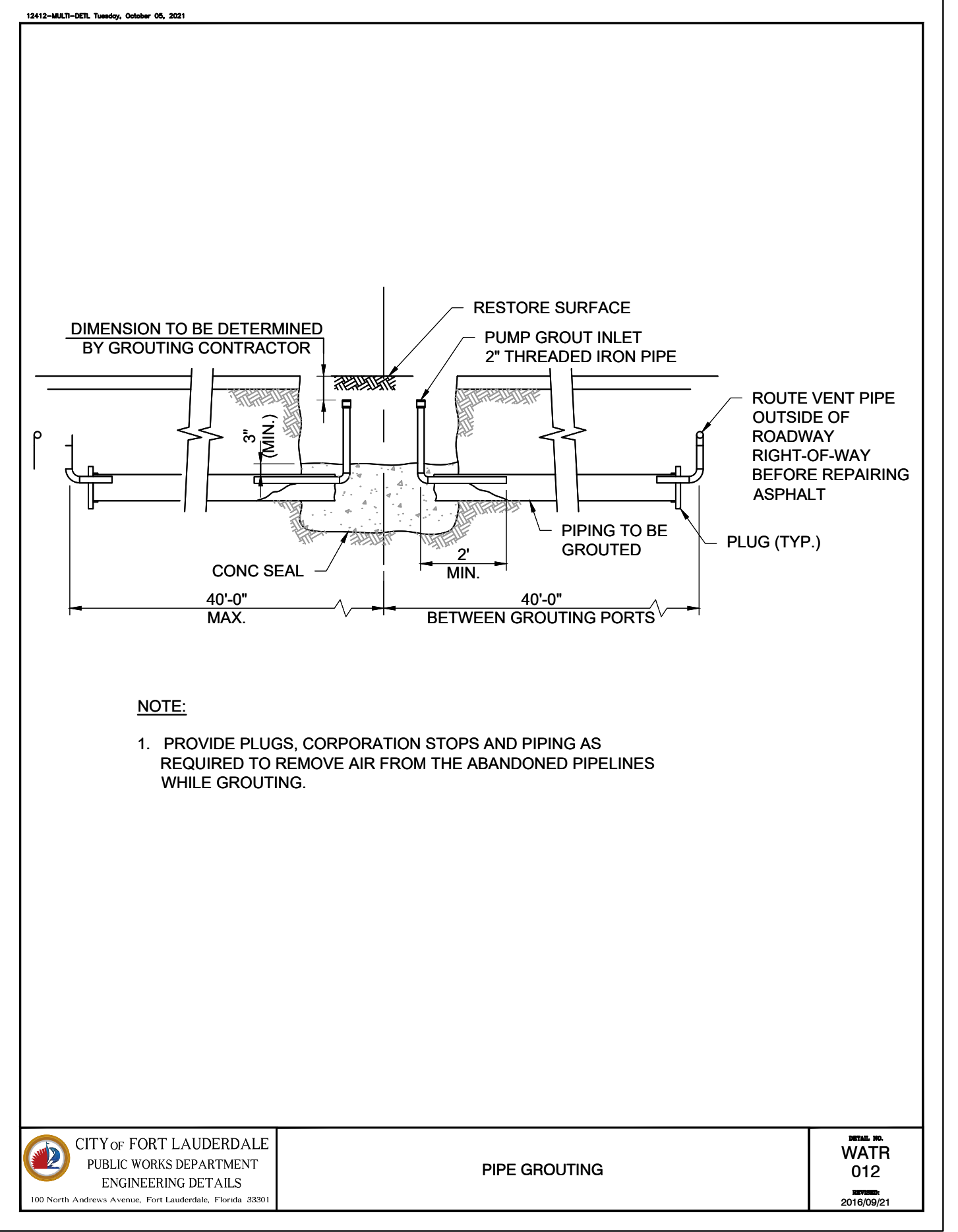
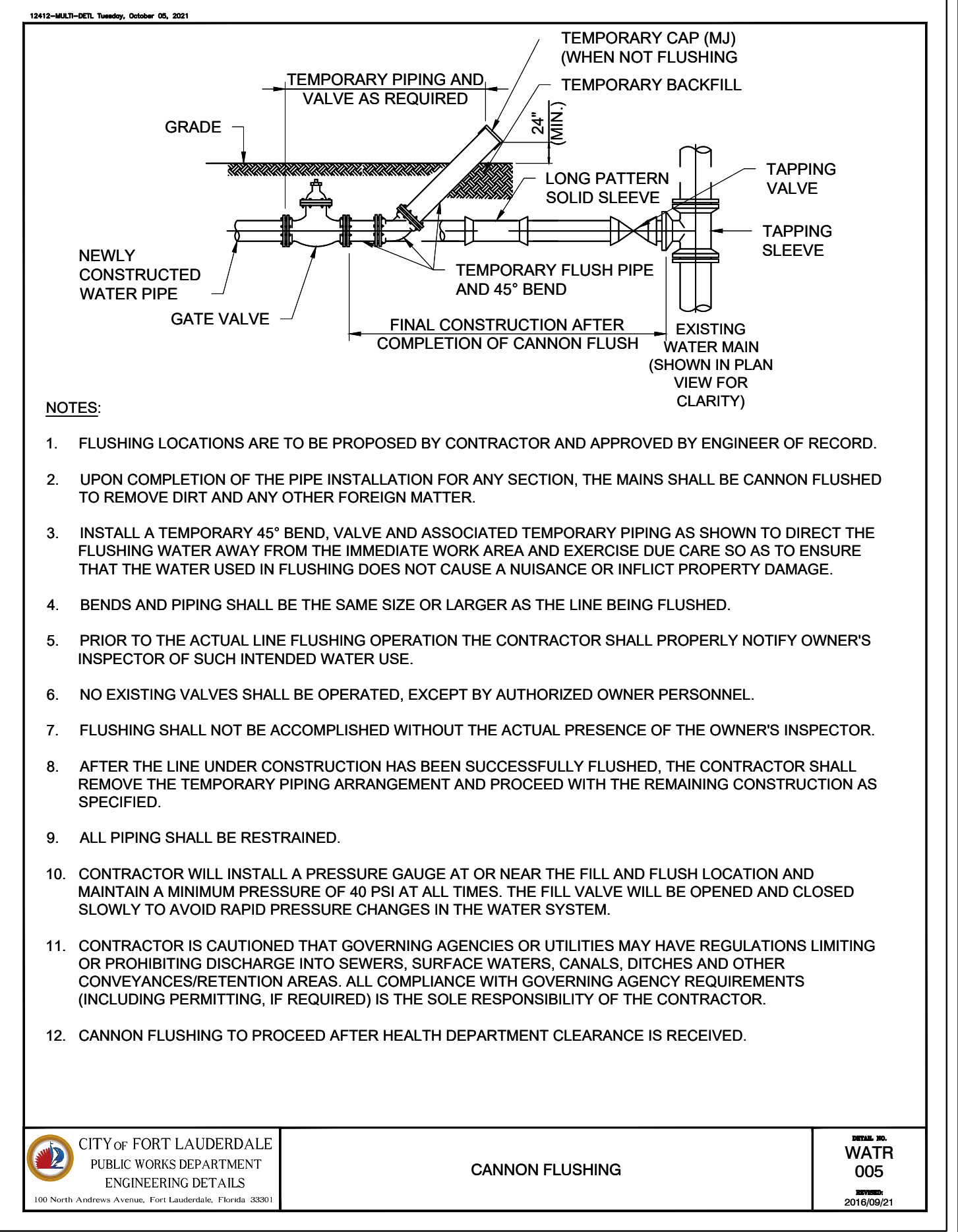
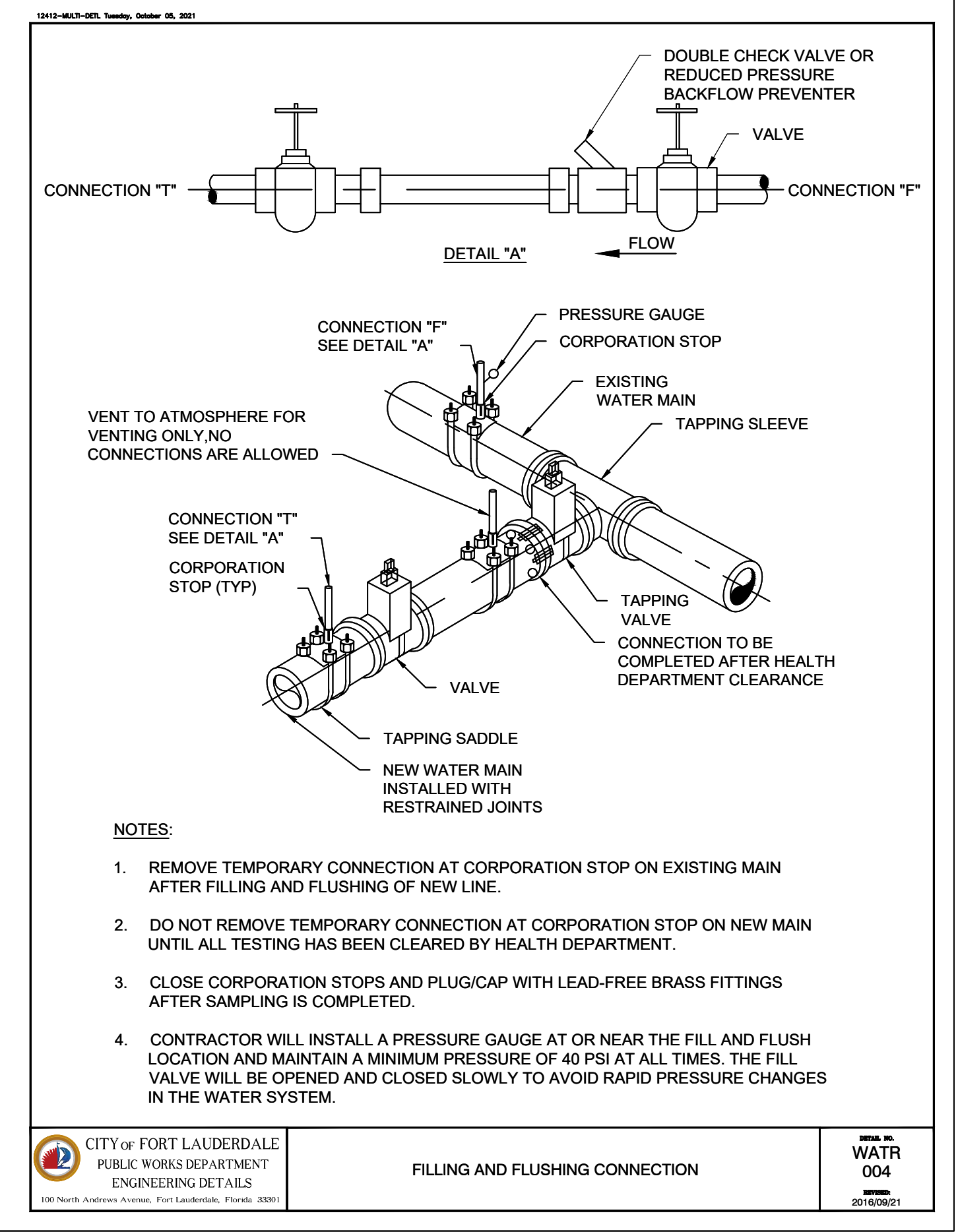
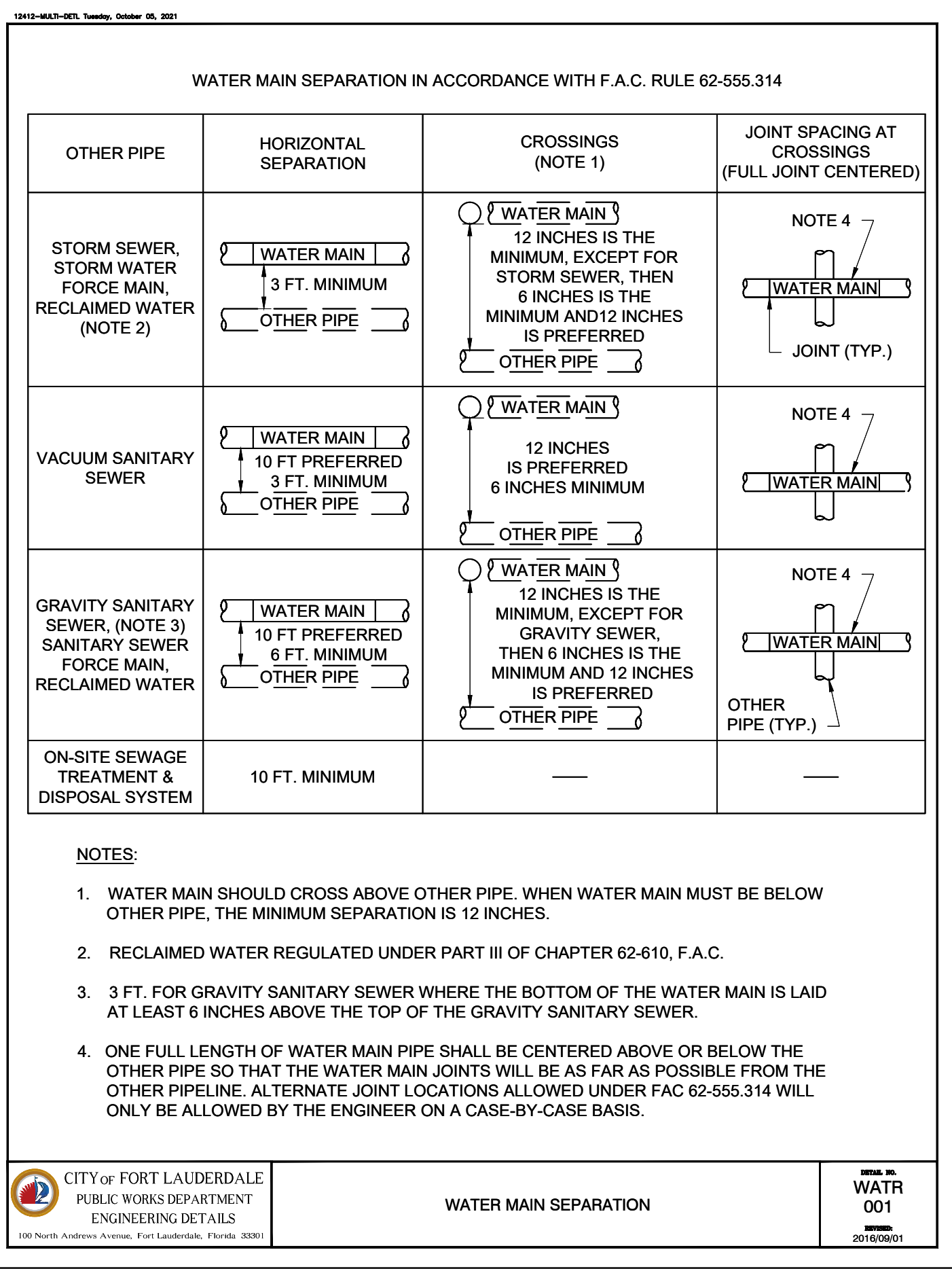


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CITY PROJECT #12412
 PS A-16 UPGRADE 30IN WM DCP
 CONCEPTUAL PLANS
 (NOT FOR CONSTRUCTION)
 WATER MAIN ABANDONMENT PLAN

DRAWING #	SHT #
WM-5	11
TOTAL:	15
CAD FILE:	12412-MULTI-WATR
DRAWING FILE NO.	###-2-0163



DRAWN BY: JT DATE: 8/29/21
DESIGNED BY: SCALE: DL
CHECKED BY: DD
FIELD BOOK: ###

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

NO.	DATE	BY	DESCRIPTION

NOT FOR CONSTRUCTION

CITY PROJECT # 12412
PS A-16 UPGRADE 30IN WM DCP
CONCEPTUAL PLANS
(NOT FOR CONSTRUCTION)
DETAILS

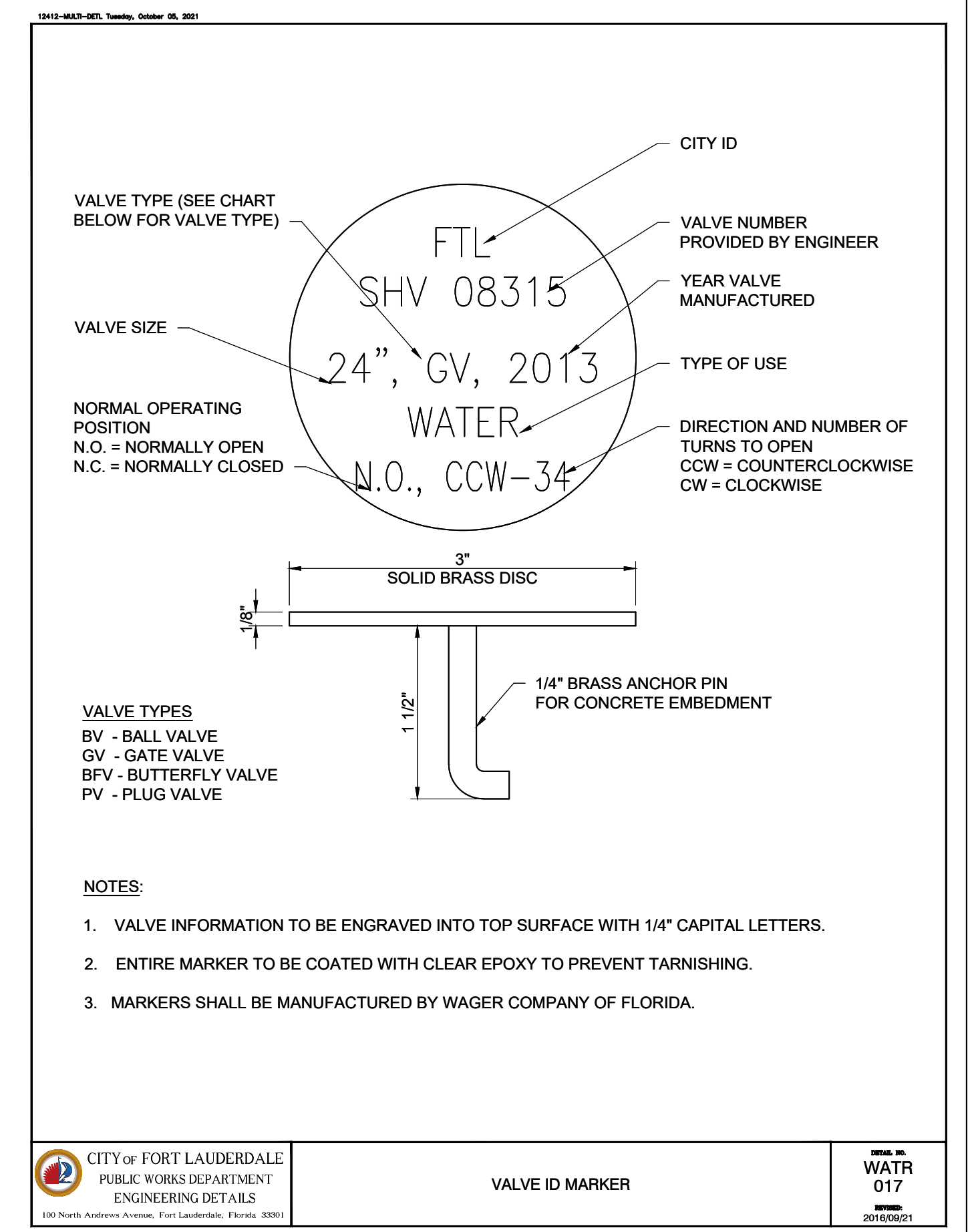
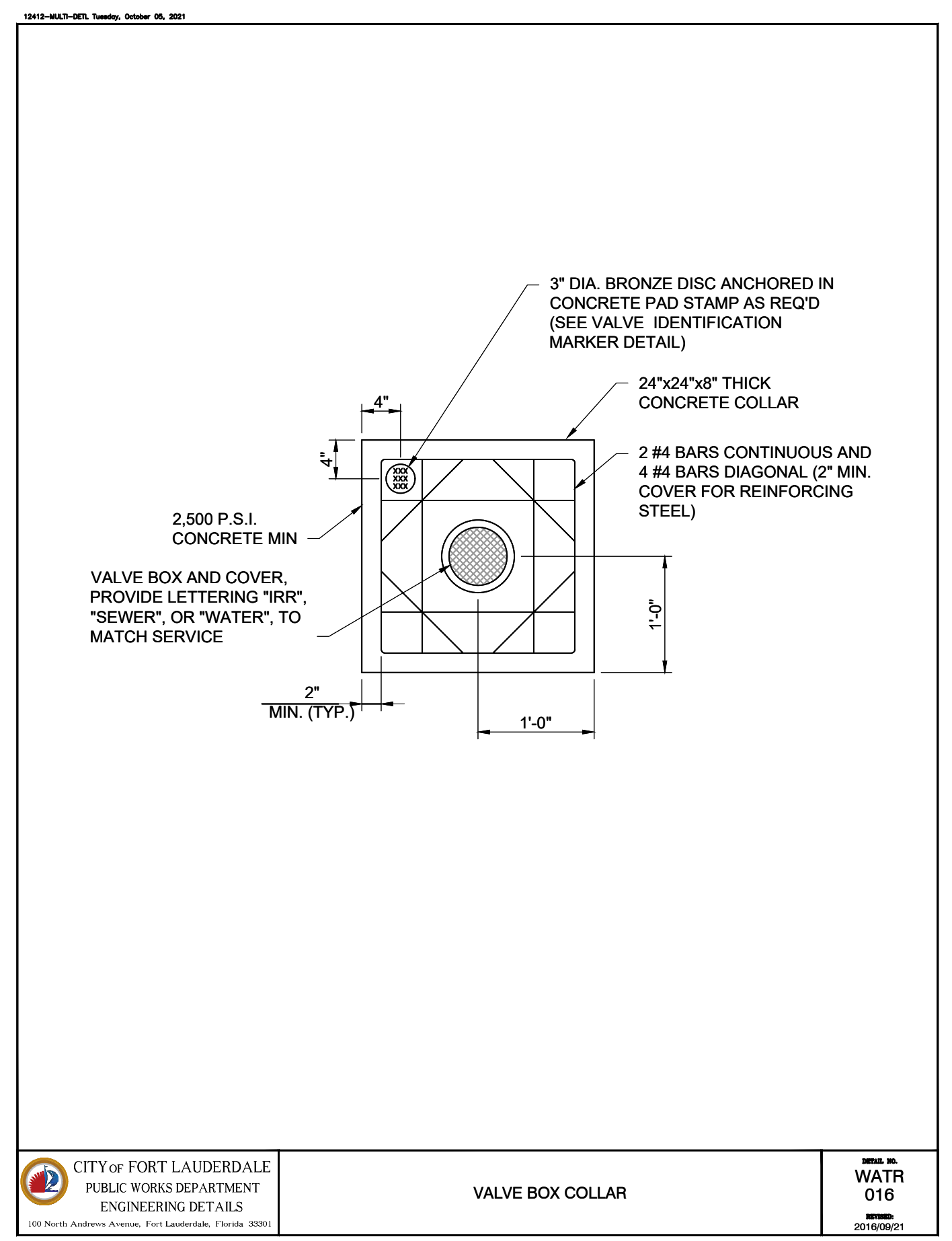
DRAWING # D-1 SHT # 12

TOTAL: 15

CAD FILE: 12412-MULTI-DETL
DRAWING FILE NO. ##-0163

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NOTES:

- STORM SEWER, GRAVITY WASTEWATER AND RECLAIMED WATER MAIN CROSSING UNDER POTABLE WATER MAINS SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF EIGHTEEN (18) INCHES BETWEEN THE INVERT OF THE UPPER PIPE AND THE CROWN OF THE LOWER PIPE. WHERE THIS MINIMUM SEPARATION CANNOT BE MAINTAINED, THE CROSSING SHALL BE ARRANGED SO THAT THE STORM/WASTEWATER/RECLAIMED WATER PIPE JOINTS AND POTABLE WATER MAIN JOINTS ARE EQUIDISTANT FROM THE POINT OF CROSSING WITH NO LESS THAN TEN (10) FEET BETWEEN ANY TWO JOINTS, BOTH PIPES SHALL BE D.I.P., AND THE MINIMUM VERTICAL SEPARATION SHALL BE 6 INCHES. WHERE THERE IS NO ALTERNATIVE TO STORM/WASTEWATER/RECLAIMED WATER PIPES CROSSING OVER A POTABLE WATER MAIN, THE CRITERIA FOR MINIMUM 18" VERTICAL SEPARATION BETWEEN LINES AND JOINT ARRANGEMENT, AS STATED ABOVE, SHALL BE REQUIRED, AND BOTH PIPES SHALL BE D.I.P. IRRESPECTIVE OF SEPARATION. D.I.P. IS NOT REQUIRED FOR STORM SEWERS.
- MAINTAIN MIN. TEN (10) FEET HORIZONTAL DISTANCE BETWEEN POTABLE WATER MAIN AND STORM SEWER, WASTEWATER MAIN, OR FORCE MAIN. MAINTAIN MIN. THREE (3) FEET HORIZONTAL DISTANCE (WALL TO WALL) BETWEEN RECLAIMED WATER MAIN AND POTABLE WATER MAIN, STORM SEWER, WASTEWATER GRAVITY MAIN OR FORCE MAIN. VERTICAL DISTANCE OF EIGHTEEN (18) INCHES BETWEEN THE OUTSIDE OF THE FORCE MAIN AND OUTSIDE OF THE POTABLE WATER MAIN OR RECLAIMED WATER MAIN WITH THE POTABLE WATER MAIN OR RECLAIMED WATER MAIN CROSSING OVER THE FORCE MAIN.
- FORCE MAIN CROSSING POTABLE WATER MAIN OR RECLAIMED WATER MAIN SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF EIGHTEEN (18) INCHES BETWEEN THE OUTSIDE OF THE FORCE MAIN AND OUTSIDE OF THE POTABLE WATER MAIN OR RECLAIMED WATER MAIN WITH POTABLE WATER MAIN OR RECLAIMED WATER MAIN CROSSING OVER THE FORCE MAIN.
- FITTINGS SHALL BE RESTRAINED.
- THE DEFLECTION TYPE CROSSING IS PREFERRED.
- DO NOT EXCEED 75% OF MANUFACTURER'S RECOMMENDED MAXIMUM JOINT DEFLECTION FOR DUCTILE IRON PIPE. NO DEFLECTION AT THE JOINT IS ALLOWED FOR P.V.C. PIPE. BENDING OF P.V.C. PIPE SHALL NOT EXCEED THE FOLLOWING PARAMETERS:

PVC PIPE SIZE (INCH)	MIN. ALLOWED RADIUS (FT.)	MAX. DEFLECTION (INCH) PER 20' LENGTH
6"	300	8"
8"	400	6"
10"	600	4"
12"	600	4"

PRESSURE PIPE CONFLICT NOTES **401**

I. FORCE MAIN AND WATER MAIN OUTSIDE OF WELLFIELD PROTECTION ZONE

MAXIMUM QUANTITY OF WATER (GALLONS PER HOUR) THAT MAY BE SUPPLIED TO MAINTAIN PRESSURE WITHIN 5 P.S.I. OF THE SPECIFIED TEST PRESSURE.

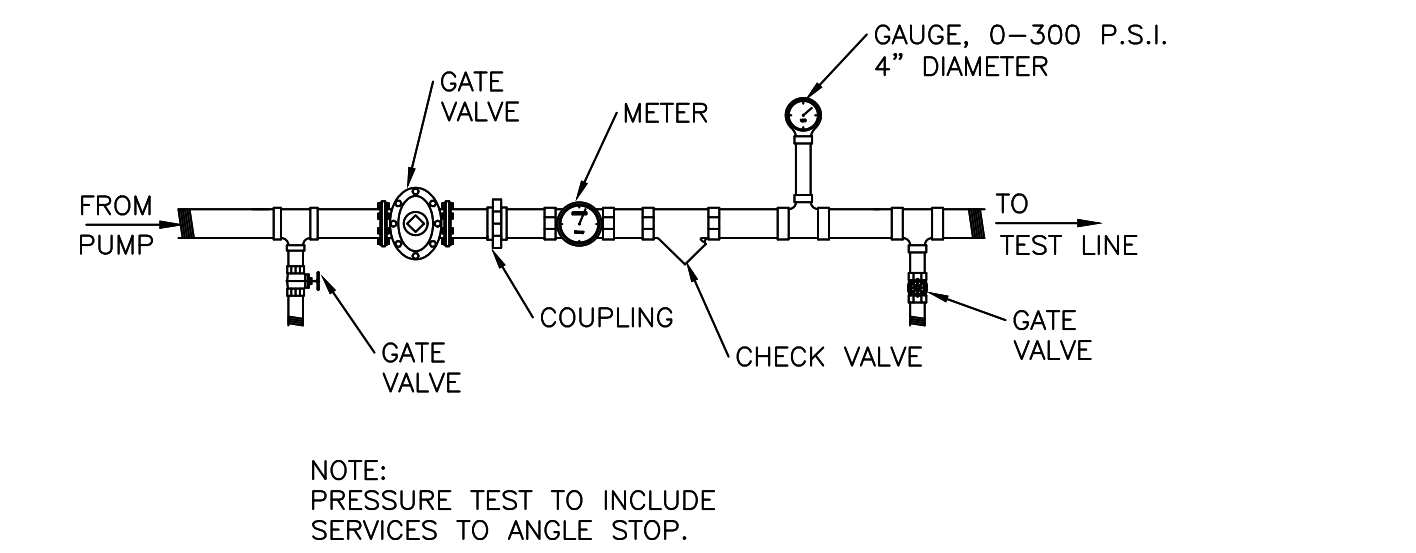
(MECHANICAL OR PUSH-ON JOINT, 18 FT. NOMINAL LENGTHS, PER 1000 FT. OF PIPE)

AVG. TEST PRESSURE (PSI)	2	3	4	6	8	10	12	14	16	18	20	24	30
150	0.10	0.14	0.18	0.27	0.37	0.46	0.55	0.64	0.73	0.83	0.92	1.10	1.38

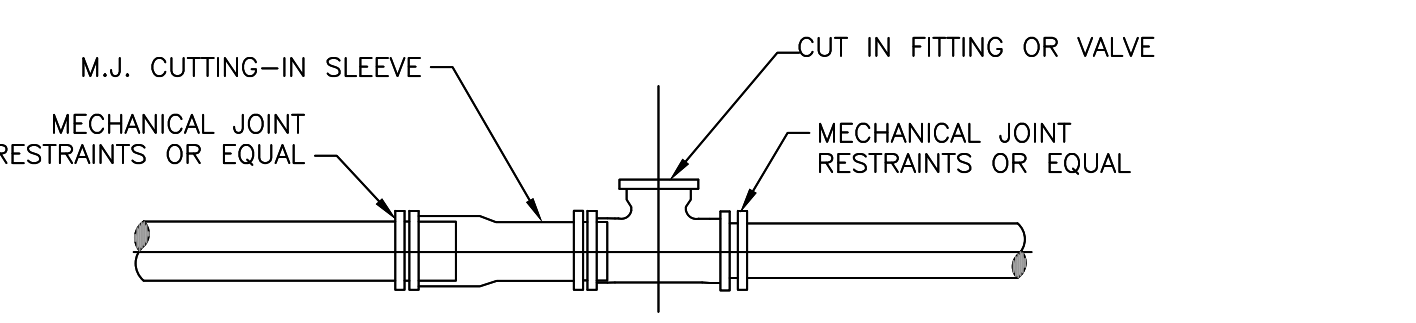
- NOTES:**
- TO OBTAIN THE MAXIMUM QUANTITY OF WATER FOR PIPE WITH 20 FT. NOMINAL LENGTHS, MULTIPLY THE QUANTITY CALCULATED FROM THE TABLE BY 0.9.
 - THE MAXIMUM QUANTITY OF ADDED WATER FOR A PIPELINE IS CALCULATED BY MULTIPLYING THE QUANTITY PER HOUR AS OBTAINED FROM THE ABOVE TABLE, BY THE DURATION OF THE TEST IN HOURS, AND BY THE TOTAL LENGTH OF THE LINE BEING TESTED DIVIDED BY 1,000. IF THE LINE UNDER TEST CONTAINS SECTIONS OF VARIOUS DIAMETERS, THE MAXIMUM QUANTITY ADDED WILL BE THE SUM OF THE COMPUTED QUANTITIES FOR EACH SIZE.
 - MAXIMUM TEST LENGTH = 2,500 FEET PER SECTION.
 - THIS STANDARD SHALL REFLECT ANY REVISION OF A.W.W.A. C-600-05. HOWEVER, THE MAXIMUM QUANTITY OF WATER ADDED SHALL NOT EXCEED 50% OF RECOMMENDED LIMIT PER APPLICABLE AWWA C-600-05 STANDARD.
 - STANDARD TEST PRESSURE = 150 P.S.I.
 - FORMULA BASIS: $L = \frac{(S)(D)(P)}{133,200}$

- L = MAXIMUM QUANTITY OF WATER TO BE ADDED (GALLONS PER HOUR)
S = LENGTH OF PIPE TESTED (FEET)
D = DIAMETER OF PIPE (INCHES)
P = TEST PRESSURE (P.S.I.)
- PRESSURE TEST DURATION TO BE MIN. 2 HOURS.
 - DISINFECTION OF MAINS SHALL COMPLY WITH A.N.S.I./A.W.W.A. C-651-05 STANDARD.
 - DUCTILE IRON WATER MAIN PIPE SHALL CONFORM TO THE REQUIREMENTS OF A.N.S.I./A.W.W.A. C-151-02.
- II. FORCE MAIN AND WATER MAIN WITHIN WELLFIELD PROTECTION ZONE.**
- NOTES:**
- PRESSURE TEST PROCEDURE TO FOLLOW THE CURRENT AWWA C-600-05 STANDARD (150psi, (2) HOUR DURATION), THERE SHALL BE NO PRESSURE DROP IN THE PIPE DURING THE TEST ("ZERO" FILL-UP TOLERANCE).

PRESSURE TEST CRITERIA **403**

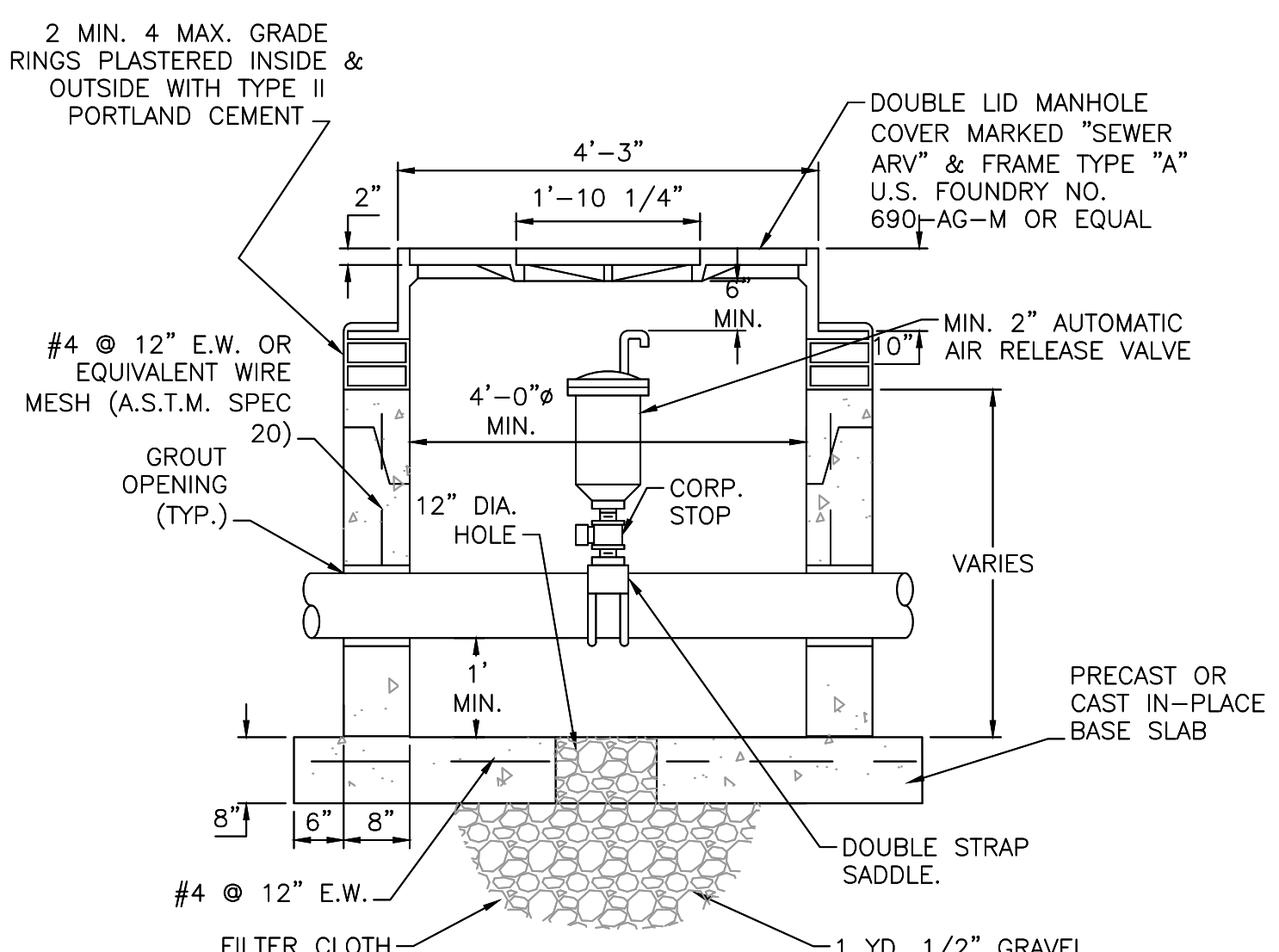


PRESSURE TEST DETAIL **306**



- MECHANICAL JOINTS RESTRAINTS ARE REQUIRED THROUGHOUT ASSEMBLY.

PRESSURE PIPE STANDARD CUT-IN DETAIL **404**



- NOTES:**
- PRECAST CONCRETE TYPE # 4000 P.S.I.
 - ALL OPENINGS SHALL BE SEALED WITH A WATERPROOF NON-SHRINKING GROUT.
 - LIFT HOLES ARE PERMITTED.
 - ALL PIPE HOLES SHALL BE PRECAST OR CORE-DRILLED.
 - MANHOLE FABRICATION SHALL BE IN ACCORDANCE WITH A.S.T.M. C-478 LATEST STANDARD.
 - PAINT INSIDE & OUTSIDE WITH 2 COATS OF AN APPROVED PROTECTIVE COATING. (MIN. 10 MIL D.F.T. PER COAT.)
 - CONCRETE COLLAR REQUIRED WHEN MANHOLE IS OUTSIDE PAVEMENT, SEE DETAIL.
 - AIR RELEASE VALVE SHALL BE TYPE AND SIZE APPROPRIATE FOR SERVICE INTENDED (2" MIN.).
 - CONSTRUCTION JOINT AT BASE IS PERMITTED.
 - DUCTILE IRON PIPE IS REQUIRED THROUGH THE MANHOLE.
 - THREADED AREAS OF CORPORATION STOP SHALL BE SPIRAL WRAPPED WITH TWO LAYERS OF TEFLON TAPE.
 - IF MANHOLE IS LARGER THAN 4' DIAMETER USE REDUCING GRADE RING OR CONE SECTION.
 - USE CONFLICT TYPE MANHOLE WITH PRECAST OR CAST IN-PLACE BOTTOM SLAB.
 - DIMENSIONS SHOWN ARE MINIMAL REQUIREMENTS.

AIR RELEASE VALVE AND MANHOLE IN PAVED AREAS CONTRACTOR TO SIZE MANHOLE AS NECESSARY **407**

LAYING CONDITION: TYPE 4 (PIPE BEDDED IN SAND, GRAVEL OR CRUSHED STONE TO THE DEPTH OF 1/8 PIPE DIAMETER, 4 INCHES MINIMUM. BACKFILL COMPACTED TO TOP OF PIPE).

DEPTH OF COVER: 2.5 FEET

WORKING PRESSURE: 150 P.S.I.

SOIL BEARING: 2,000 P.S.F. AGAINST UNDISTURBED SOIL.

PIPE DIA. (IN.)	11.25d (FT)	22.5d (FT)	45d (FT)	90d (FT)	DEAD END (FT)	TEE (FT)	45d VERT. BEND (FT)	22d VERT. BEND (FT)
6	5	9	16	31	60	35	20	12
8	6	11	20	42	80	50	25	14
10	7	14	24	52	100	60	26	18
12	8	16	28	63	120	65	30	20
14	10	18	32	73	130	80	35	23
16	11	20	35	84	140	90	40	26
18	12	22	39	94	150	100	45	28
20	13	24	42	105	180	120	55	32
24	14	27	49	126	220	150	65	35

NOTE THAT IN ACTUAL INSTALLATIONS, THE RESTRAINED LENGTH WILL BE IN MULTIPLES OF LENGTH OF ONE PIECE OF PIPE (NORMALLY 18 TO 20 FEET). THIS, FOR EXAMPLE, IF THE RESTRAINED LENGTH FOR 6 INCH PIPE LEADING UP TO A 90 DEGREE BEND IS 30 FEET, TWO FULL LENGTHS OF RESTRAINED PIPE WILL RESULT IN 36 TO 40 FEET OF RESTRAINT, PROVIDING AN ADDITIONAL SAFETY FACTOR. WHERE SHORT CONNECTING PIECES ARE NEEDED TO POSITION FITTINGS, THEY SHOULD, WHEN POSSIBLE, BE PLACED OUTSIDE THE RESTRAINED SECTION FOR MAXIMUM ECONOMY.

THE ABOVE SCHEDULE IS ONLY A GUIDELINE. THE CONTRACTOR MUST VERIFY AND REVISE CALCULATIONS TO MEET INSTALLATION REQUIREMENTS.

116 RESTRAINED PIPE JOINT SCHEDULE N.T.S.

DRAWN BY: JT
DATE: 8/29/21
DESIGNED BY: SCALE: ###
CHECKED BY: DL
FIELD BOOK: ###

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

NO.	DATE	BY	DESCRIPTION

NOT FOR CONSTRUCTION

CITY PROJECT #12412
PS A-16 UPGRADE 30IN WM DCP
CONCEPTUAL PLANS
(NOT FOR CONSTRUCTION)
DETAILS

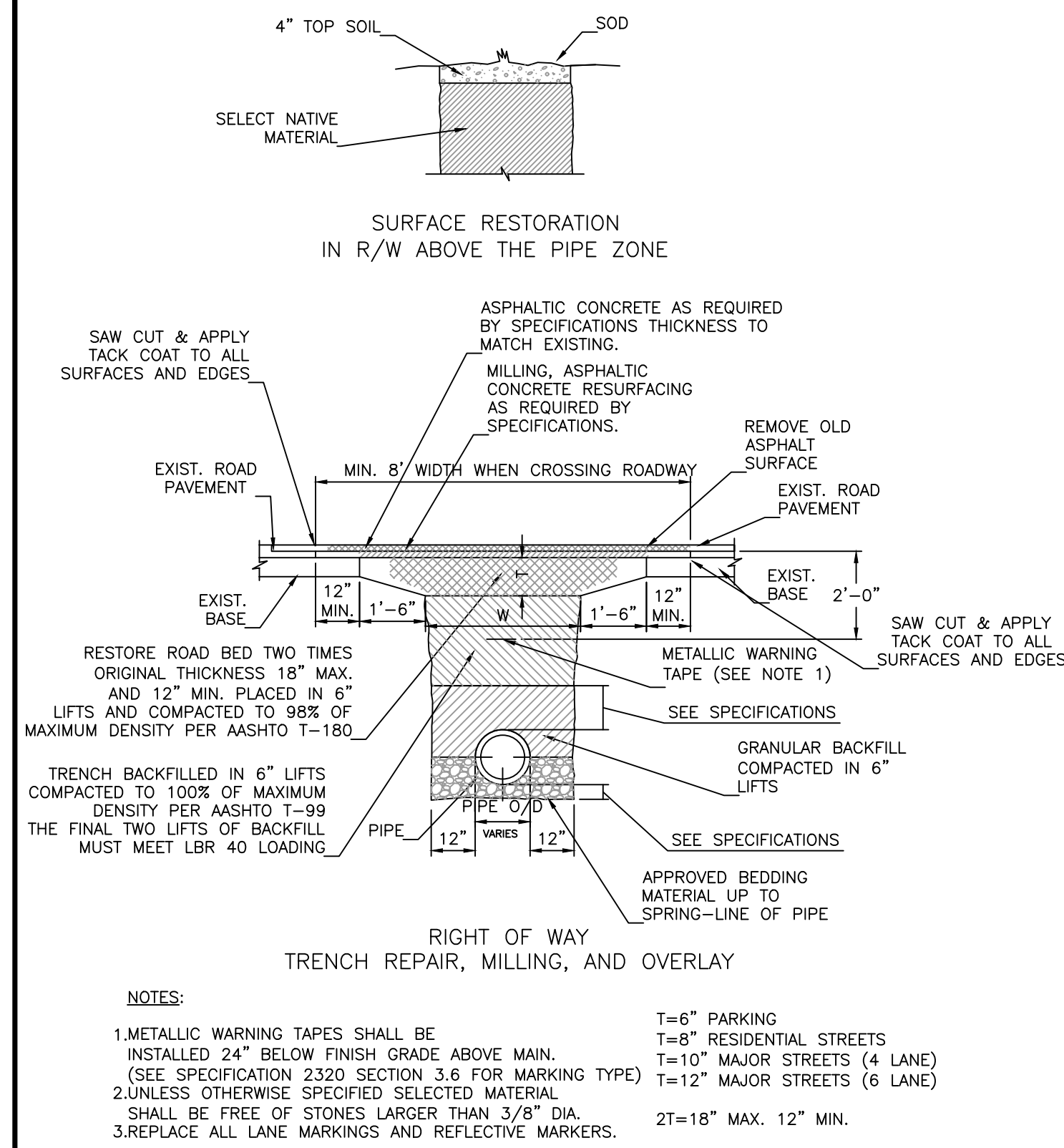
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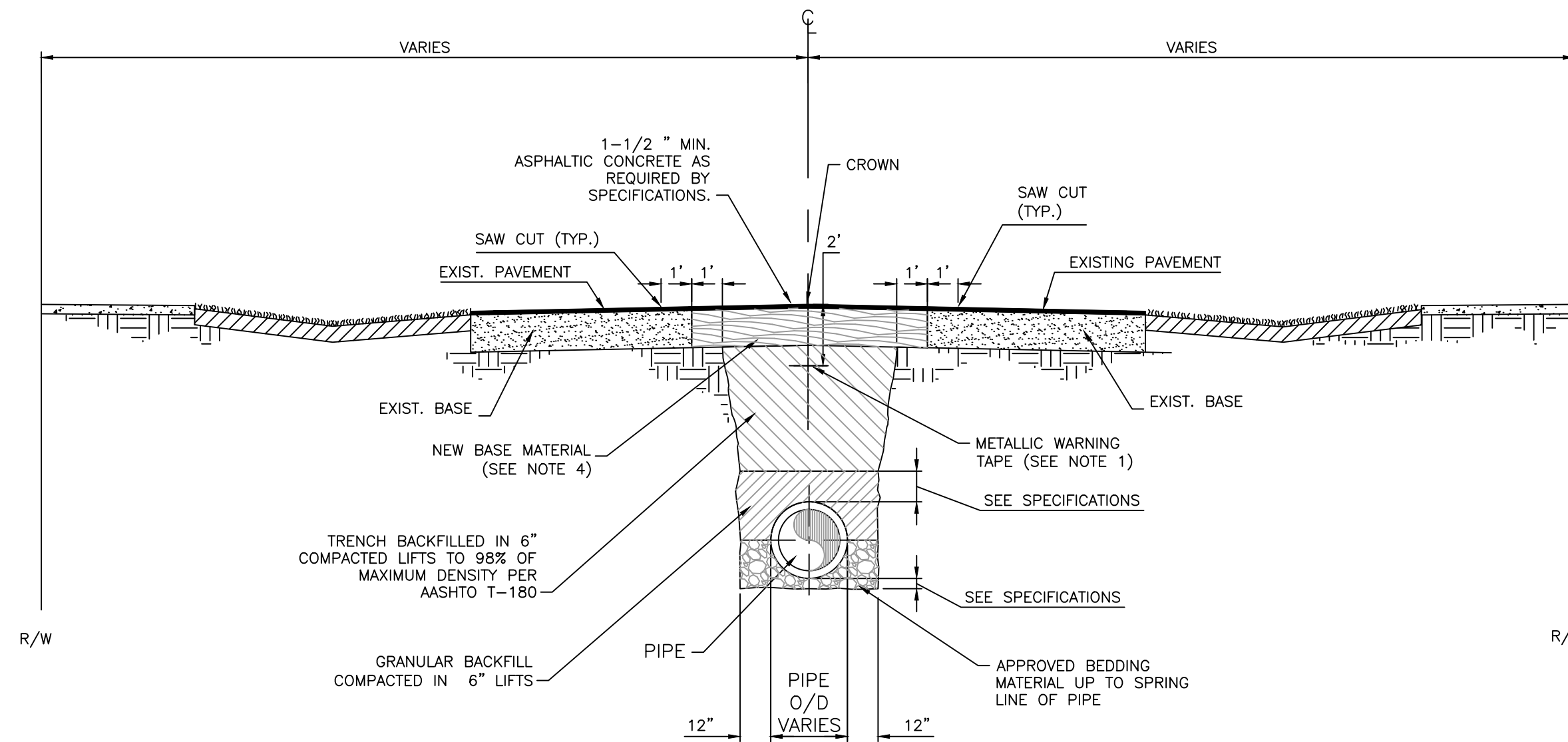
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DRAWING FILE NO. ###-0163

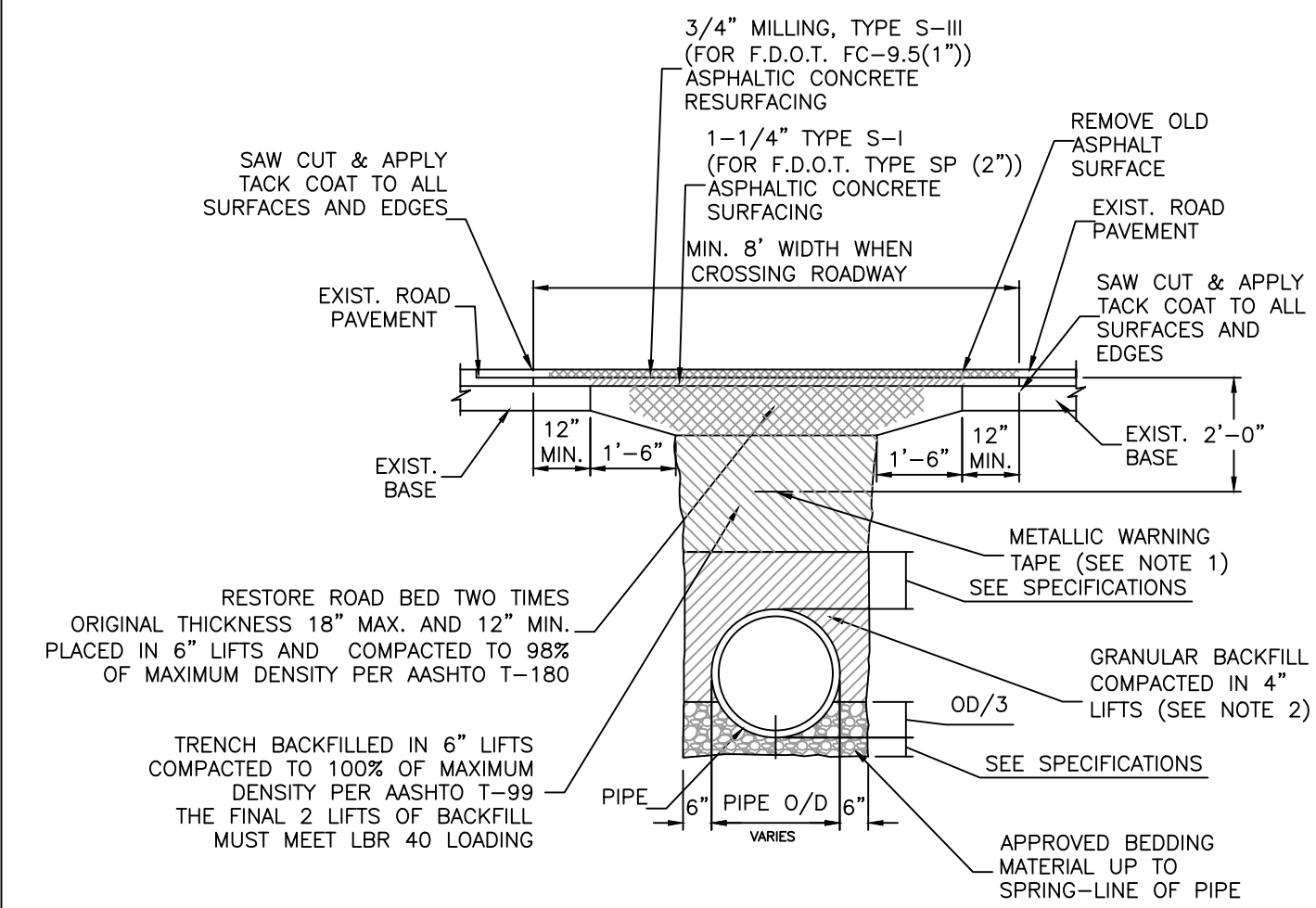
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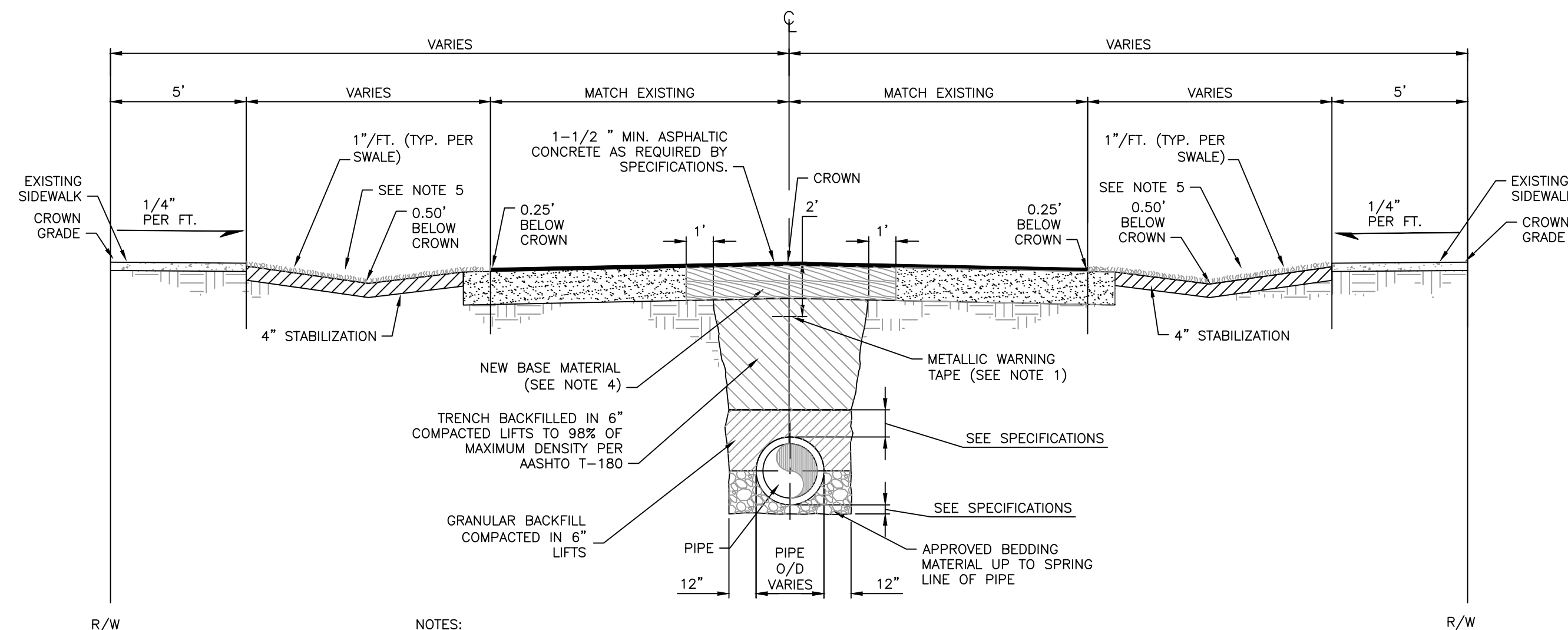
TYPICAL TRENCH AND PAVEMENT RESTORATION FOR TRANSVERSE CROSSING



TYPICAL ROAD SECTION, TYPICAL TRENCH AND TRENCH RESTORATION FOR PARALLEL PIPE TRENCH



F.D.O.T. & BROWARD COUNTY TYPICAL TRENCH AND PAVEMENT RESTORATION



TYPICAL ROAD SECTION, TYPICAL TRENCH, PAVEMENT AND SWALE RESTORATION FOR PARALLEL PIPE TRENCH

Plot Date: 10/5/2021 3:28:21 PM Username: JTomio Layout Name: D-3
 Folder Path: V:\Projects\2021\21-047.057 - ps a-16 upgrade(court. house)30_wm_dcp\Design\CAD\Sheets
 Filename: 12412-MULTI-DETL.dwg

DRAWN BY:	JT	DATE:	8/29/21
DESIGNED BY:	DL	SCALE:	###
CHECKED BY:	DD		
FIELD BOOK:	###		

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
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100 North Andrews Avenue, Fort Lauderdale, Florida 33301

NO.	DATE	BY	DESCRIPTION

NOT FOR CONSTRUCTION

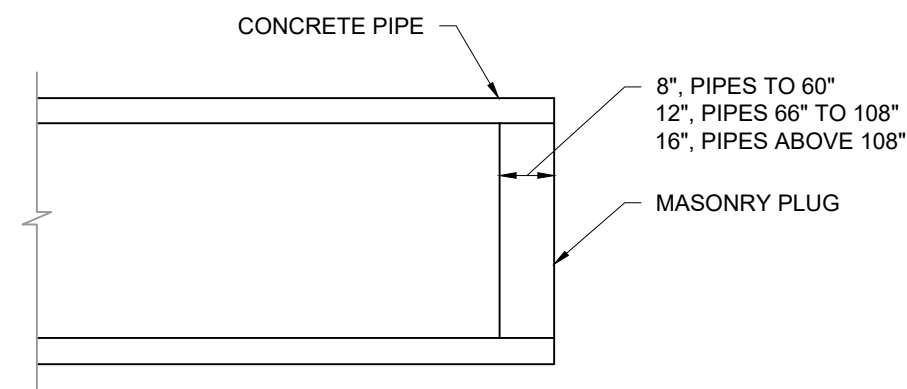
CITY PROJECT #12412
 PS A-16 UPGRADE 30IN WM DCP
 CONCEPTUAL PLANS
 (NOT FOR CONSTRUCTION)
 DETAILS

DRAWING #	SHT #
D-3	14
TOTAL:	15
CAD FILE:	12412-MULTI-DETL
DRAWING FILE NO.	###-0163

cma
 chen moore and associates

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12412-MULTI-DET, Tuesday, October 05, 2021



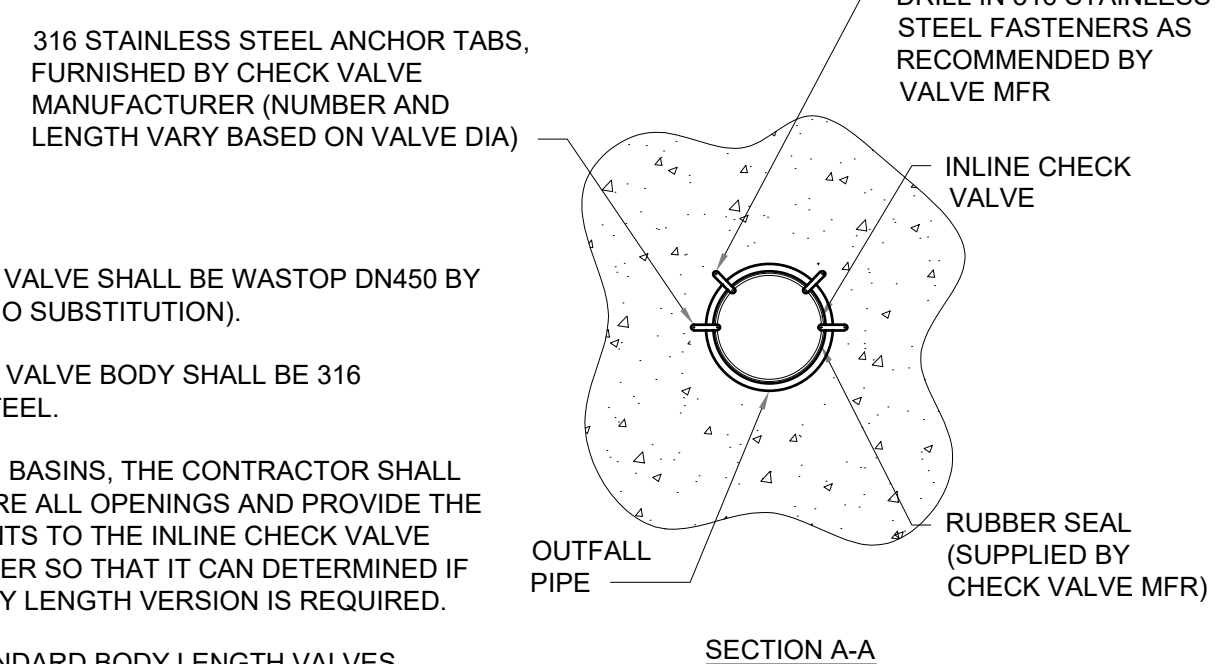
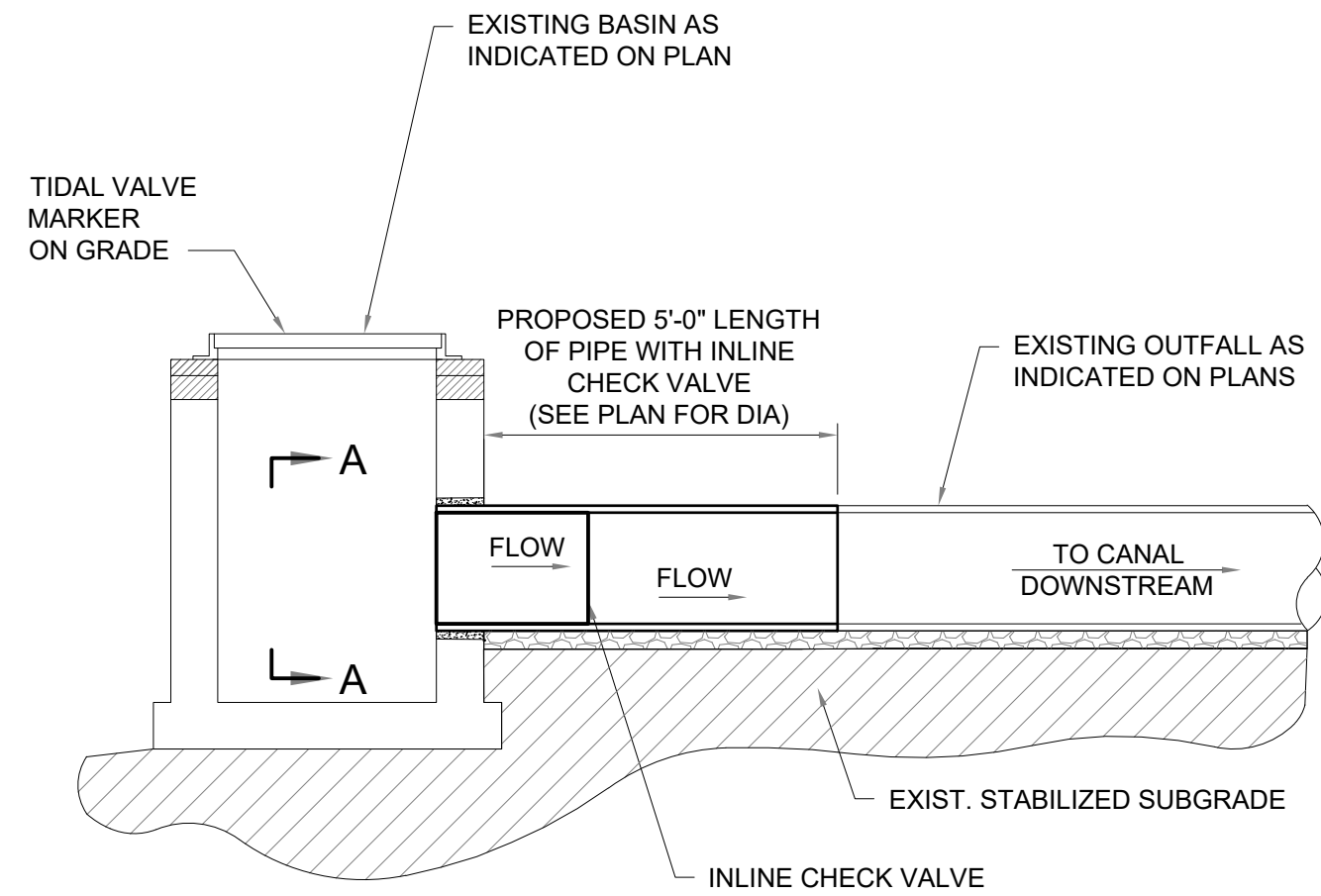
- NOTES:**
1. THE COST OF PLUGGING PIPES TO BE INCLUDED IN CONTRACT UNIT PRICE FOR NEW PIPE.
 2. EITHER BRICK MASONRY OR CONCRETE BRICK MAY BE USED FOR THE PLUG.

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING DETAILS
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

PIPE PLUG

STRM 011
2017/07/19

STRM016 - TIDAL INFLOW VALVE Filter, December 22, 2017



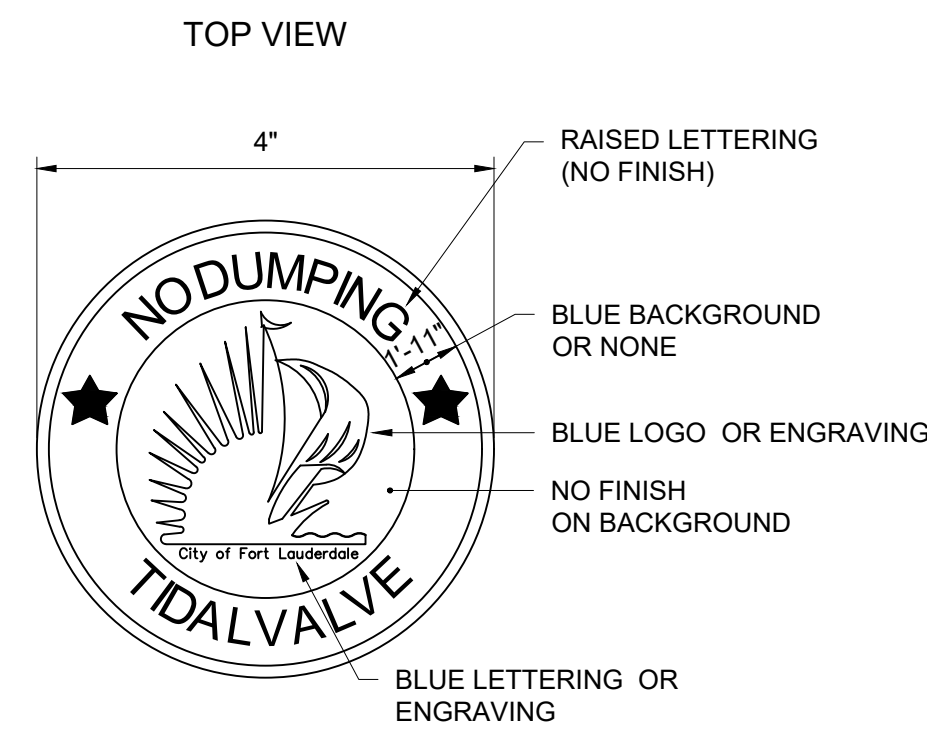
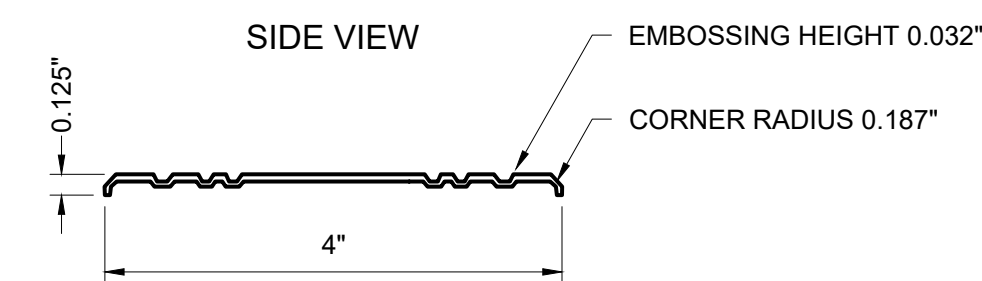
- NOTES:**
1. INLINE CHECK VALVE SHALL BE WASTOP DN450 BY WAPRO INC (NO SUBSTITUTION).
 2. INLINE CHECK VALVE BODY SHALL BE 316 STAINLESS STEEL.
 3. FOR EXISTING BASINS, THE CONTRACTOR SHALL FIELD MEASURE ALL OPENINGS AND PROVIDE THE MEASUREMENTS TO THE INLINE CHECK VALVE MANUFACTURER SO THAT IT CAN DETERMINED IF A SHORT BODY LENGTH VERSION IS REQUIRED.
 4. PROVIDE STANDARD BODY LENGTH VALVES UNLESS INSTALLATION SPACE LIMITATIONS INDICATE THAT A SHORT BODY LENGTH VERSION IS REQUIRED.

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100 North Andrews Avenue, Fort Lauderdale, Florida 33301

INLINE CHECKVALVE
FOR TIDAL FLOOD CONTROL

STRM 016
2017/12/22

12412-MULTI-DET, Tuesday, October 05, 2021



FINISH		
UV BAKED ENAMEL	-	1 COLOR OPTION
MATERIAL	THICKNESS	WEIGHT
304 ANNEALED STAINLESS STEEL	0.062"	0.218 LBS.

- NOTES:**
1. DRAIN MARKER SHALL BE BY LORDON, INC., OR EQUAL.
 2. SECURE WITH SIKAFLEX IIFC ADHESIVE.

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING DETAILS
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

TIDAL VALVE MARKER

STRM 022
2017/12/22

DATE:	8/29/21
DRAWN BY:	JT
DESIGNED BY:	SCALE: ###
CHECKED BY:	DL
FIELD BOOK:	DD

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

NO.	REVISIONS		DESCRIPTION
	DATE	BY	

CITY PROJECT #12412
PS A-16 UPGRADE 30IN WM DCP
CONCEPTUAL PLANS
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DRAWING #	SHT #
D-4	15
TOTAL:	15
CAD FILE:	12412-MULTI-DETL
DRAWING FILE NO.	###-0163

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Ft. Lauderdale, FL 33309
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EXHIBIT D

EXISTING UNDERGROUND UTILITY INFORMATION

D-1: As-builts and Adjacent Properties Construction Documents

D-2: City Atlas

D-3: Sunshine 811 Design Ticket Information



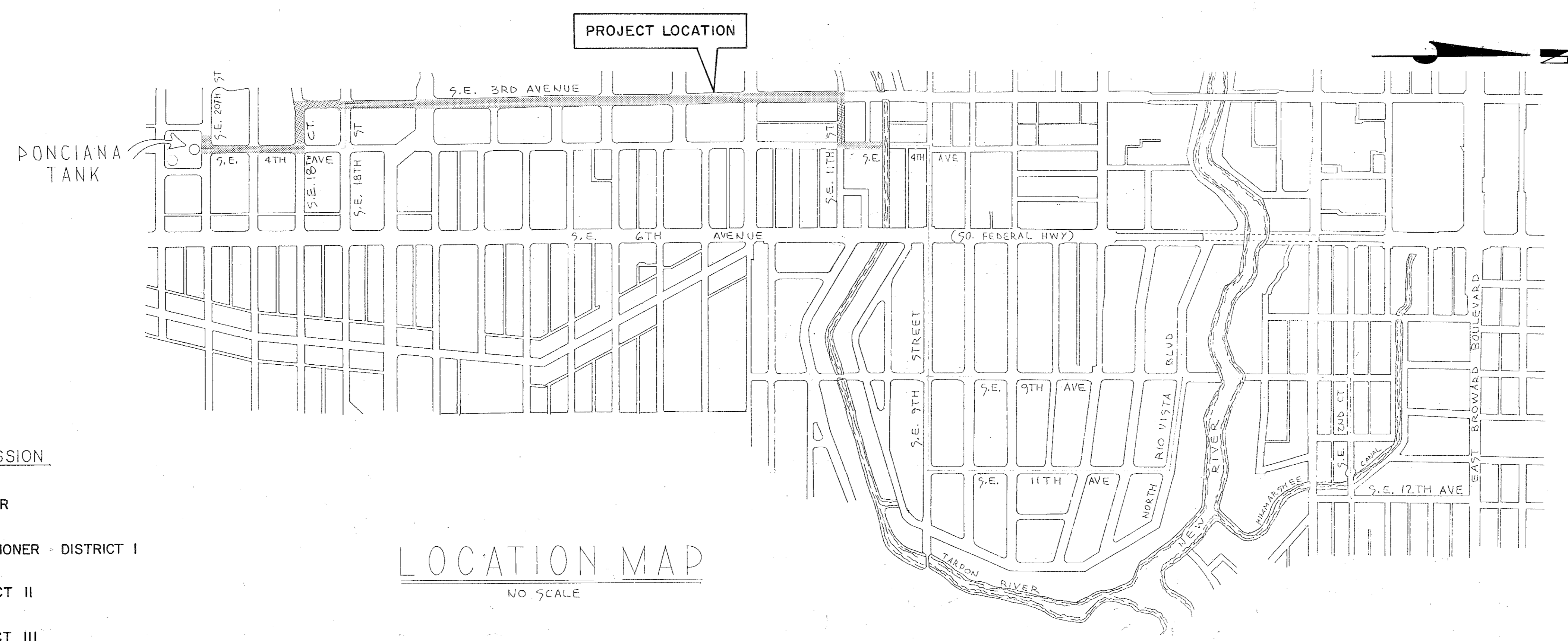
D-1: ASBUILTS AND ADJACENT PROPERTIES CONSTRUCTION DOCUMENTS

Pumping Station A-16 Upgrade (Court House) 30" WM DCP
City of Fort Lauderdale Project 12412
CMA Project No. 047.057

CITY OF FORT LAUDERDALE

PROJECT NO. 8833-A

30" WATER MAIN ALONG S.E. 3 RD. AVENUE FROM PONCIANA TANK TO TARPON RIVER



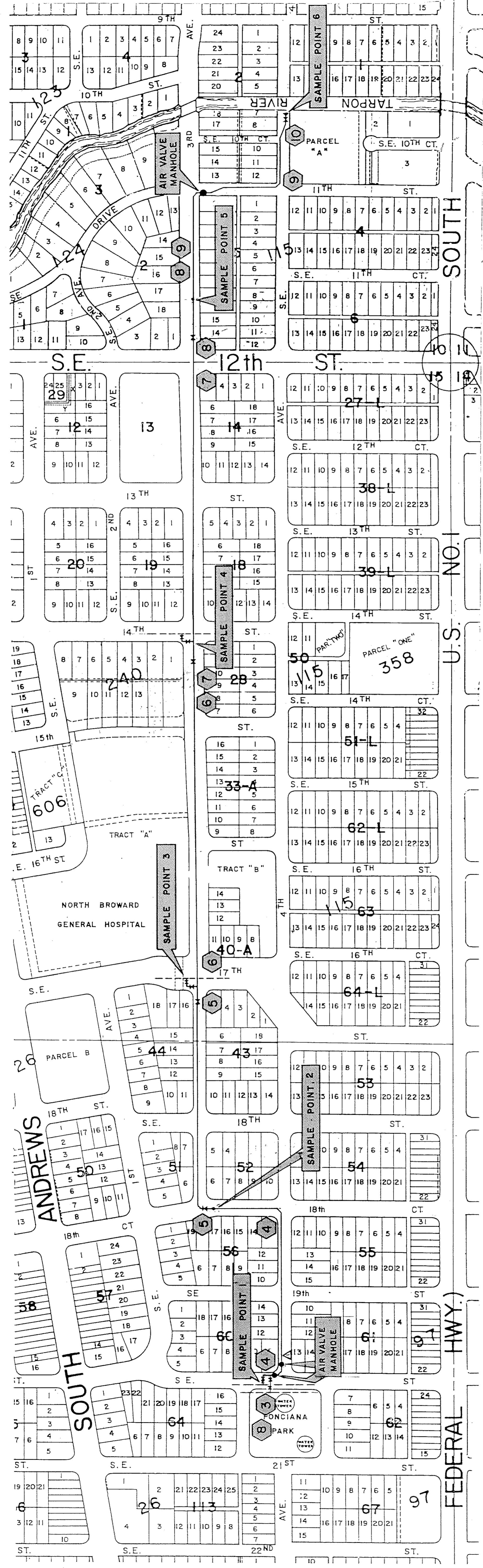
FORT LAUDERDALE CITY COMMISSION

- JIM NAUGLE - MAYOR - COMMISSIONER
- DOUGLAS H. DANZIGER - VICE MAYOR - COMMISSIONER - DISTRICT I
- CARY KENO - COMMISSIONER - DISTRICT II
- CARLTON MOORE - COMMISSIONER - DISTRICT III
- JACK LATONA - COMMISSIONER - DISTRICT IV

LOCATION MAP
NO SCALE

PREPARED IN THE OFFICE OF
THE CITY ENGINEER
under the direct supervision
of HOSNEY BOUTROS P.E.
FLA. REG. ENG. NO. 19116

AS BUILT
All Field Information
entered by MV Date 11/8/14



AS BUILT
All Field Information
entered by *MV* Date *11/6/94*

CITY OF FORT LAUDERDALE, FLORIDA
P-8833-A
30" WATER MAIN ALONG S.E. 3rd. AVE.
FROM PONCIANA TANK TO TARPON RIVER

NO.	DATE	BY	CHK.	REVISIONS
1				ADDED AIR VALVE MANHOLE
2				
3				
4				

GENERAL LAYOUT

LEGEND SHEET NUMBER

NOTE:
CITY OF FORT LAUDERDALE BENCH MARK ELEV. 7.970
N.G.V.D. 1929 FIELD BOOK 1485/7
(PAINT MARK NORTH RIM SAN. SEWER MANHOLE
& WEST BOUND LANE SE. 20th STREET AND S.E. 4th AVE.)

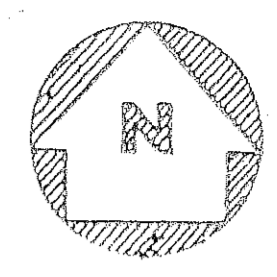
CONSTRUCT
 1-18" x 18" T.S., 1-18" TV
 1-18" B.V., 1-18" 22' BEND
 1-30" x 18" RED. (ALL R.T.)
 SAMPLE POINT #1

CONSTRUCT
 1-30" x 24" TEE
 1-24" B.V., 1-24" T.V.
 1-24" x 24" T.S.
 (ALL R.T.)

NEW 30" DIP. CROSS ST. PIP.
 S. E. 4TH AVE
 EXISTING 8" WATER

S. E. 20TH
 EXISTING 18" WATER

STREET



24" C.I.P.

CONSTRUCT
 1-AIR VALVE
 MANHOLE

EXISTING
 18" WATER
 VALVE M.H.

EXISTING
 500,000 GAL.
 ELEV. STORAGE TANK

10' ROCK ROAD

GRADE-TOP OF C.I.P. 4.5'
 24" C.I.P.
 WATER MAIN

EXISTING 8" WATER

S. E. 4TH AVE.

2-24" x 45° BEND

FORT LAUDERDALE
 BUSINESS & PROF.
 WOMEN'S CLUB

GRADE-TOP OF C.I.P. 5.0'

GRADE ϕ OF C.I.P. 4.0'
 LENGTH TO BE DETERMINED
 IN THE FIELD.
 1-24" x 18" TEE
 1-24" G.V.
 1-8" SLEEVE
 8" C.I.P.
 TIE-IN TRIP
 CONNECTION
 PROX. P.O.L.A.

NOTE:
 THIS IS TO BE A COVERED JOINT
 AND SHALL BE DONE BY THIS
 CONTRACTOR - PROJECT 1721-A.

PUMPING STATION

1-8" x 8" TEE
 1-8" SLEEVE
 1-8" G.V.
 8" C.I.P.
 BY CITY (PROJ. 1721-C)

NEW ROAD

NOTE RELOCATION OF 8" C.I.P. BY CITY
 (PROJECT 1721-C)
 GRADE ϕ 8" C.I.P. 4.0'

3-8" x 90° BEND
 8" C.I.P.
 BY CITY (PROJ. 1721-C)
 1-8" G.V.

2 M.G. STANDPIPE

VOID! THIS WORK VOIDED PRIOR TO TIE-IN OR TEST; APPROVED
 BY H. BOUTROS AND LANZ CONSTRUCTION.
 11-9-92 SEE "DAILY INSPECTION REPORT'S" #53 TO #59, F.B. #1580

THE "AS-BUILT" INFORMATION CONTAINED ON THIS PAGE REFLECTS
 INFORMATION OBTAINED FROM INSPECTORS NOTES,

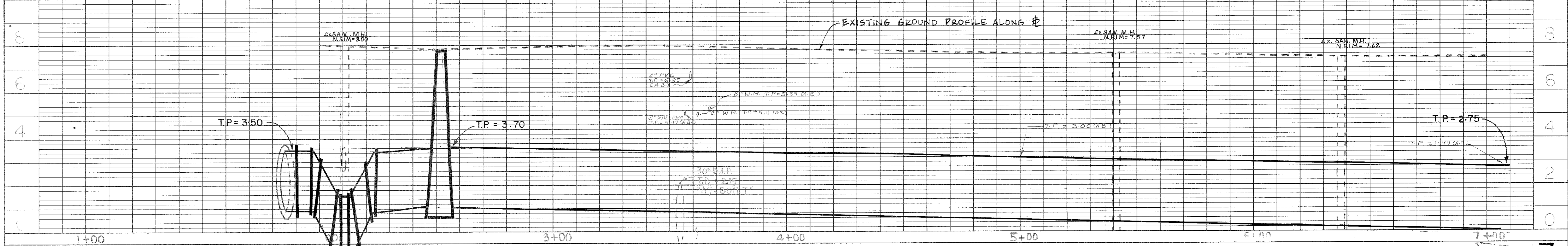
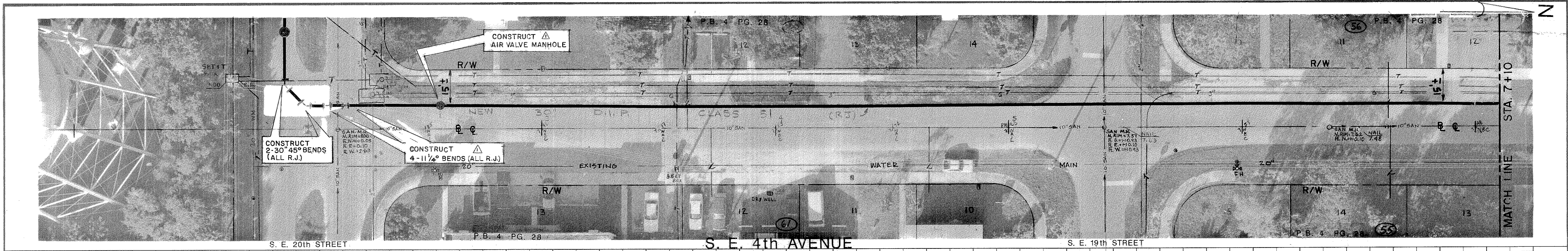
AS BUILT
 All Field Information
 entered by *mv* Date *1/8/94*

CITY OF FORT LAUDERDALE, FLORIDA
 P-8833-A 30" WATER MAIN
 ALONG S.E. 3RD AVENUE FROM
 PONCIANA TANK TO
 TARPON RIVER

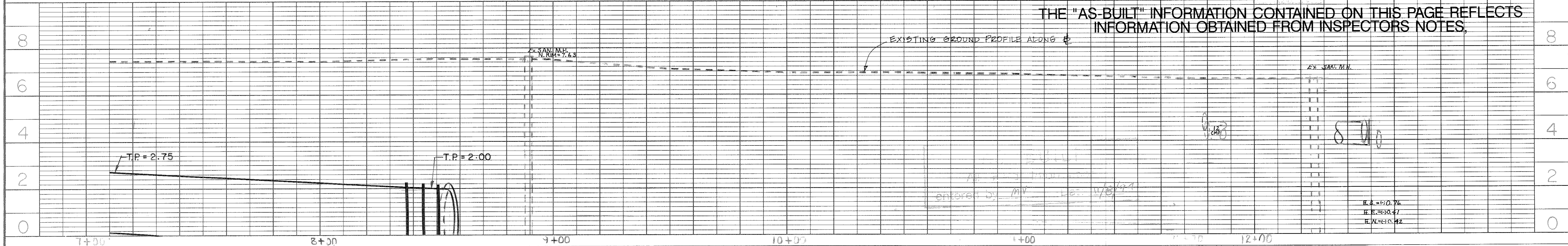
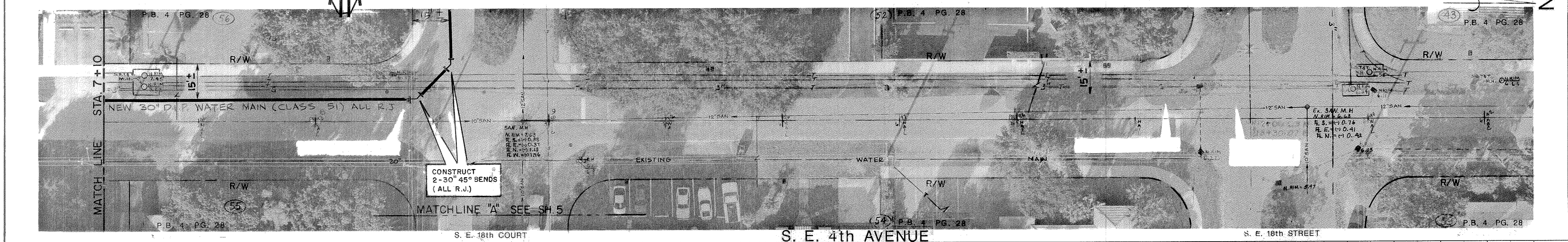
ALL F DRAWN BY	OFFICE OF CITY ENGINEER	MAY 1991 DATE
H.B CHECKED BY		1" = 20' SCALE
FIELD BOOK		3 of 11 SHEET

DWG. NO. 412115-25
 DESIGNED BY H. BOUTROS

PLAN	REVISIONS	DATE
	BY	
	NO.	
	NO.	

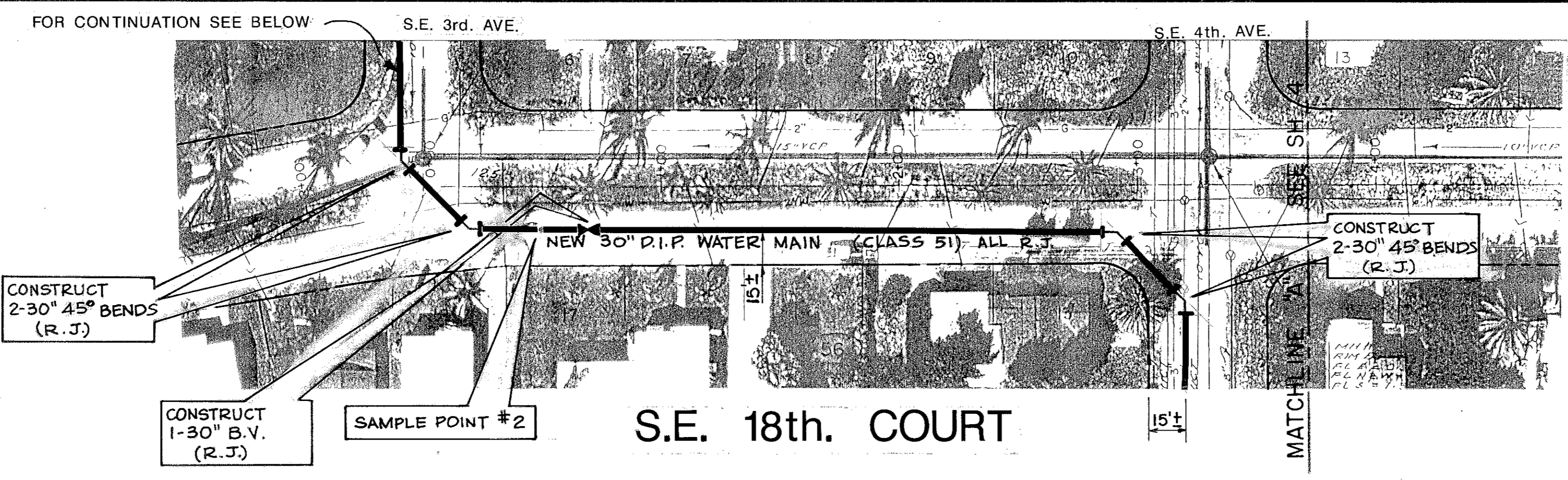


PROFILE	REVISIONS	DATE
	BY	
	NO.	
	NO.	

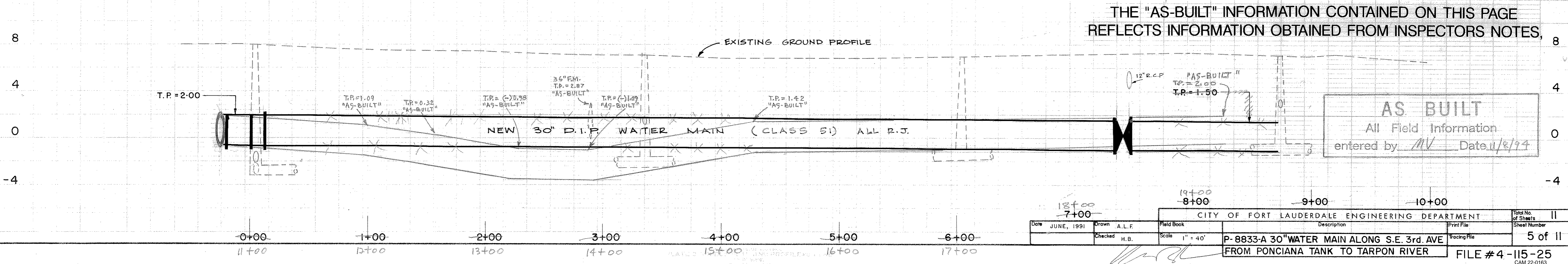
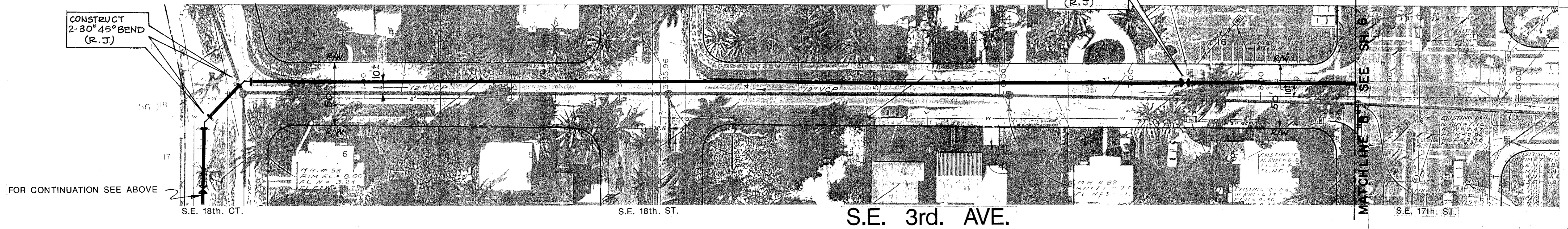
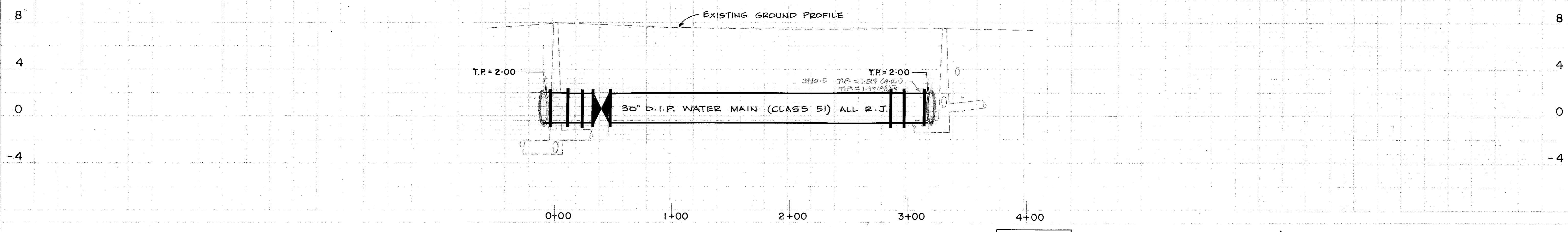


BOSWORTH AERIAL SURVEYS, INC.
Photogrammetry Air-As-Produced

REVISIONS				CITY OF FORT LAUDERDALE ENGINEERING DEPARTMENT				Total No. of Sheets: 11	
1.	6/91	ALF	H.B.	ADDED AIR VALVE MANHOLE AND 4-1 1/4\"/>					
NO.	DATE	BY	CHK.	REMARKS	Date	Drawn	Field Book	Description	Sheet Number
					MAY, 1991	H.W./A.L.F.		P-8833-A 30\"/>	
				Scale HORIZ: 1\"/>					
				FILE # 4-115-25				4 of 11	



NOTE:
 1. - NOTICE THE SCALE OF THIS SHEET ONLY IS 1"=40'
 2. - STATIONS ON THIS SHEET IS NOT CONSISTANT WITH OTHER SHEETS

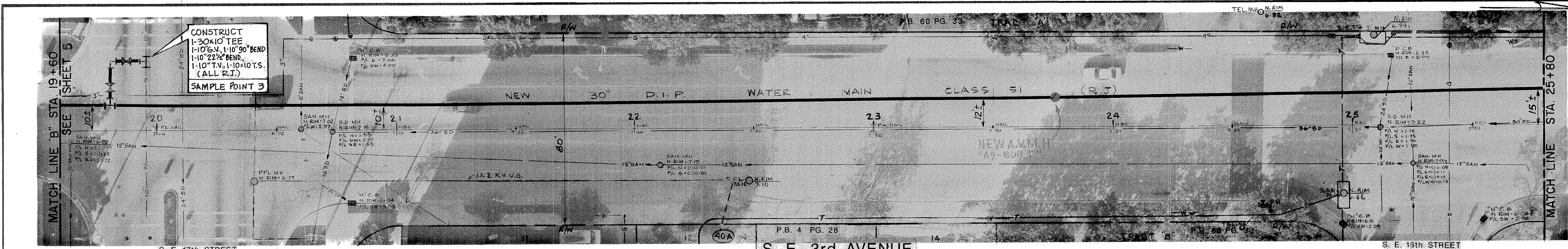


THE "AS-BUILT" INFORMATION CONTAINED ON THIS PAGE REFLECTS INFORMATION OBTAINED FROM INSPECTORS NOTES,

AS BUILT
 All Field Information
 entered by *MV* Date *11/8/24*

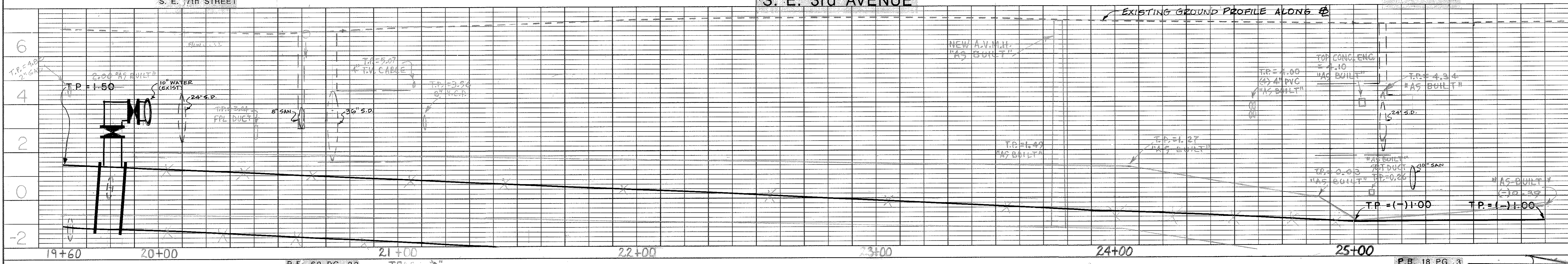
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Date	JUNE, 1991	Drawn	A.L.F.	Field Book	
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				Print File	
				Tracing File	
				Sheet Number	5 of 11

FILE # 4 - 115 - 25



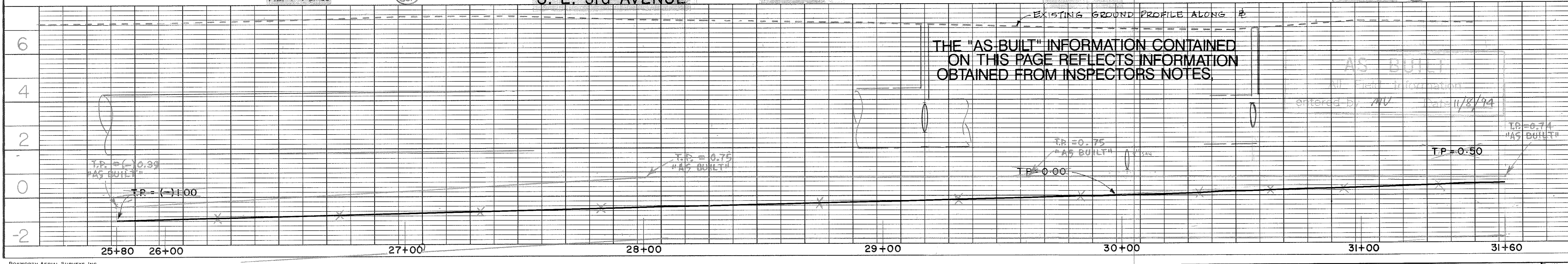
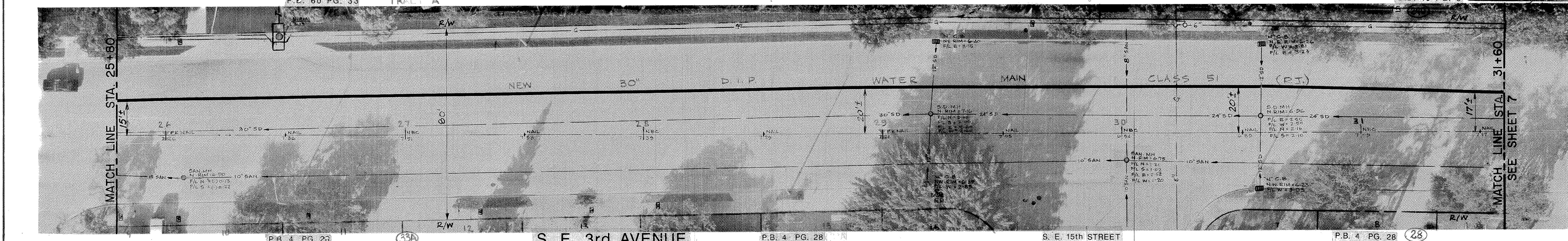
BY	DATE

PLAN	SURVEYED	DATE



BY	DATE

PROFILE	SURVEYED	DATE

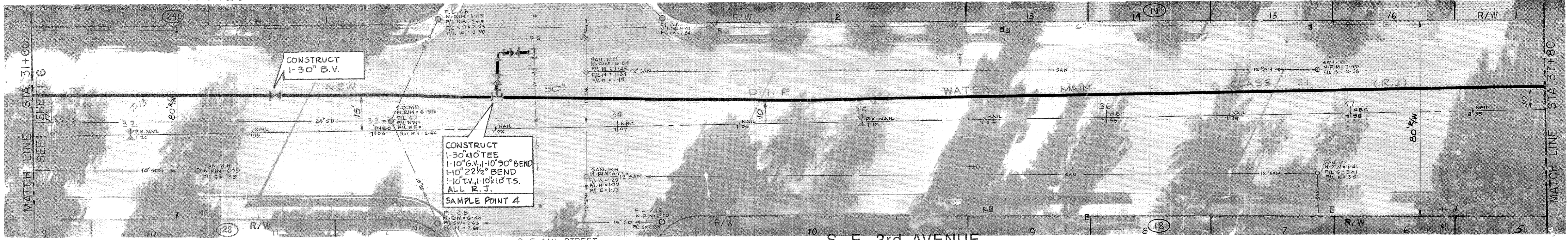


BOSWORTH AERIAL SURVEYS, INC.

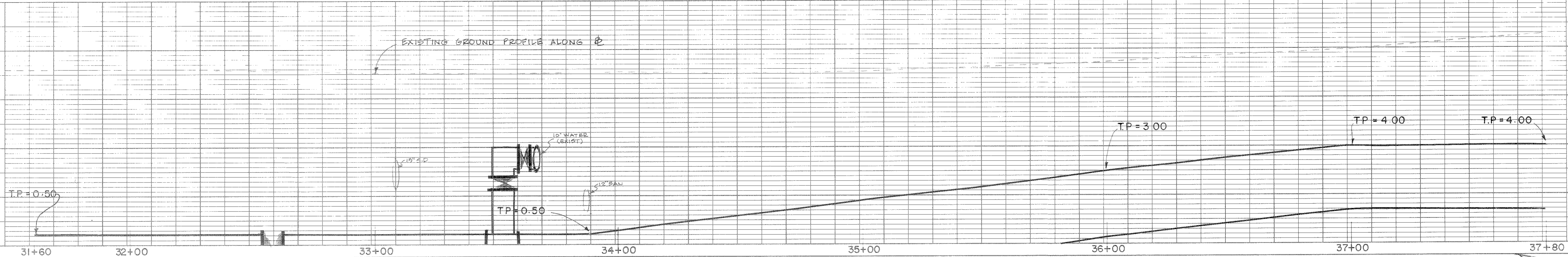
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Date	MAY, 1991	Drawn	H.W./A.L.F.	Field Book	1562
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DESIGNED BY	H. BOUTROS	Description	P-8833A, 30" WATER MAIN ALONG S.E. 3rd. AVE. FROM PONCIANA TANK TO TARPON RIVER		Print File
		Sheet Number	6 of 11		

P.B. 18 PG. 3

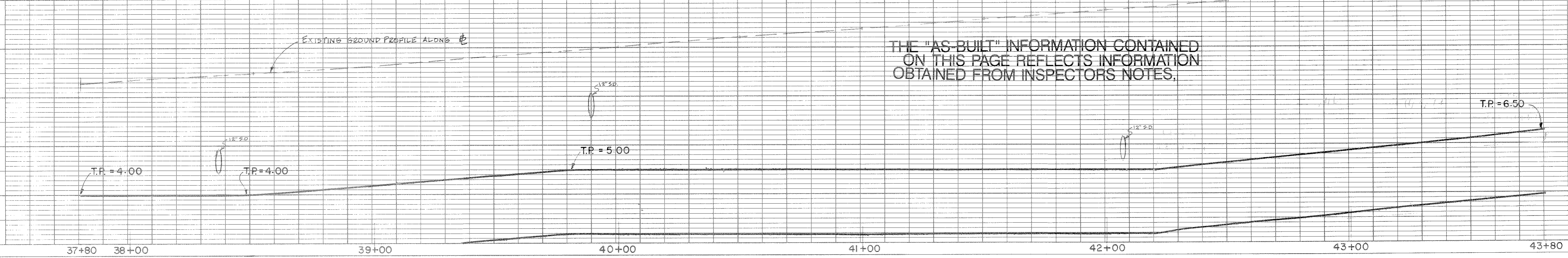
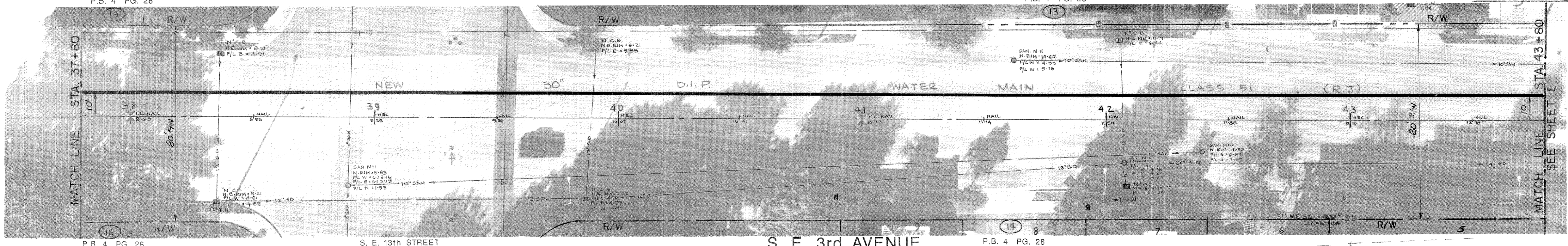
P.B. 4 PG. 28



DATE	
BY	
PLANNING	
NOTICE	
NO.	



DATE	
BY	
PROFILE	
NOTICE	
NO.	

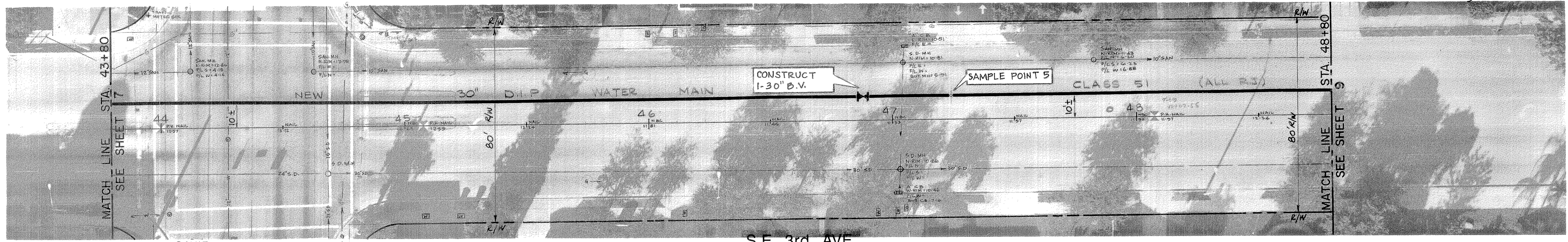


BOGARD AERIAL SURVEYS, INC.
Photogrammetry for the Tri-County Area

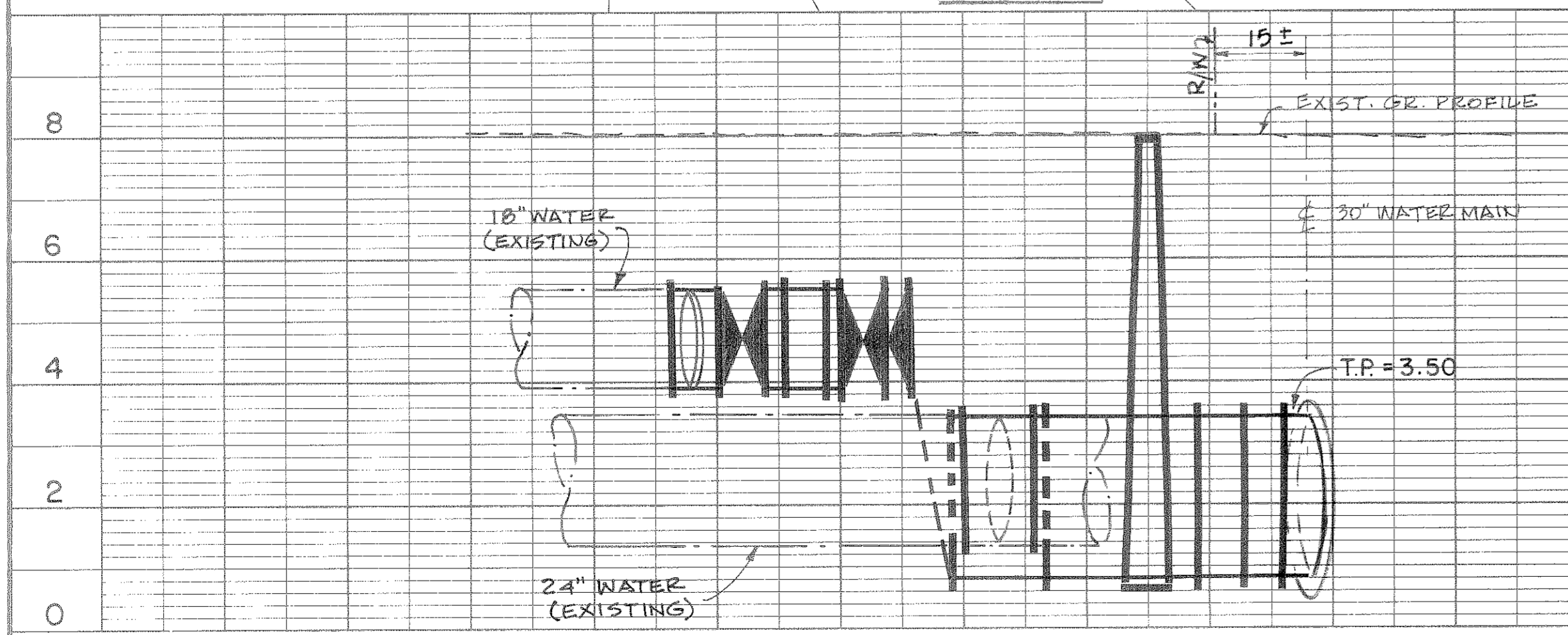
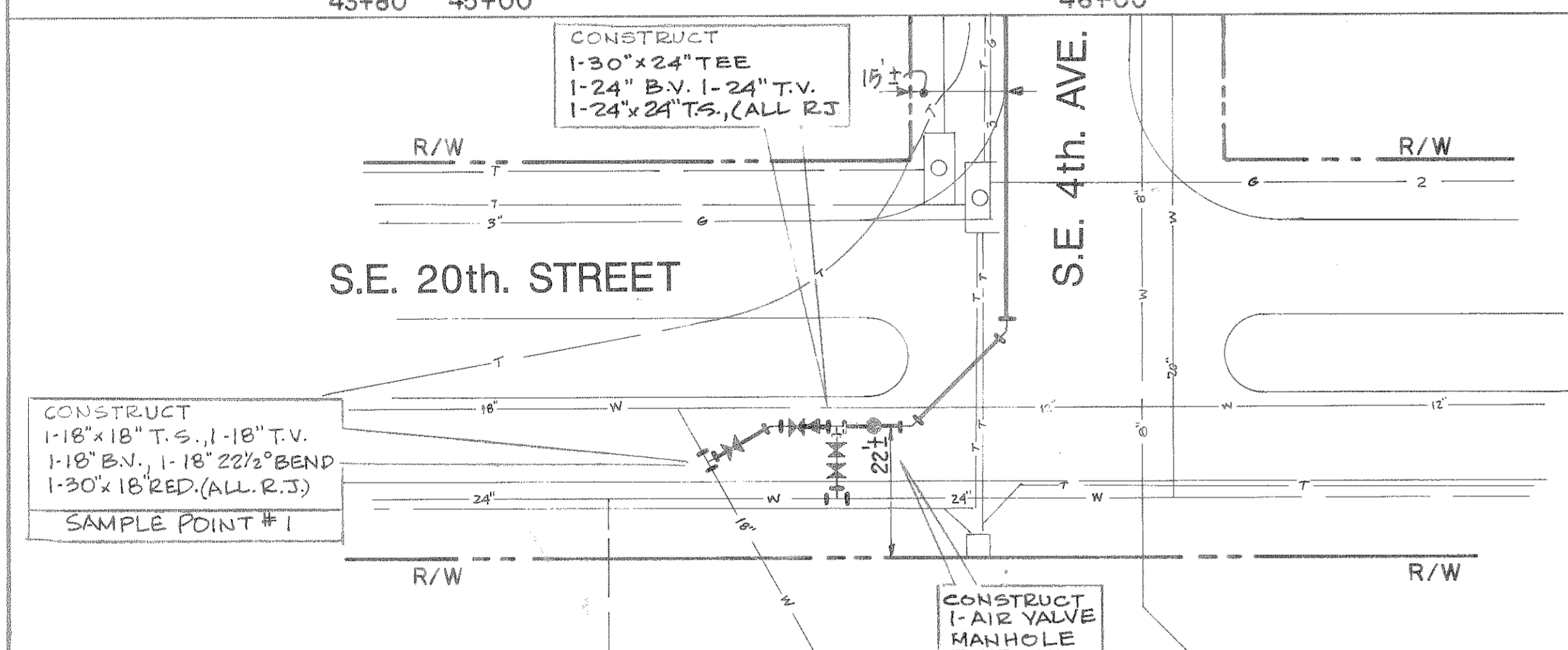
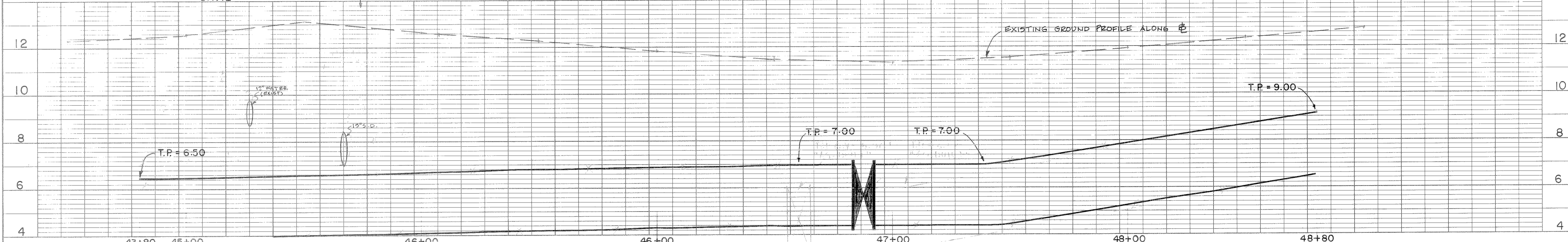
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Date	MAY, 1991	Drawn	H.W./A.L.F.	Field Book	
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Print File		Tracing File		Sheet Number	7 of 11
				FILE #	4-115-25

DATE	
BY	
PLAN	BURVEYED
	PLOTTED
	CHECKED
	DATE
	NO.

DATE	
BY	
PROFILE	BURVEYED
	PLOTTED
	CHECKED
	DATE
	NO.



S.E. 3rd. AVE.

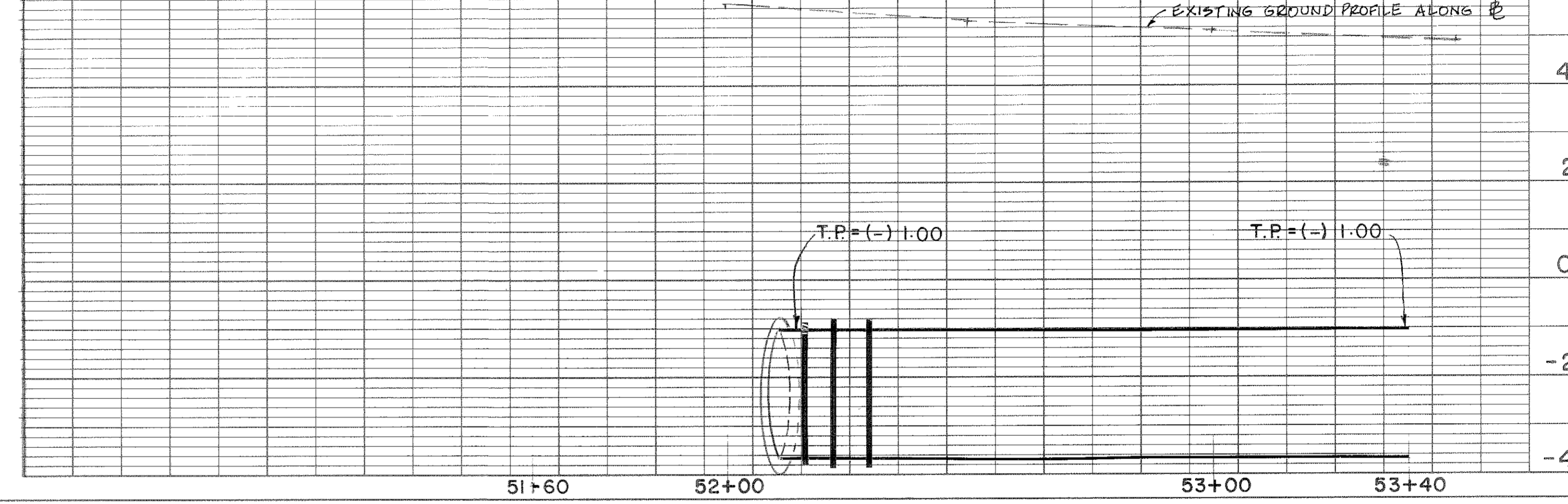
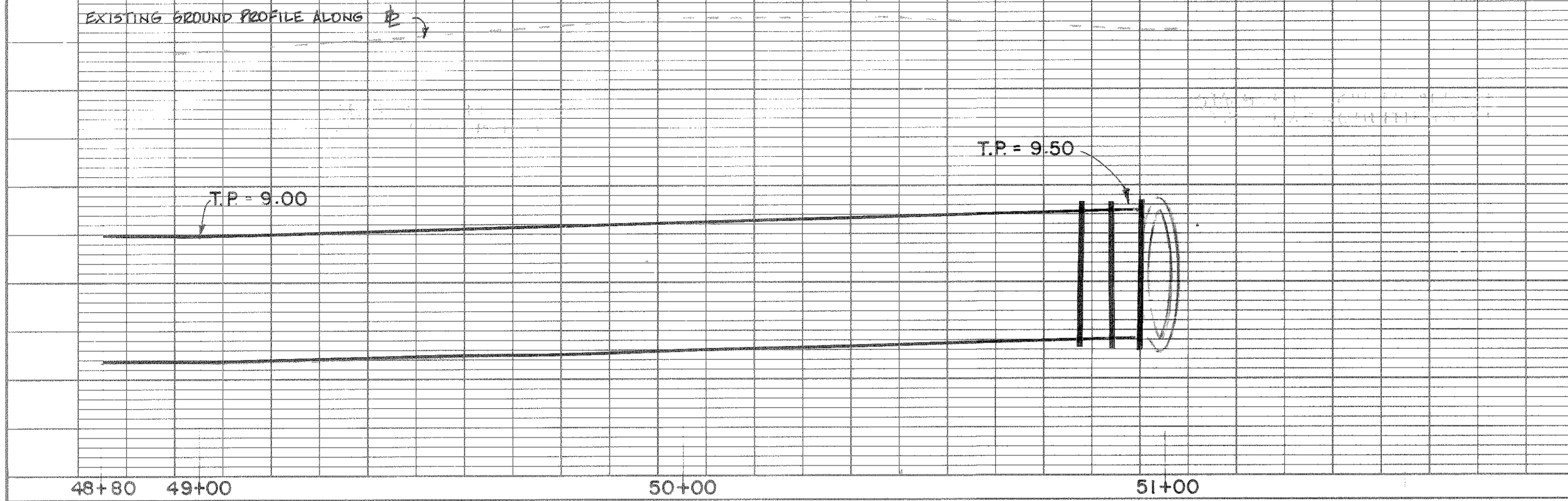
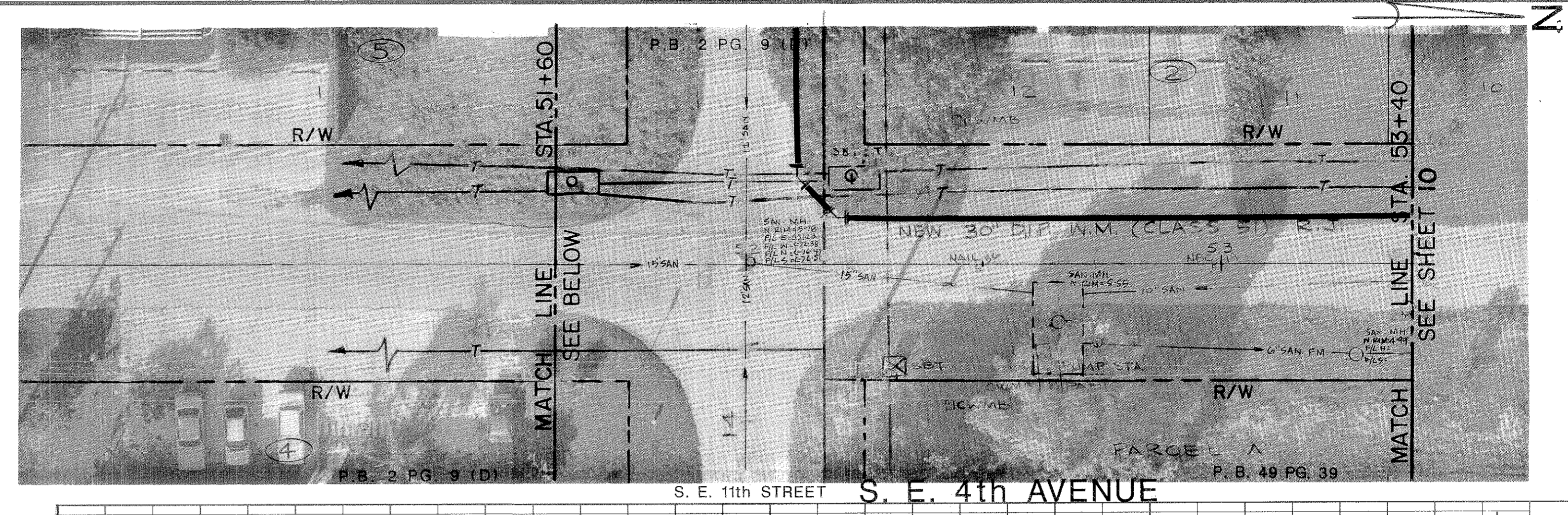
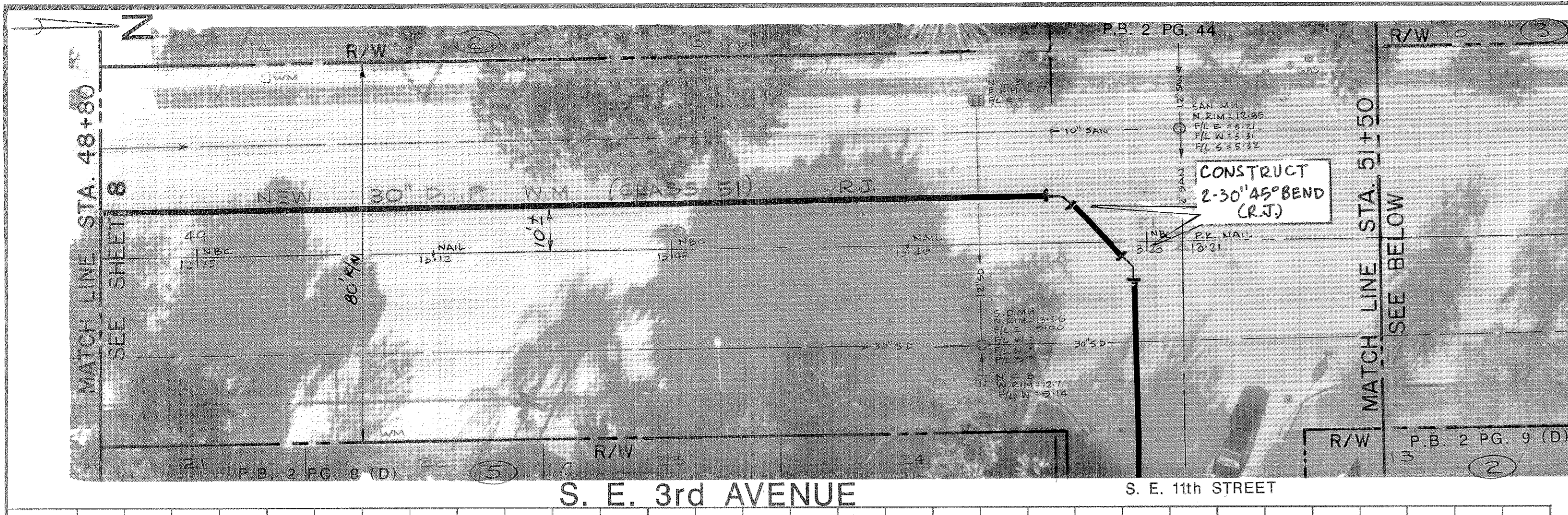


THE "AS-BUILT" INFORMATION CONTAINED ON THIS PAGE REFLECTS INFORMATION OBTAINED FROM INSPECTOR'S NOTES,

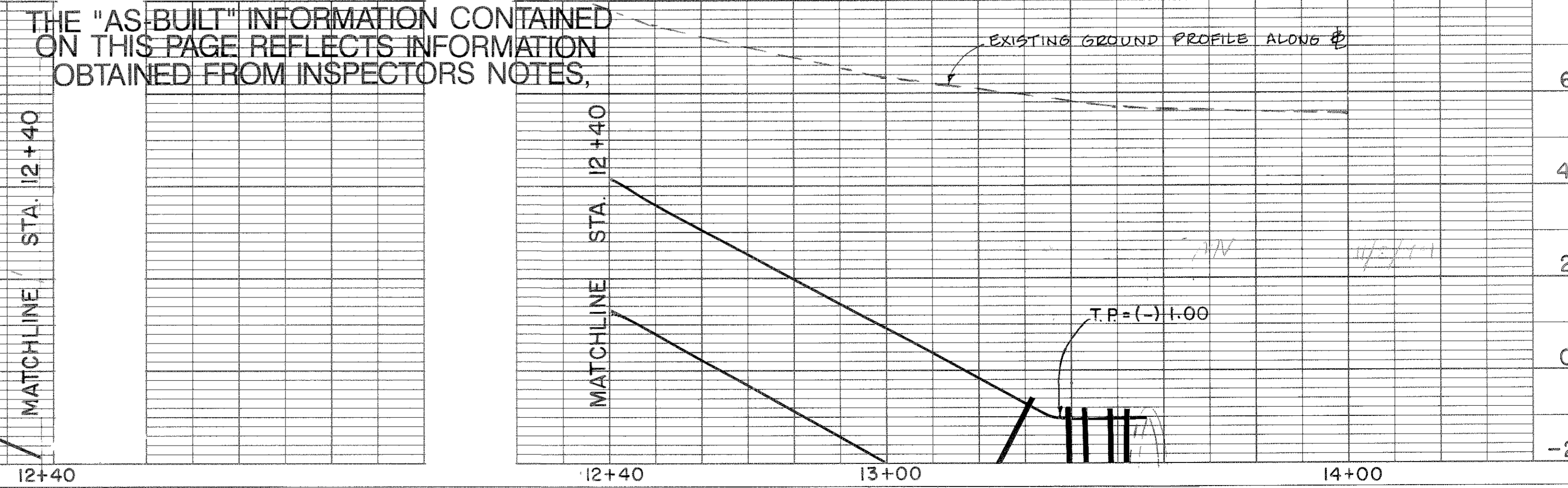
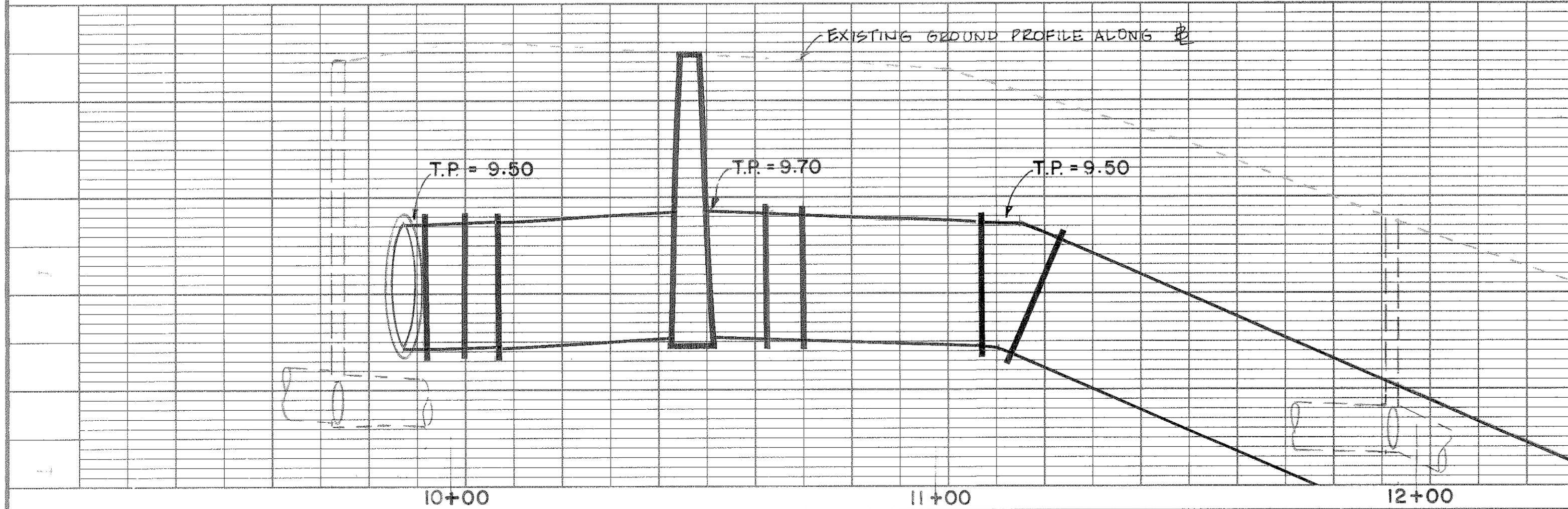
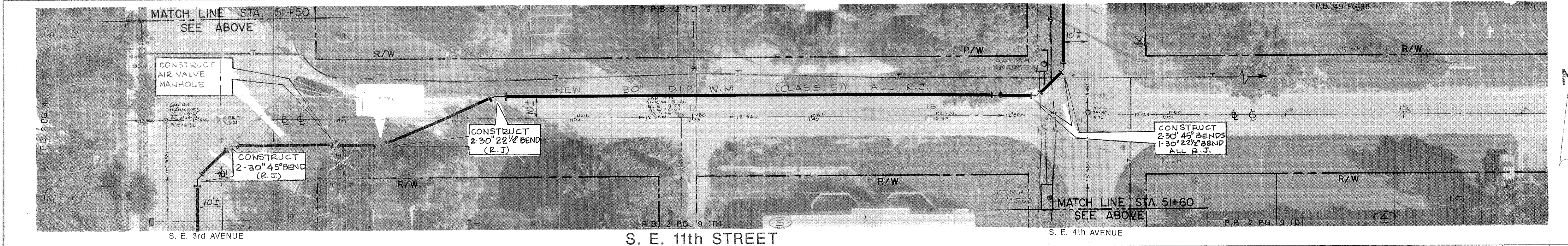
BOLWORTH Aerial Surveys, Inc.
Photogrammetry for the Professionals

CITY OF FORT LAUDERDALE ENGINEERING DEPARTMENT				Field No. 11
Date: MAY, 1991	Drawn: A.L.F.	Field Book	Description	Print File
Checked: H.B.	Scale: HORIZ. 1"=50'	VERT. 1"=2'	P-8833A, 30" WATER MAIN ALONG S.E. 3rd. AVE.	Sheet Number 8 of 11
DESIGNED BY H. BOUTROS				Tracing File
FROM PONCIANA TANK TO TARPON RIVER				FILE # 4-115-25

DATE	
BY	
REVISIONS	
PLANNED	
ALIGNED	
CHECKED	
DATE	
NO.	



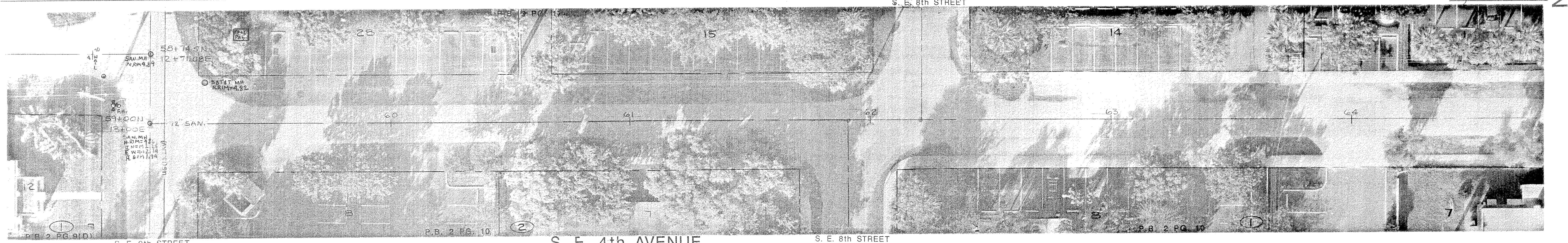
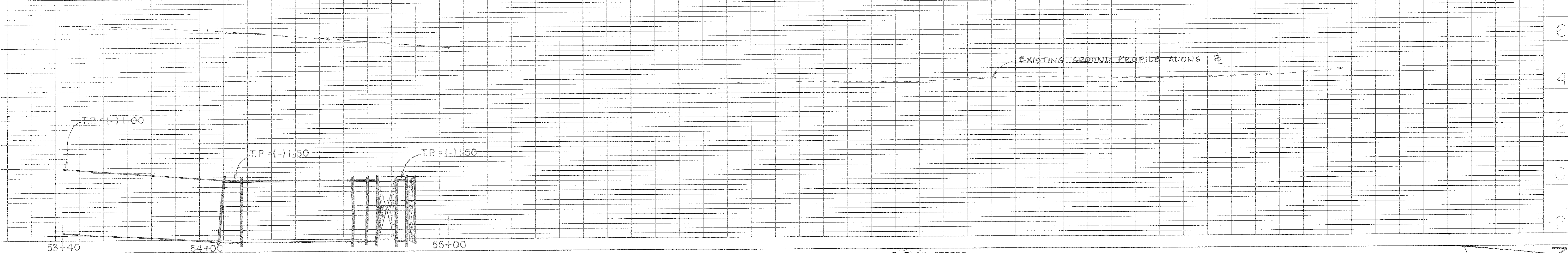
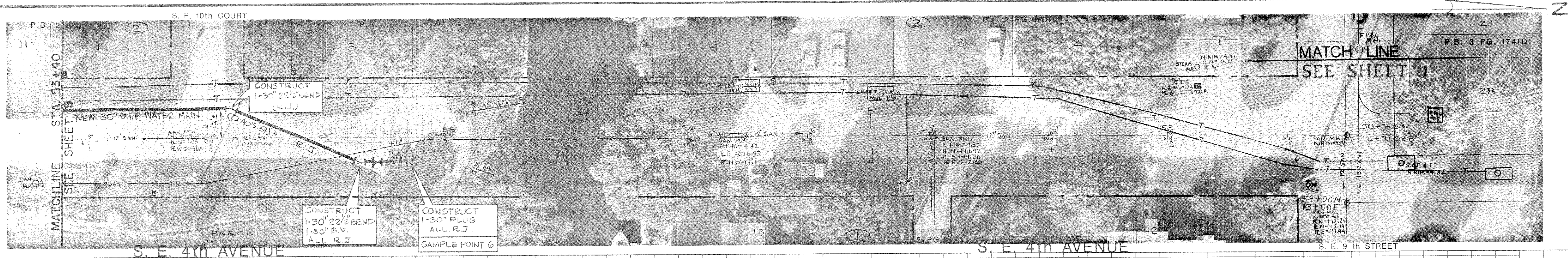
DATE	
BY	
REVISIONS	
PLANNED	
CHECKED	
DATE	
NO.	



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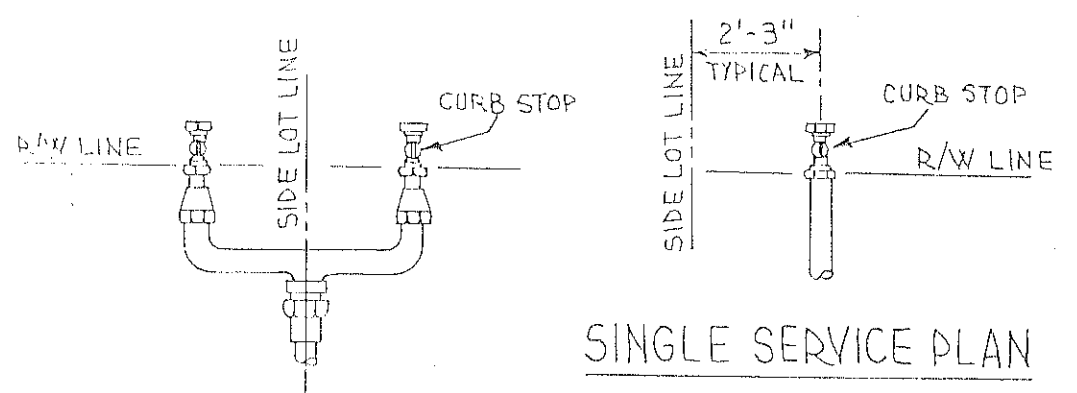
BORWORTH AERIAL SURVEYS, INC.
Photogrammetry for the Professional

CITY OF FORT LAUDERDALE ENGINEERING DEPARTMENT				Total No. of Sheets	11
Date	MAY, 1991	Drawn	H.W./A.E.	Field Book	4-115-25
Checked	H.B.	Scale	HORIZ: 1" = 20'	Description	P-8833A, 30" WATER MAIN ALONG S.E. 3rd. AVE. FROM PONCIANA TANK TO TARPON RIVER
				Print File	
				Tracing File	
				Sheet Number	9 of 11
				FILE #	4-115-25

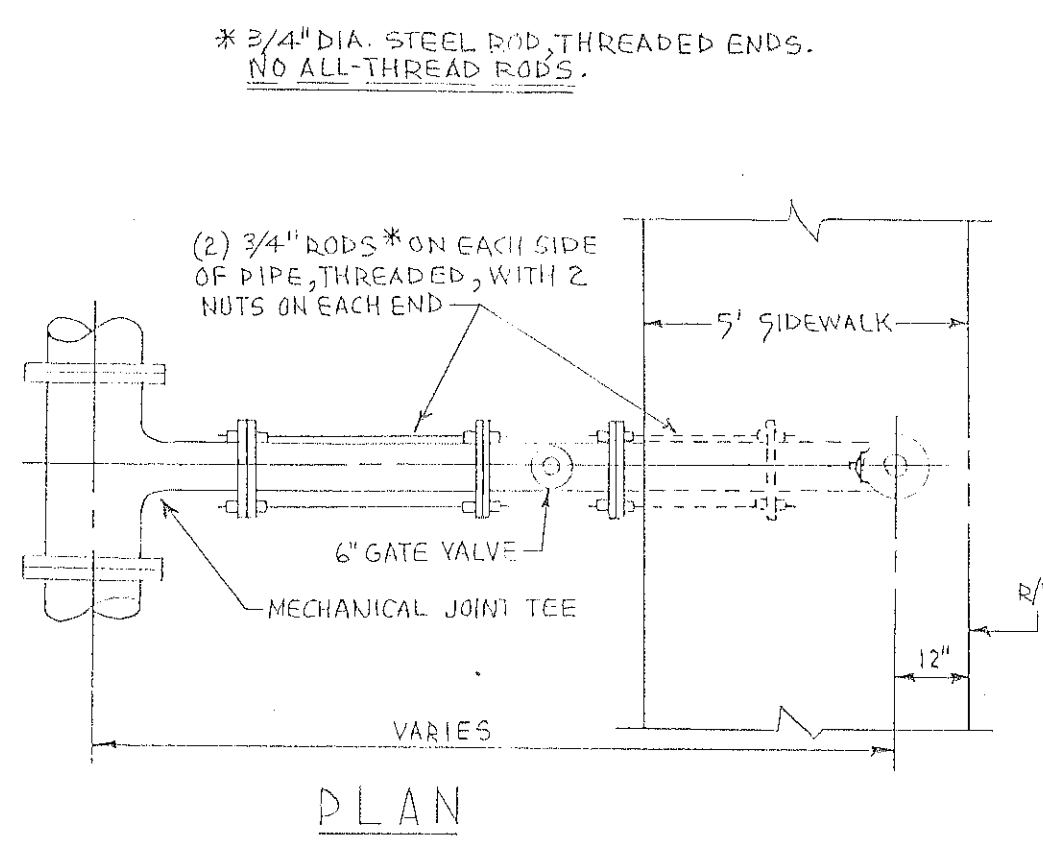


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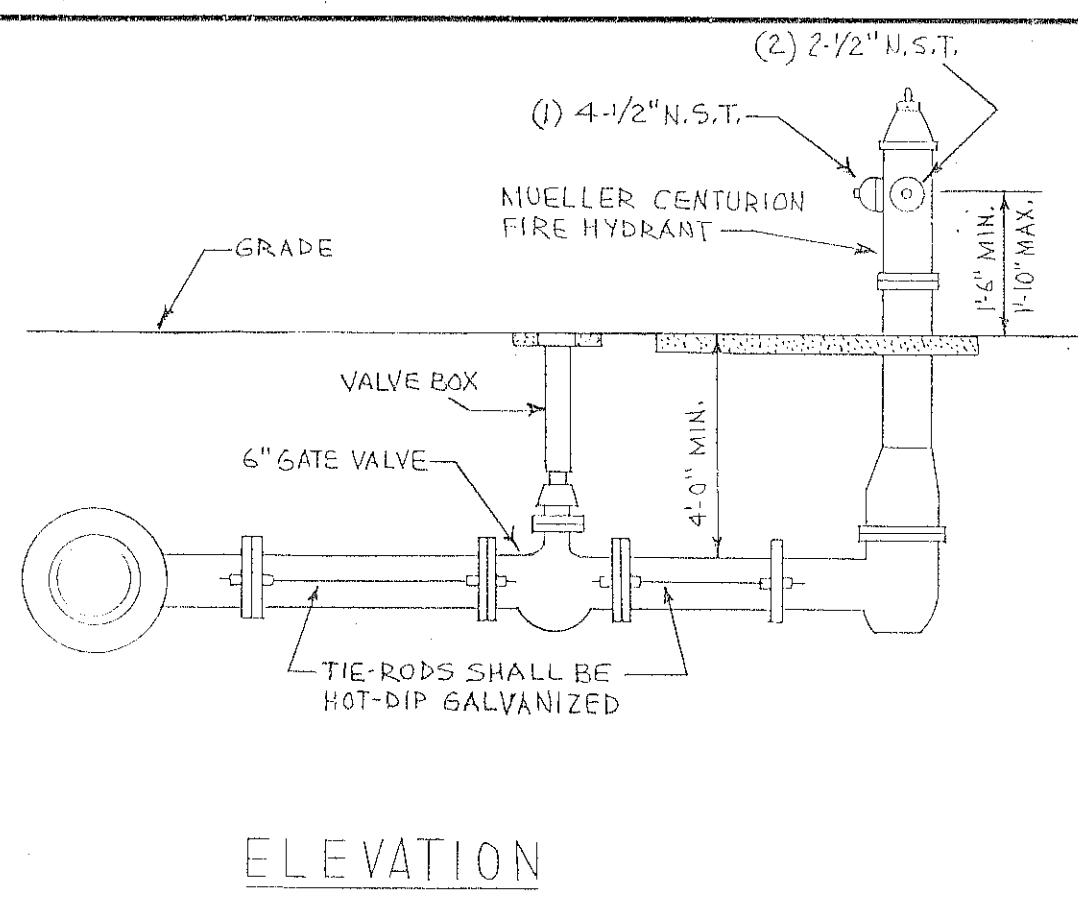
CITY OF FORT LAUDERDALE ENGINEERING DEPARTMENT					Total No. of Sheets
Date	Drawn	Field Book	Description	Print File	Sheet Number
MAY, 1991	H.W./A.L.F.		P-8833 30" WATER MAIN ALONG S.E. 3rd. AVE. FROM PONCIANA TANK TO TARPON RIVER		10 of 11
	Checked H.B.	Scale HORIZ. 1"=20' VERT. 1"=2'		Tracing File	
DESIGNED BY H. BOUROS				FILE # 4-115-25	



SINGLE SERVICE PLAN



FIRE HYDRANT DETAIL

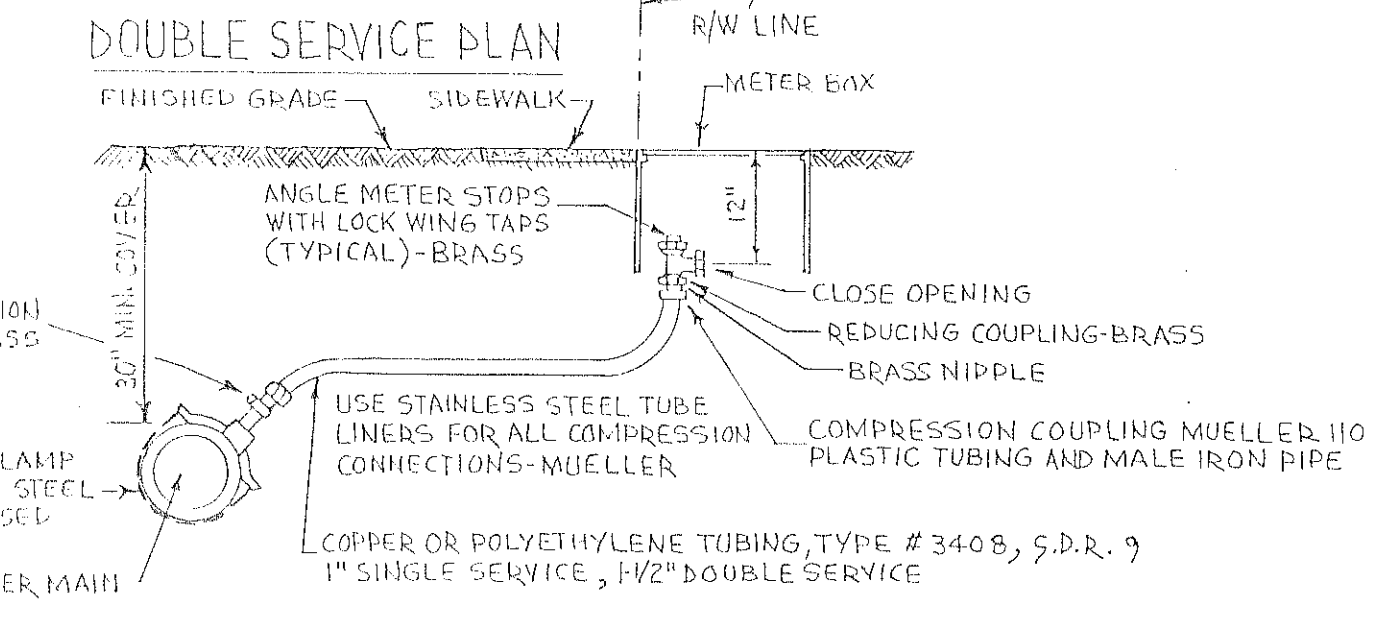


ELEVATION

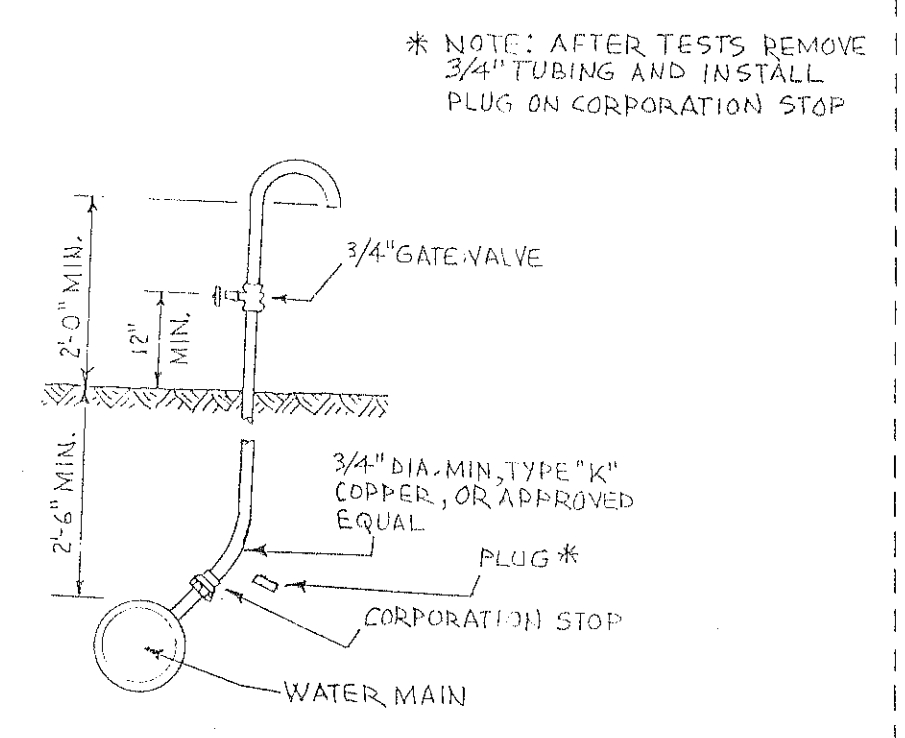
RESTRAINED PIPE

SIZE	DISTANCE IN FEET		
	A & B	C	D
4"	18	18	54
6"	18	18	72
8"	18	36	90
10"	18	36	108
12"	18	36	126
14"	18	54	144
16"	18	54	162
18"	18	72	180
20"	18	72	198
24"	18	72	216

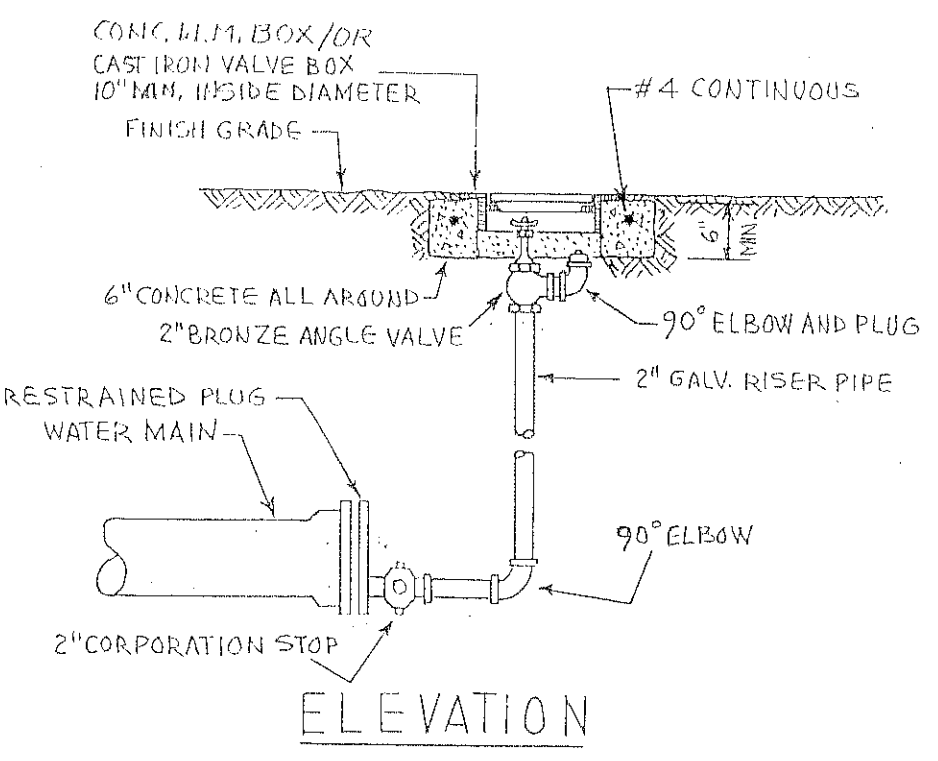
NOTE: FOR PIPE SIZE OVER 24" SEE CITY OF FORT LAUDERDALE'S "CONSTRUCTION STANDARDS AND SPECIFICATIONS", SHEET G 2.3



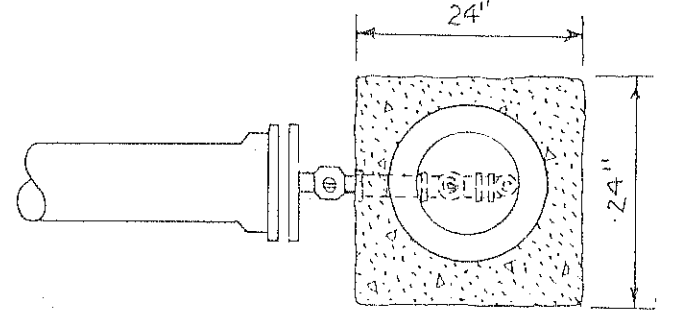
TYPICAL WATER SERVICE



TYPICAL BACTERIOLOGICAL SAMPLING POINT AT INTERMEDIATE POINTS



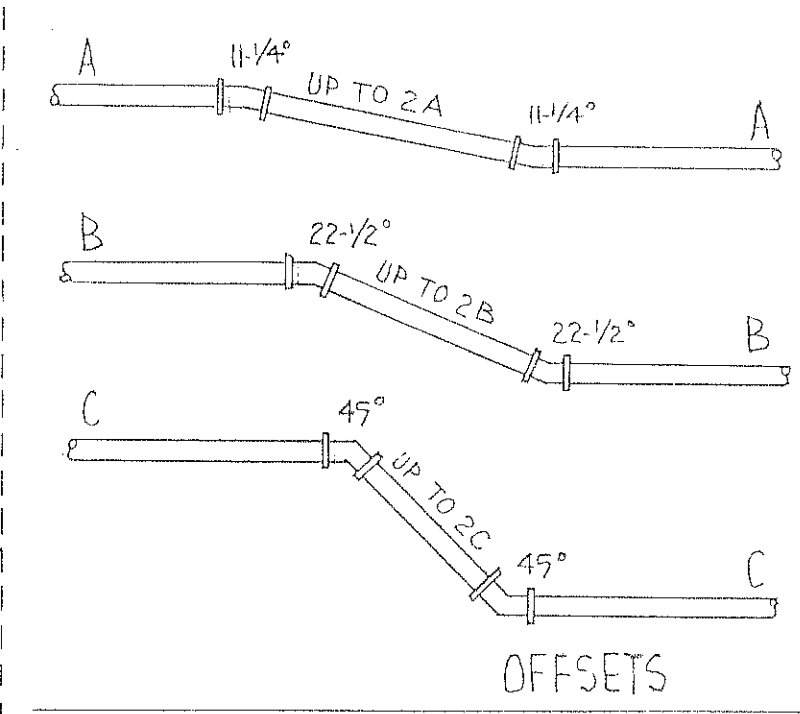
ELEVATION



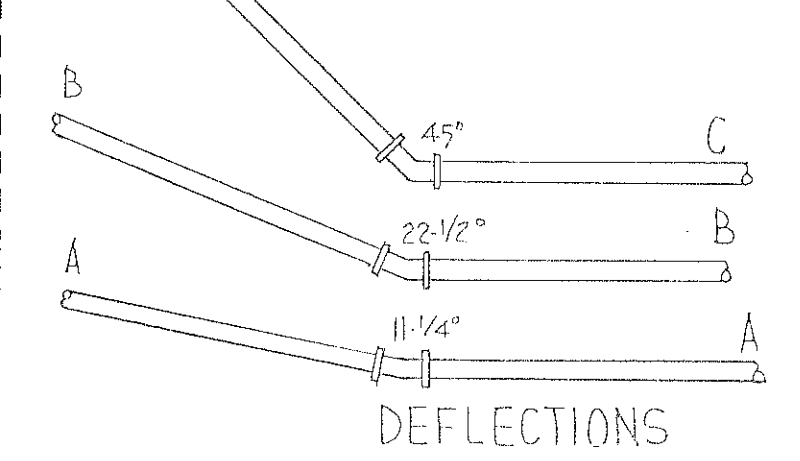
PLAN

NOTES: 1. PIPE JOINT COMPOUND SHALL BE APPLIED TO MALE THREADS ONLY. 2. COAT ALL EXPOSED THREADS WITH BITUMASTIC BEFORE BACKFILLING. 3. 2\"/>

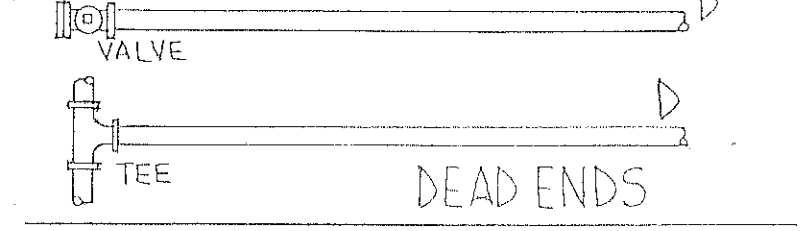
2" TERMINAL BLOW OFF



OFFSETS



DEFLECTIONS



DEAD ENDS

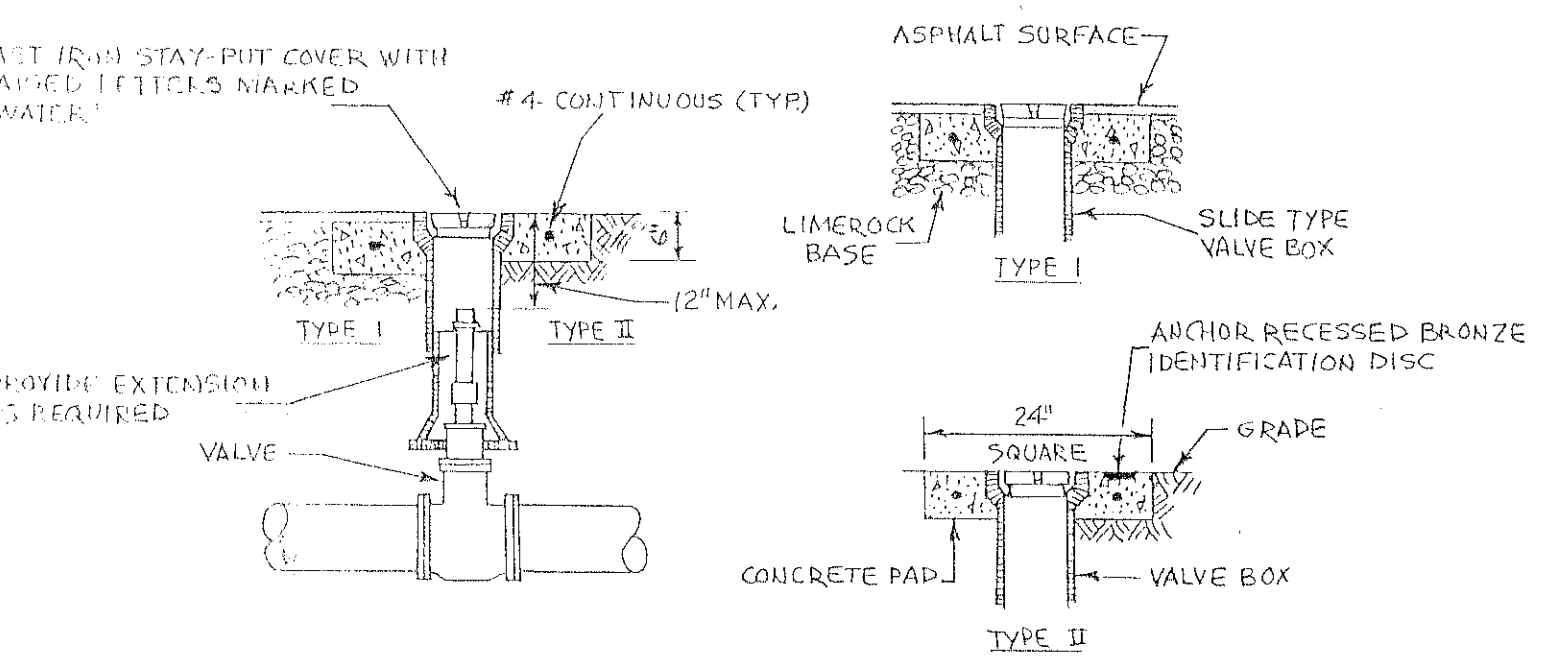
RESTRAINED PIPE

WATER SYSTEMS NOTES

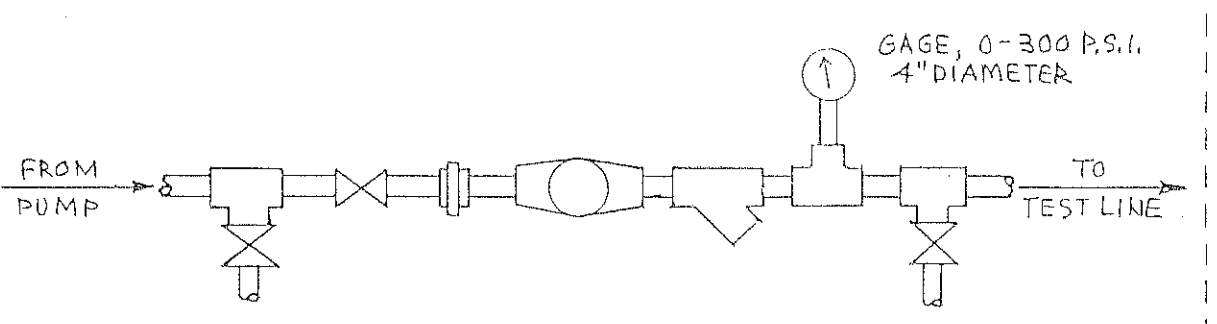
- SPECIFICATIONS FOR THIS PROJECT SHALL BE THE CITY OF FORT LAUDERDALE'S "CONSTRUCTION STANDARDS AND SPECIFICATIONS, JANUARY, 1982," INCLUDING ANY REVISIONS THEREOF.
- ALL WATER MAIN PIPE SHALL BE DUCTILE IRON CONFORMING TO THE REQUIREMENTS OF A.W.W.A. C-151/A 21.51-86 AND LINED AND COATED PER A.W.W.A. C-104/A 21.4-85. 4" D.I.P., CLASS 53; 6" AND 8" D.I.P., CLASS 52; 10"-52", CLASS 51.
- FITTINGS SHALL BE CAST IRON OR DUCTILE IRON MEETING A.W.W.A. C-110/A 21.10-87. FITTINGS MUST BE CEMENT LINED AND SEAL COATED PER C-104/A 21.4-85.
- RESTRAINED JOINT PIPE SHALL BE USED FOR ALL BENDS, TEES, CROSSES, PLUGS, AND FIRE HYDRANTS. NO THRUST BLOCKS SHALL BE USED. USE OF RODS FOR RESTRAINED JOINTS SHALL BE APPROVED BY THE CITY ENGINEER. NO ALL-THREAD RODS WILL BE PERMITTED.
- ALL VALVES SHALL BE FURNISHED WITH EXTENSION TYPE CAST IRON VALVE BOXES OF PROPER LENGTH FOR PIPE DEPTH. ALL BOXES SHALL CONFORM WITH A.W.W.A. SPECIFICATIONS WITH A SHAFT OF NOT LESS THAN 5 INCHES AND HAVE THE WORD "WATER" CAST IN THE COVER. BASE OF VALVE BOX SHALL HAVE FLARED SECTION TO FIT OVER STUFFING BOX OF VALVE.
- GATE VALVES 4" AND LARGER SHALL MEET A.W.W.A. C-500-86 (LATEST REVISION) SPECIFICATION. VALVES SHALL BE MUELLER CO. OR APPROVED EQUAL.
- FIRE HYDRANTS SHALL BE BREAKAWAY MUELLER CO. CENTURION MODEL #A-423
- FIRE HYDRANTS SHALL BE INSTALLED WITH THE CENTER OF THE NOZZLE 18" ABOVE FINISHED GRADE.
- WATER SERVICE PIPING SHALL BE POLYETHYLENE (PE 340) WATER SERVICE TUBING CONFORMING TO A.S.T.M. D-2737; S.D.R. 9, 200 P.S.I., TO MATCH COPPER TUBING SIZE.
- ALL METER SERVICE CONNECTIONS SHALL BE BRONZE FROM PLUG VALVE. NO GATE VALVES ARE TO BE USED (2" OR LESS).
- ALL TRENCHING, PIPE-LAYING, BACKFILL, PRESSURE TESTING AND DISINFECTING MUST COMPLY WITH ABOVE REFERENCED REQUIREMENTS.
- THE CITY OF FORT LAUDERDALE UTILITIES DEPARTMENT WILL TAKE ALL BACTERIOLOGICAL TESTS (TELEPHONE 492-7805) UNLESS DIRECTED TO USE A PRIVATE LAB.
- ALL CONNECTIONS TO EXISTING MAINS SHALL BE MADE UNDER THE DIRECTION OF THE CITY OF FORT LAUDERDALE UTILITIES DEPARTMENT.
- ALL PIPE, ETC., SHALL BE TESTED UNDER A CONSTANT PRESSURE OF 150 P.S.I. FOR A MINIMUM TEST PERIOD OF 6 HOURS AND SHALL NOT EXCEED THE LEAKAGE REQUIREMENTS AS PER A.W.W.A. SPECIFICATIONS OF C-600-87 LEAKAGE FORMULA $Q = \frac{S \cdot D \cdot P}{135,200}$
- THE MINIMUM DEPTH OF COVER OVER WATER MAINS IS 30" EXCEPT WHERE SHOWN DIFFERENTLY ON PLANS.
- DISINFECTING OF MAINS SHALL COMPLY WITH A.W.W.A. C-651-86 STANDARD BACTERIOLOGICAL SAMPLING POINTS SHALL BE DESIGNATED ON THE ENGINEERING PLANS. MINIMUM ONE SAMPLING POINT EACH END. MAXIMUM SPACE BETWEEN SAMPLING POINTS IS 1500 FEET.
- DEAD END WATER MAINS 6" AND LARGER SHALL TERMINATE WITH A FIRE HYDRANT.
- DEAD END WATER MAINS 4" AND SMALLER SHALL TERMINATE WITH A 2" BLOW OFF.
- THERE SHALL BE NO CONNECTION TO AN EXISTING WATER MAIN UNTIL PRESSURE AND BACTERIOLOGICAL TESTS HAVE BEEN RUN AND THE SYSTEM ACCEPTED BY THE CITY OF FORT LAUDERDALE.
- ALL SERVICE LINES SHALL BE COPPER TUBING, TYPE "K", OR PLASTICIZED POLYETHYLENE 3408, A.S.T.M. D-2737, S.D.R. 9, 200 P.S.I.

P.E.R. WATER-SEWER CLEARANCE NOTE

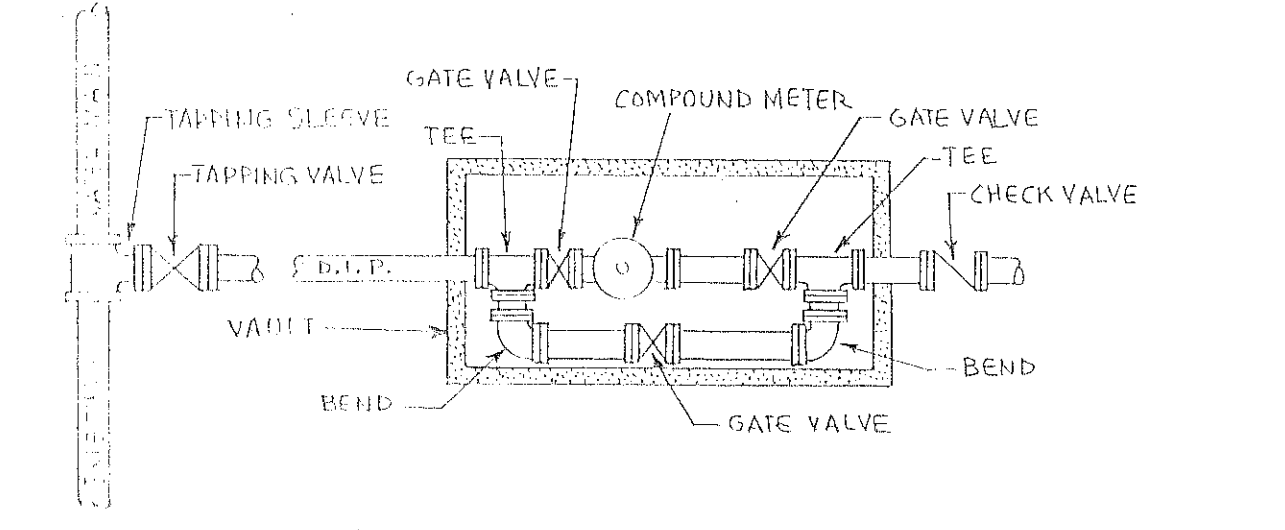
- SEWER PIPING SHALL BE LAID AT LEAST 10 FEET HORIZONTALLY FROM ANY EXISTING OR PROPOSED WATER MAINS.
- A VERTICAL DISTANCE OF AT LEAST 18" SHOULD BE MAINTAINED WHEN A SEWER PIPE CROSSES UNDER A WATER MAIN. IF THIS IS NOT POSSIBLE, THEN THE SEWER PIPE MUST BE ENCASED IN CONCRETE WITH A MINIMUM THICKNESS OF 4" FOR A DISTANCE OF 20 FEET CENTERING ON THE POINT OF CROSSING, OR THE SEWER PIPING MUST BE OF WATER MAIN QUALITY WITH 20 FOOT LENGTHS OF PIPE CENTERING ON THE POINT OF CROSSING.
- IF A CROSSING WHERE THE SEWER IS LAID ABOVE A WATER LINE IS UNAVOIDABLE, THEN THE ABOVE MENTIONED PRECAUTIONS SHALL BE OBSERVED REGARDLESS OF THE DISTANCE OF VERTICAL SEPARATION BETWEEN WATER MAINS AND SEWER PIPING.



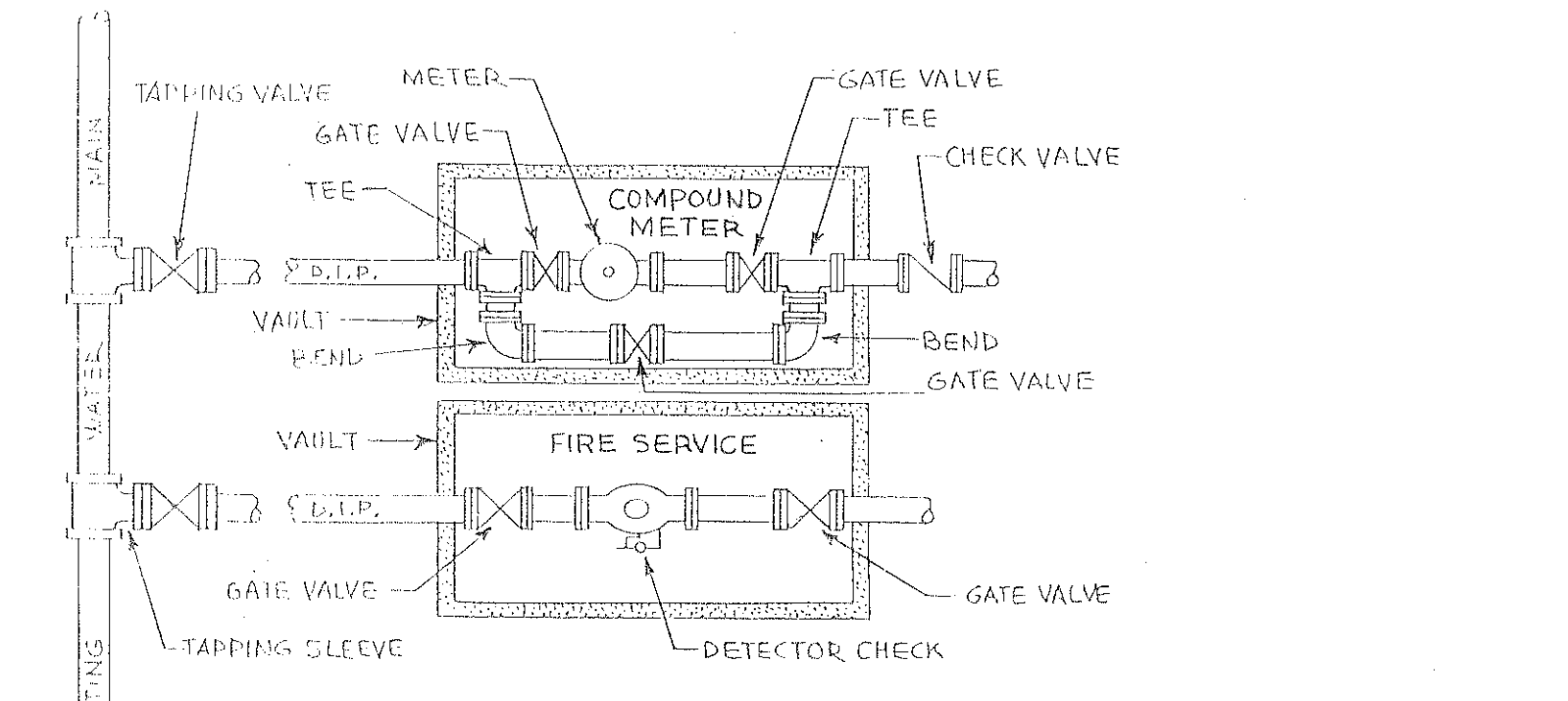
VALVE BOX DETAIL



PRESSURE TEST



TYPICAL COMPOUND METER INSTALLATION

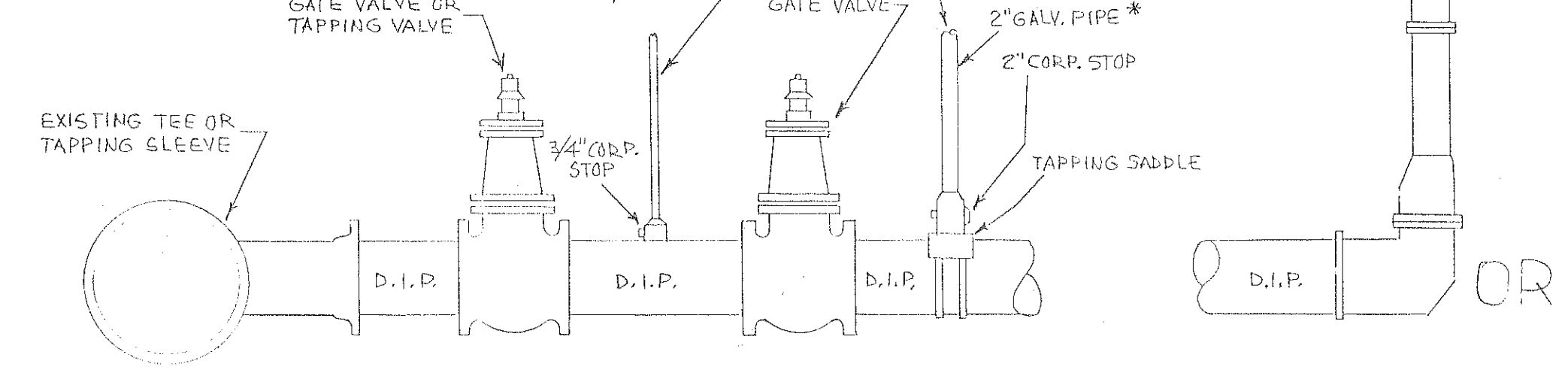


FIRE SERVICE AND COMPOUND METER INSTALLATION

FILLING SCHEDULE

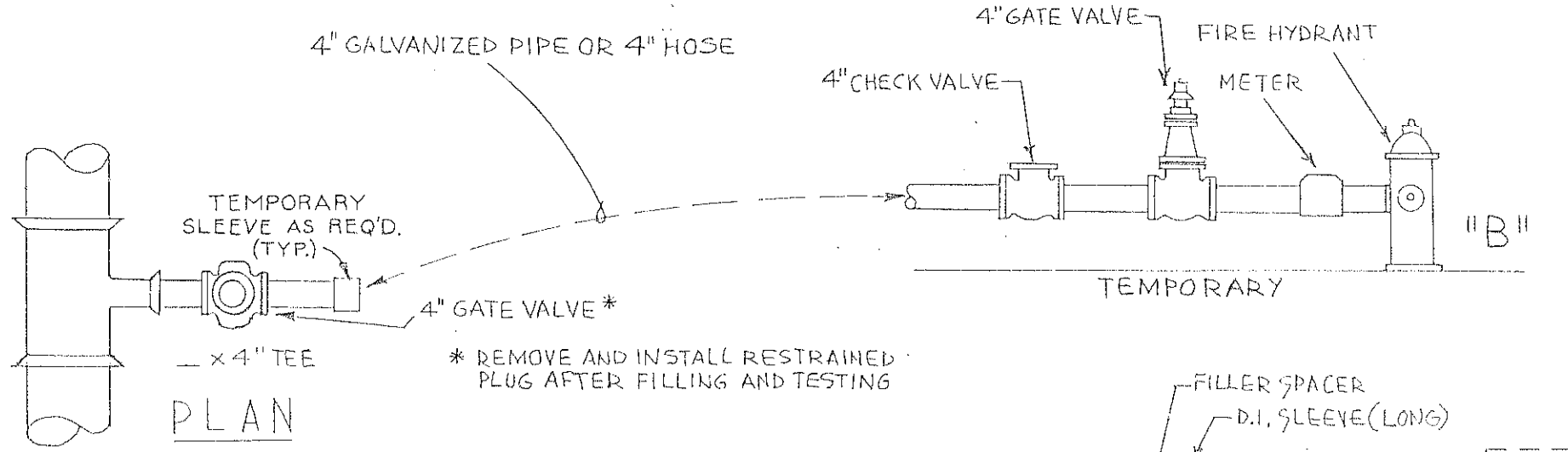
"A"	6 INCH	MAX. 4800'
	8 INCH	MAX. 2700'
	10 INCH	MAX. 1750'
	12 INCH	MAX. 1200'

"B" OVER 12 INCH OR LENGTHS GREATER THAN SHOWN FOR SCHEDULE "A"



FILLING CONNECTION

* NOTE: AFTER TESTS REMOVE 3/4" TUBING AND 2" GALVANIZED PIPE. INSTALL PLUGS ON CORPORATION STOPS.



FLUSHING CONNECTION

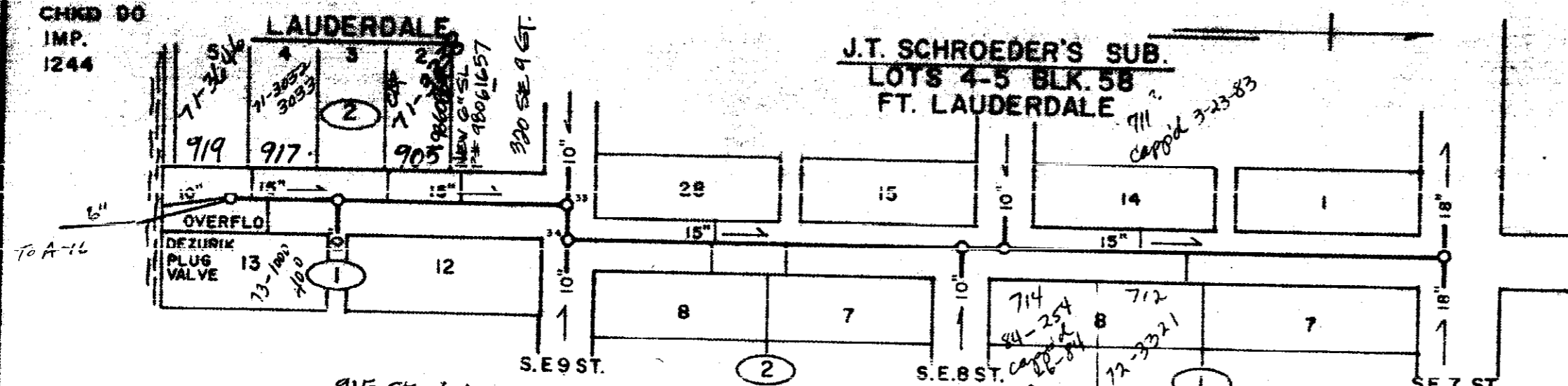
CITY OF FORT LAUDERDALE, FLORIDA
P-8833 30" WATER MAIN ALONG S.E. 3RD AVENUE FROM PONCIANA TANK TO TARPON RIVER

NO.	DATE	BY	CHK.	REMARKS
4	5/11/90	M.V.	A.J.B.	REVISE NOTES 9 AND 20.
3	1/19/90	M.V.	B.S.	REVISE FLUSHING CONNECTION
2	9/29/89	M.V.	D.S.	STANDARD DATE REVISIONS
1	8/17/87	M.V.	D.S./CK	GENERAL REVISIONS

DESIGNED BY D. STOCKTON | FILE NO. CAM 22-0083 Exhibit 1 | 25

F. E. 656
 DRWN 08
 CHKD 00
 IMP.
 1244

AREA-AII, SHEET-5
 BOOK NO - A4

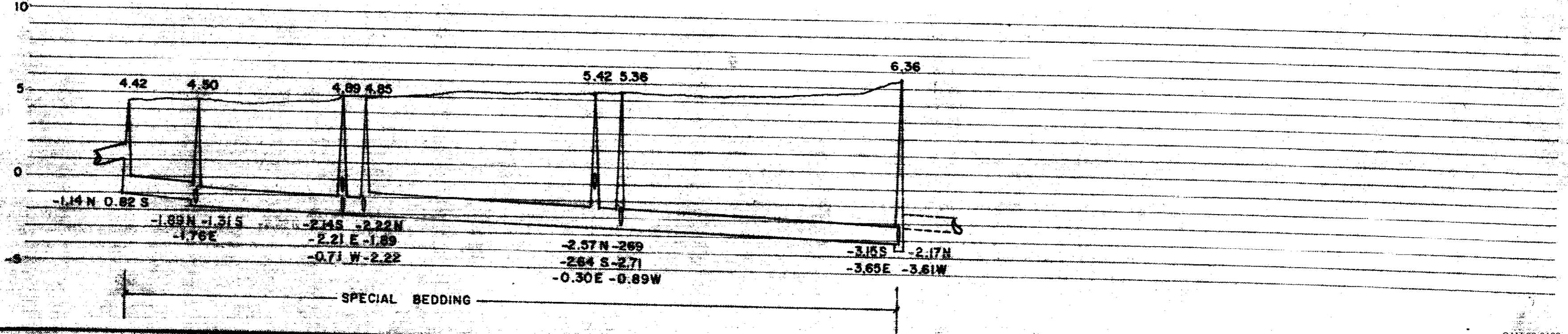


915 SE 4 AVE
 CAP 9060902

S.E. 4TH AVE.
 HOAG'S SUBDIVISION
 LOTS 2-3 BLOCK 58

ITEMS	STATIONS
M H	0+77 R 0+63 L 0+55 L
M H	0+00 0+72 1+33 R 0+82 R
M H	0+00 0+28 0+00 2+90
M H	1+83 L 1+81 R 1+30 L
M H	0+00 0+30 0+00 3+20
M H	2+20 R 1+88 L
M H	0+00

MH NO'S 37 32 33 34 35 36 'C'



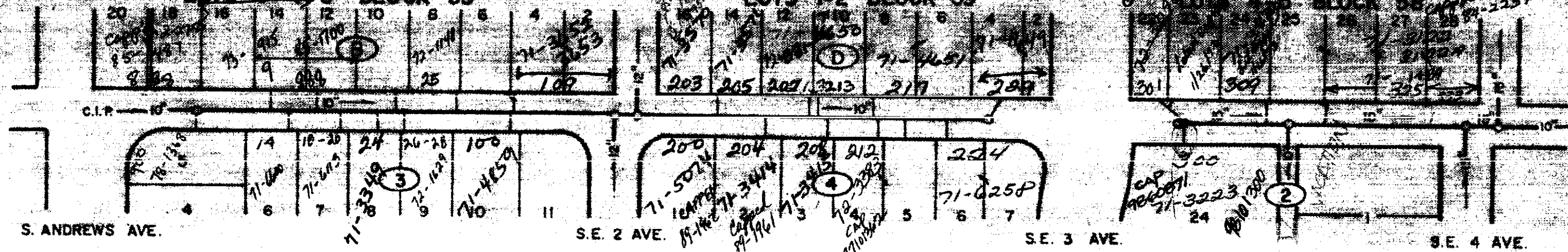
F.S. 857
 DRAWN DD
 CHECK JC
 MP 1244

FT. LAUDERDALE LAND & DEV. CO.
 LOTS 3-4-5 BLOCK 59

BRYAN'S SUBDIVISION
 LOTS 1-2 BLOCK 59

SCHROEDER'S SUBDIVISION
 LOTS 1-2-3-4-5 BLOCK 58

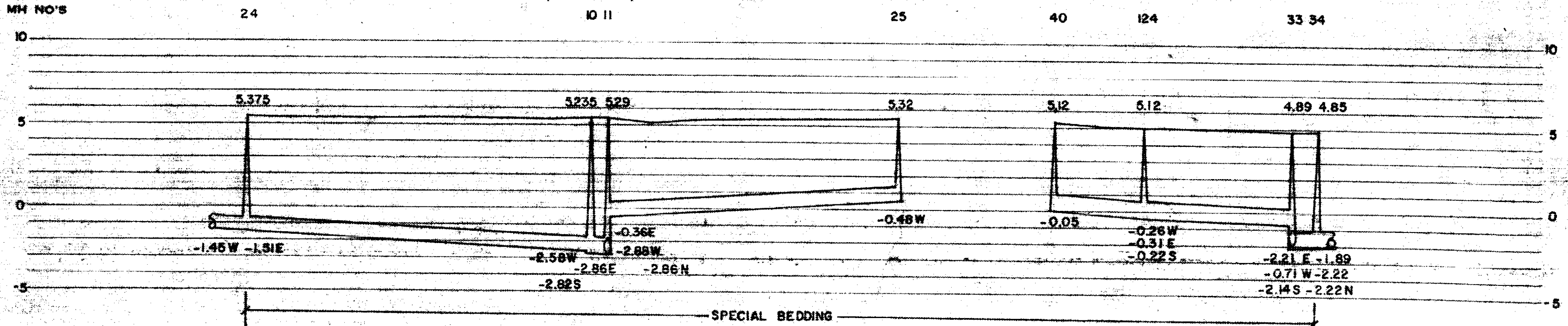
AREA-AII, SHEET-7
 BOOK NO-44



S.E. 9TH ST
 TARPON RIVER PARK

LAUDERDALE

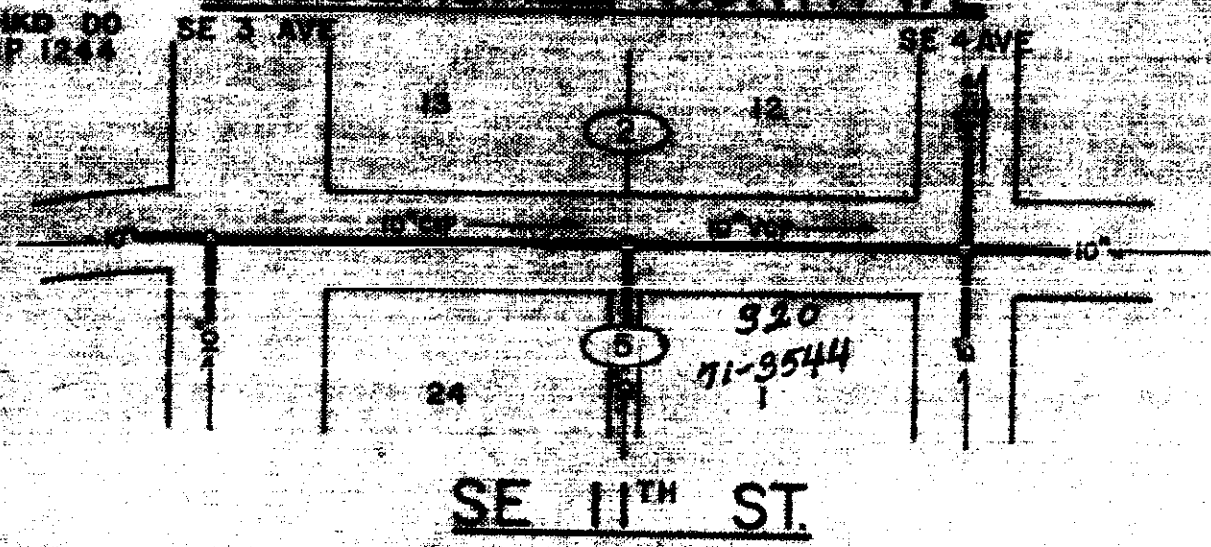
ITEMS	STATIONS
MH	4+05 4+02L
	3+30R 3+11L
	2+86R 2+61L
	2+25R 2+04L
	1+52R
	1+04R 1+00L 0+98R
MH	0+00
MH	0+22
	0+00
	0+76L
	1+23R
	1+64L 1+72L 1+81R
	2+26L 2+30R 2+56R
	2+94R
MH	3+35 3+45L
MH	1+02R 1+02L 0+99L
MH	0+17R 0+00 1+73 1+44R 1+39R
MH	0+00
MH	0+29



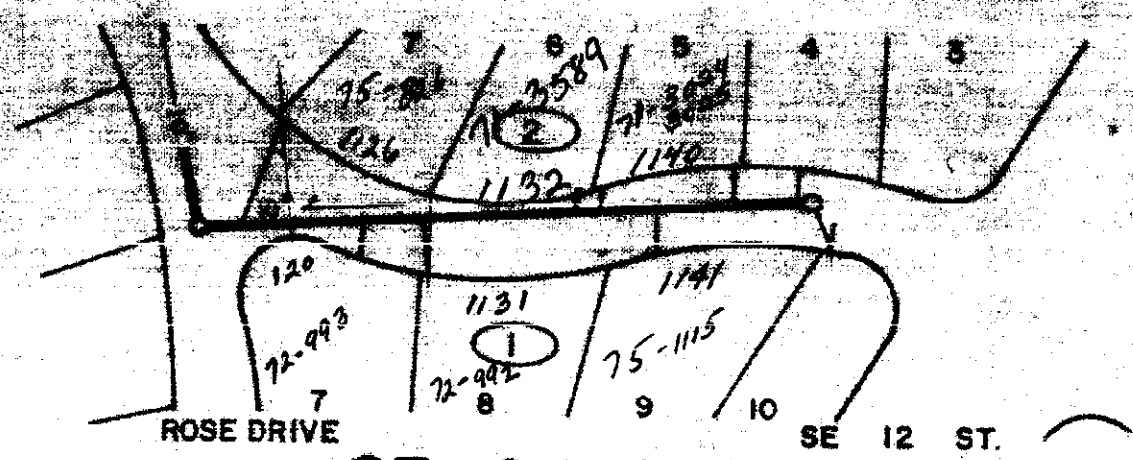
P.S. 556
DRWN JC
CHKD DO
IMP 1244

LAUDERDALE NORTH 1/2

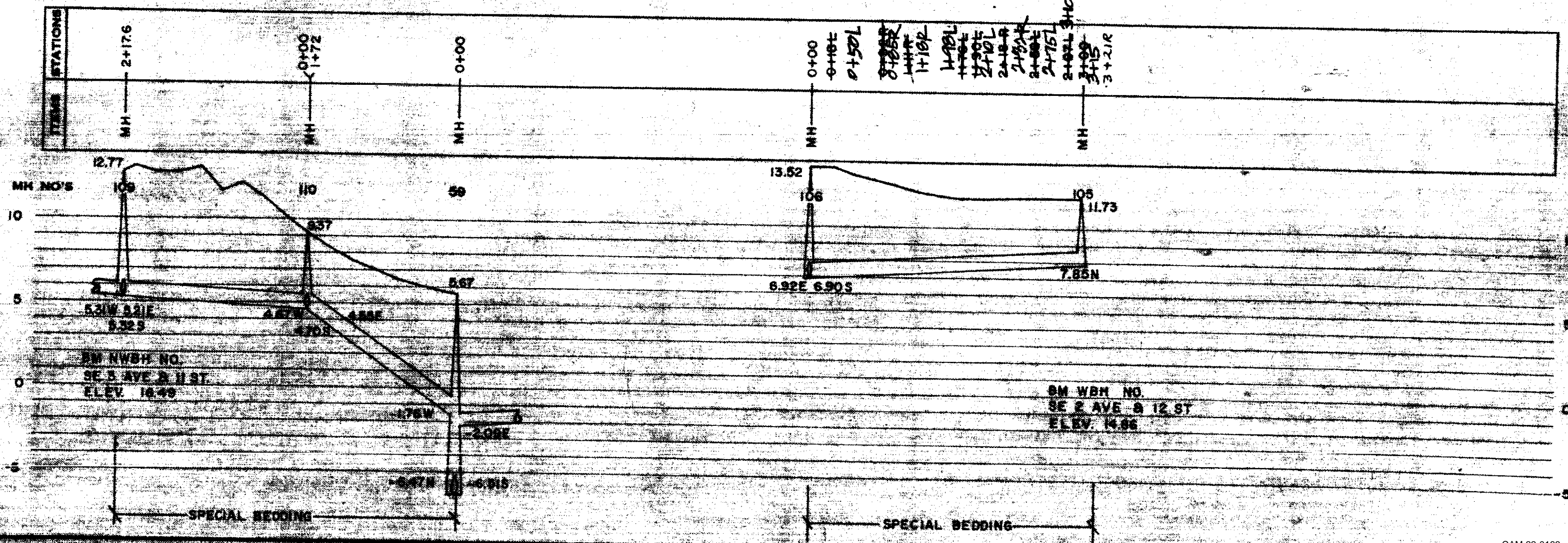
AREA-A16, SHEET 34
BOOK N°-A5



CROISSANT PARK

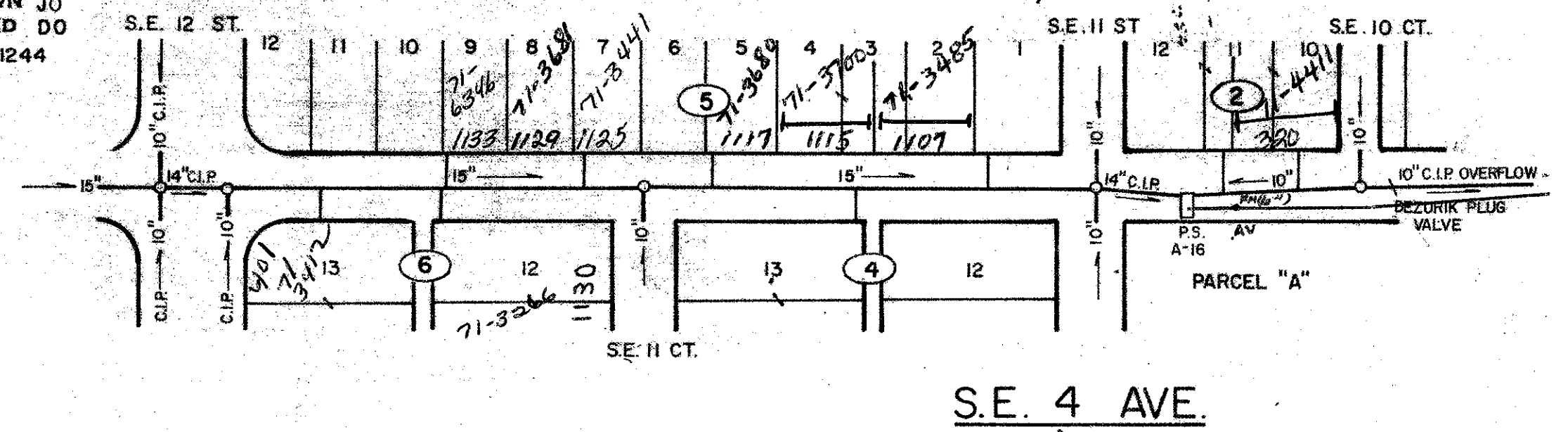


PLACIDENA FIRST UNIT



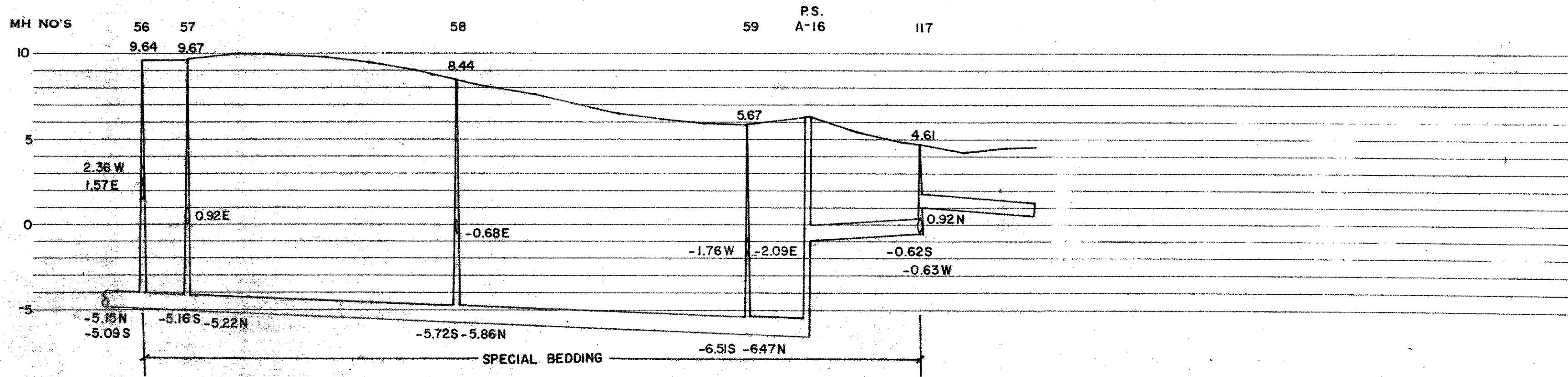
F.B. 856
 DRWN JO
 CHKD DO
 IMP. 1244

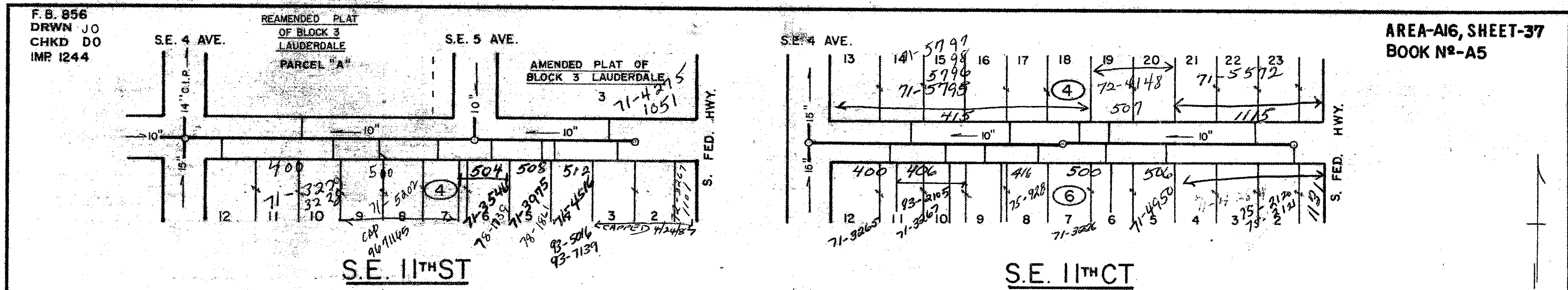
AREA-A16, SHEET-36
 BOOK N^o-A5



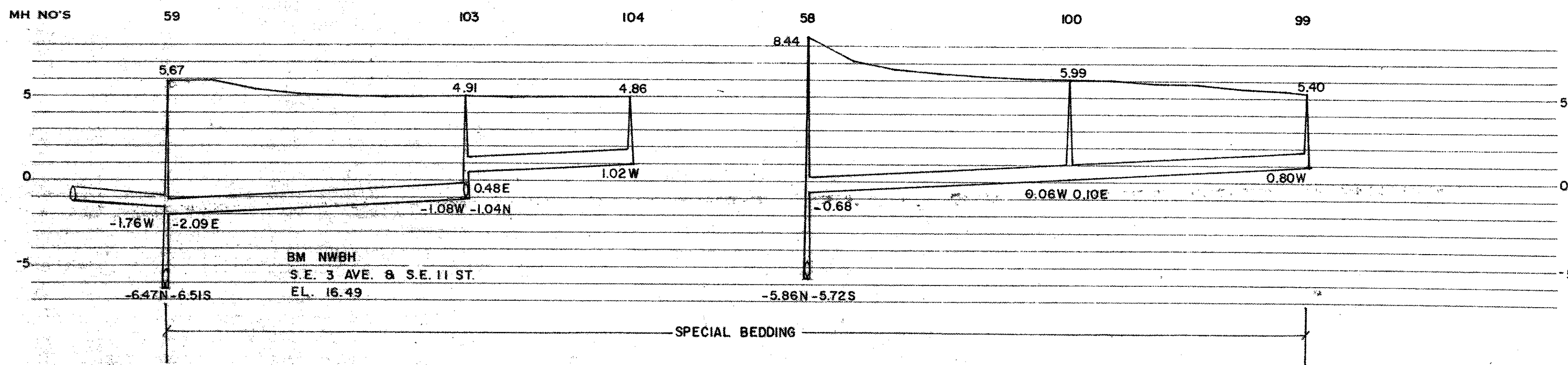
LAUDERDALE
 LAUDERDALE BLK. 3
 RE-AMENDED

ITEMS	STATIONS
M H	0 + 50
M H	0 + 00 0 + 10 0 + 30
	2 + 40L
	1 + 51L 1 + 47R
	0 + 46R
M H	0 + 00 0 + 35 2 + 84R
	1 + 78L
	0 + 80R
M H	0 + 00 0 + 65
	0 + 00 0 + 24L
	0 + 81L
M H	1 + 64





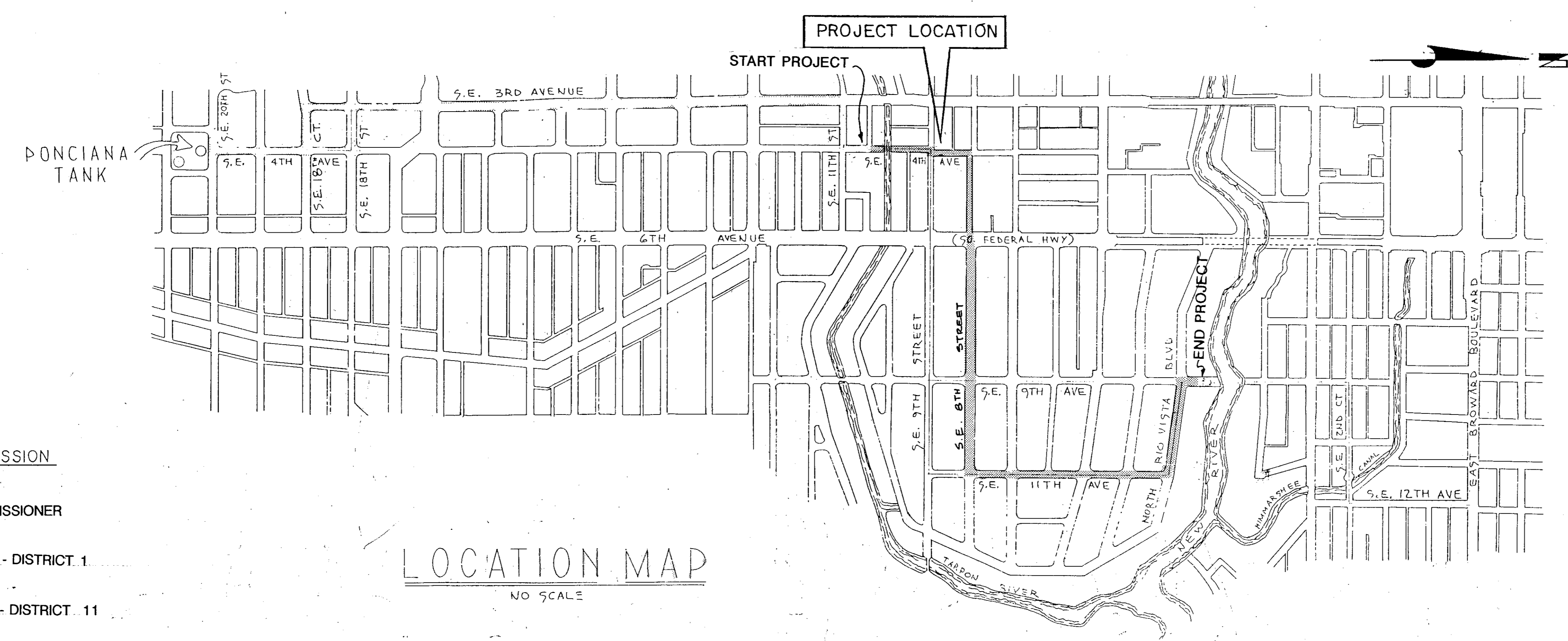
ITEMS	STATIONS
MH	0+00
	0+45R
	1+40L
	1+77R
	2+27R
	2+34R
	3+03R
MH	3+45
	0+00
	0+24R
	0+79R
	0+96R
MH	1+58L
	1+69R
	1+88
MH	0+00
	0+94R
	1+19L
	1+59R
	2+07R
	2+35L
	2+72R
MH	3+00
	0+20L
	0+49R
	0+55L
	1+23R
MH	2+29L
	2+74R
	2+75



CITY OF FORT LAUDERDALE

PROJECT NO. 8833-B

30" WATER MAIN FROM TARPON RIVER TO NEW RIVER



LOCATION MAP
NO SCALE

FORT LAUDERDALE CITY COMMISSION

JIM NAUGLE MAYOR - COMMISSIONER

JOHN AURELIUS COMMISSIONER - DISTRICT 1

CARY KENO COMMISSIONER - DISTRICT 11

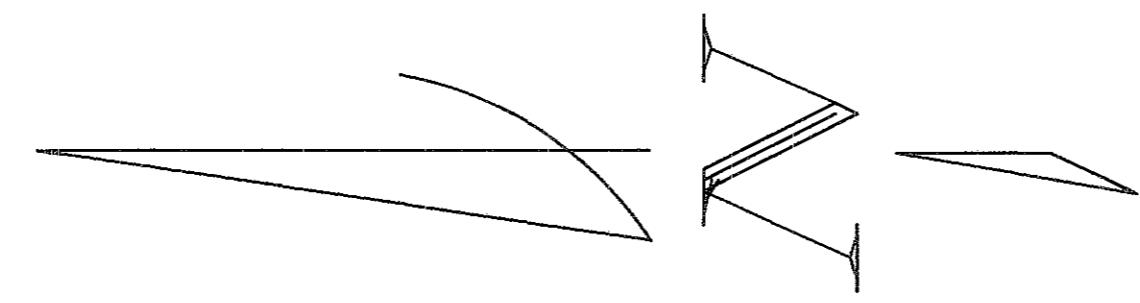
CARLTON MOORE VICE MAYOR - COMMISSIONER - DISTRICT 111

JACK LATONA COMMISSIONER - DISTRICT IV

PREPARED IN THE OFFICE OF
THE CITY ENGINEER
under the direct supervision
of *Hosney Boutros*
HOSNEY BOUTROS P.E.

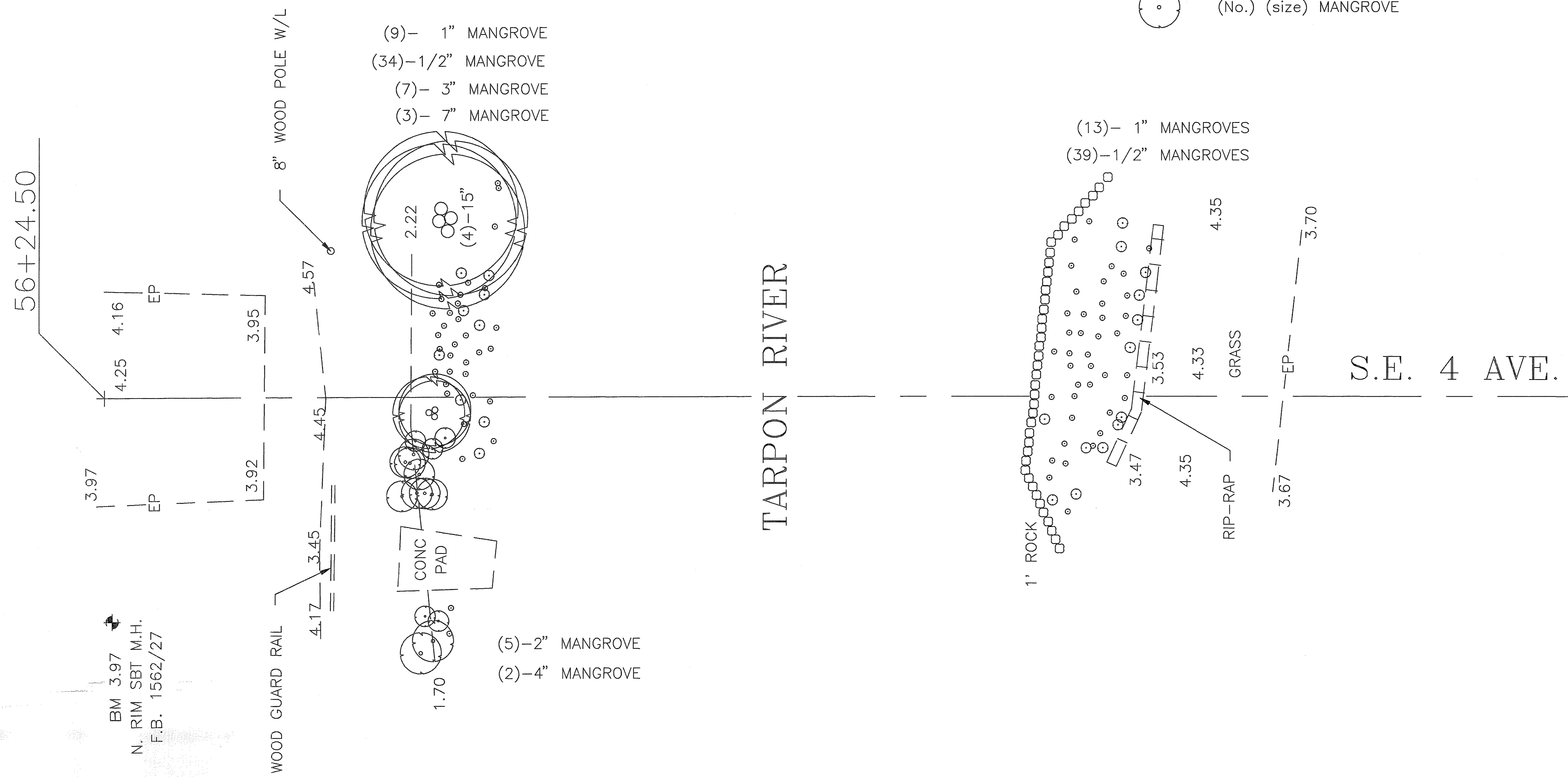
FLA. REG. ENG. NO. 19116

AS BUILT
All Field Information
entered by *MJB* Date *4/30/98*



LEGEND

- ⊙ 1" MANGROVE
- 1/2" MANGROVE
- (No.) (size) MANGROVE



NOTE:
LOCATIONS ARE VALID AS OF 12/21/93

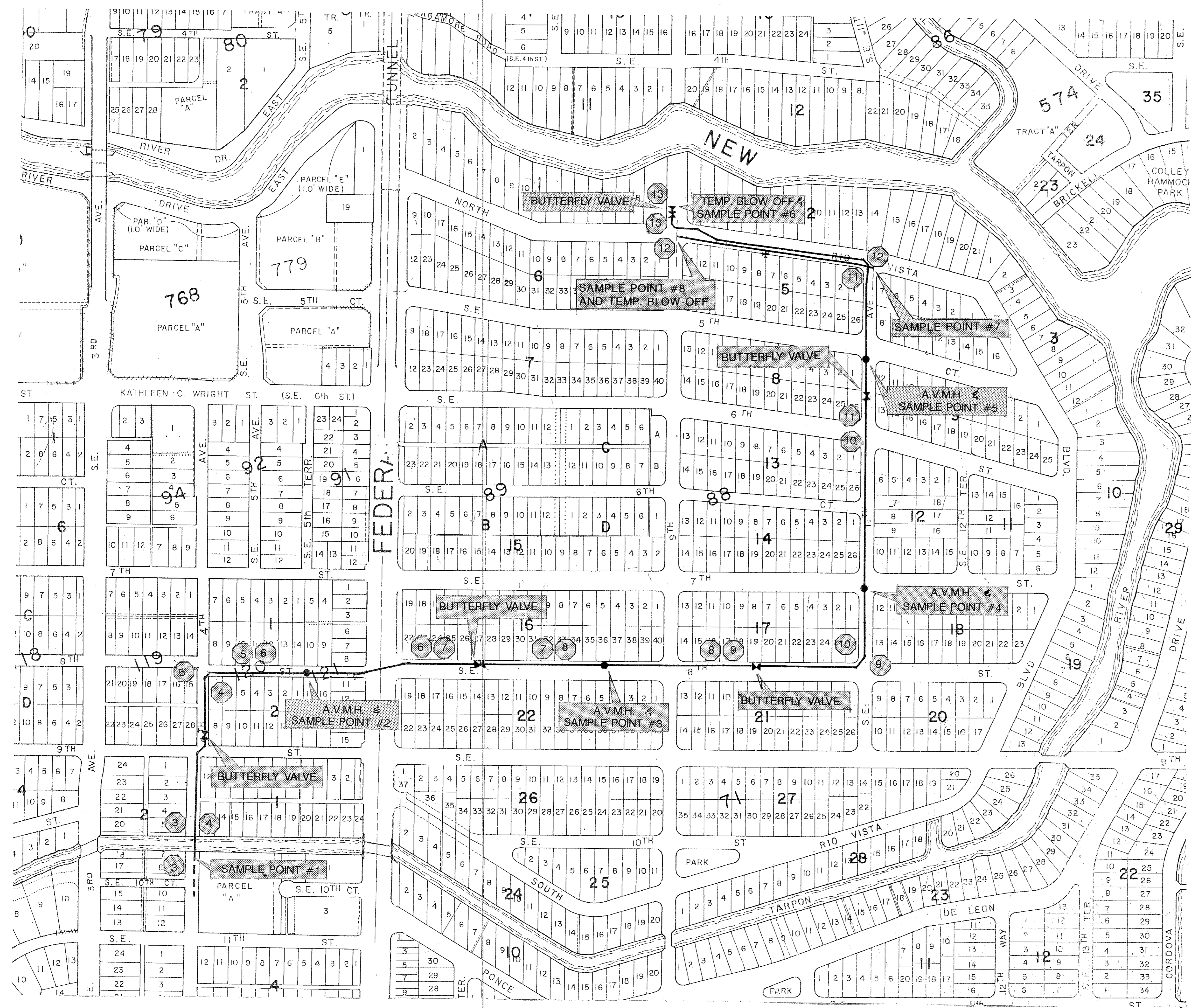
FINAL APPROVAL
FLA. REG. ENG. NO.

SCALE: 1" = 5'	DATE: 12/21/93
DESIGNED BY: N.A.	CHECKED BY: P.R.B.
DRAWN BY: R.C.	FIELD BOOK: 8833B3

CITY OF FORT LAUDERDALE
ENGINEERING DIVISION
 FORT LAUDERDALE, FLORIDA

REVISIONS	
NO.	DESCRIPTION

PROJECT #8833B Mitigation Area along Tarpon river
NO. OF SHEETS: 1
SHEET NO.: 1
CAD FILE NO.
FILE NO. 04-118-48



LEGEND:
 ○ DENOTES SHEET NUMBER

GENERAL LAYOUT
 SCALE: 1" = 200'

AS BUILT
 All Field Information
 entered by *MLH* Date *4/30/73*

CITY OF FORT LAUDERDALE, FLORIDA

P - 8833 B
 30" WATER MAIN FROM TARPON RIVER
 TO NEW RIVER

OFFICE OF
 CITY ENGINEER

DESIGNED BY: H. BOUTROS
 FILE NO. 4-115-76

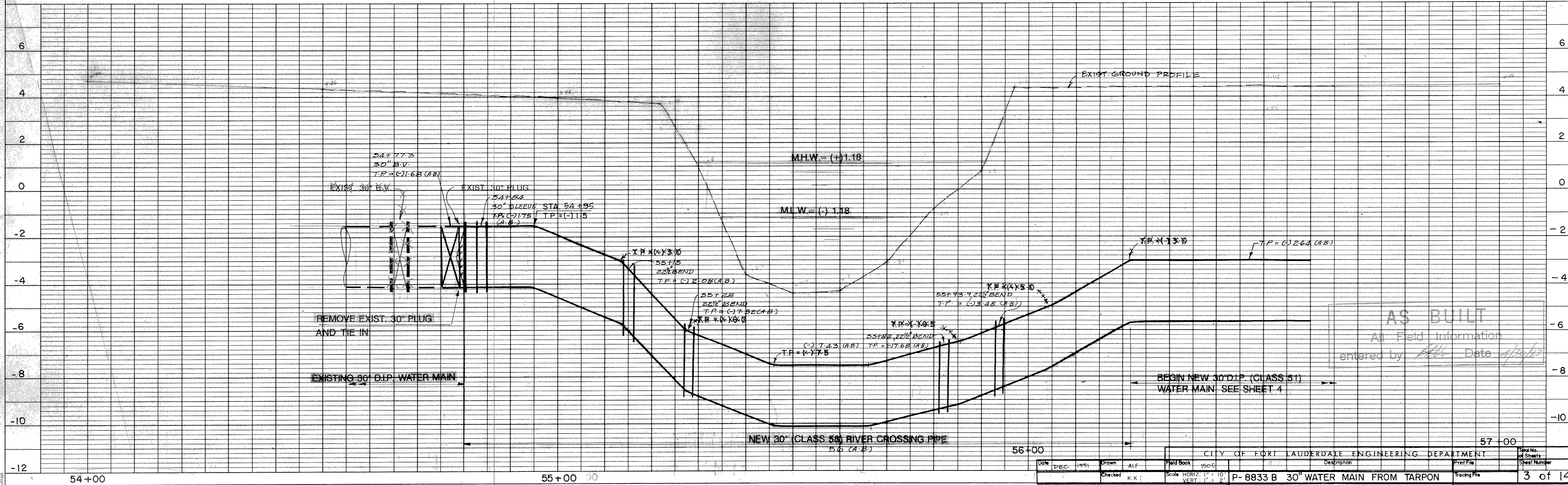
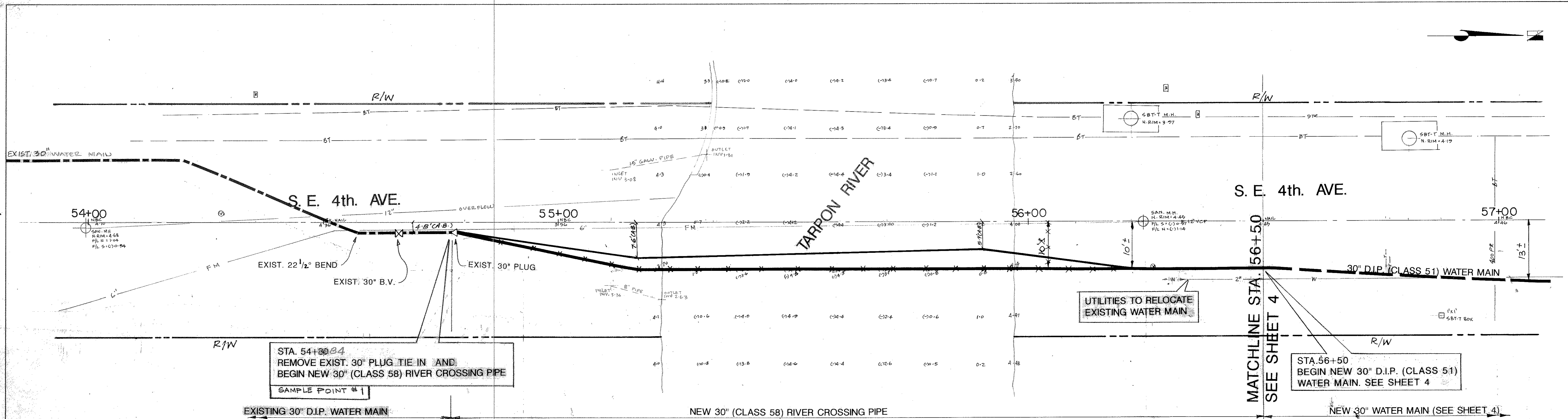
NO.	DATE	BY	CHK.	REMARKS

REVISIONS

DEC. 1971
 DATE
 1" = 200'
 SCALE
 2 OF 14
 SHEETS

PLAN	SURVISED	DATE
	PLOTTED	
	ALIGNMENT CHECKED	
	NO. OF W.P. CHECKED	
	No.	

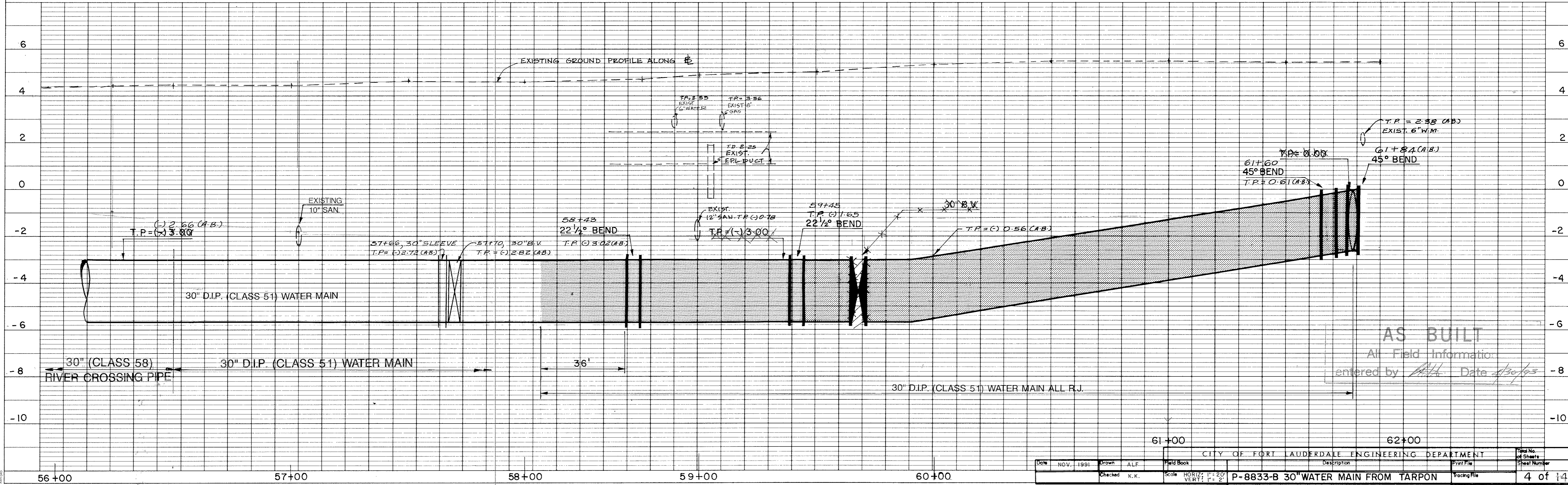
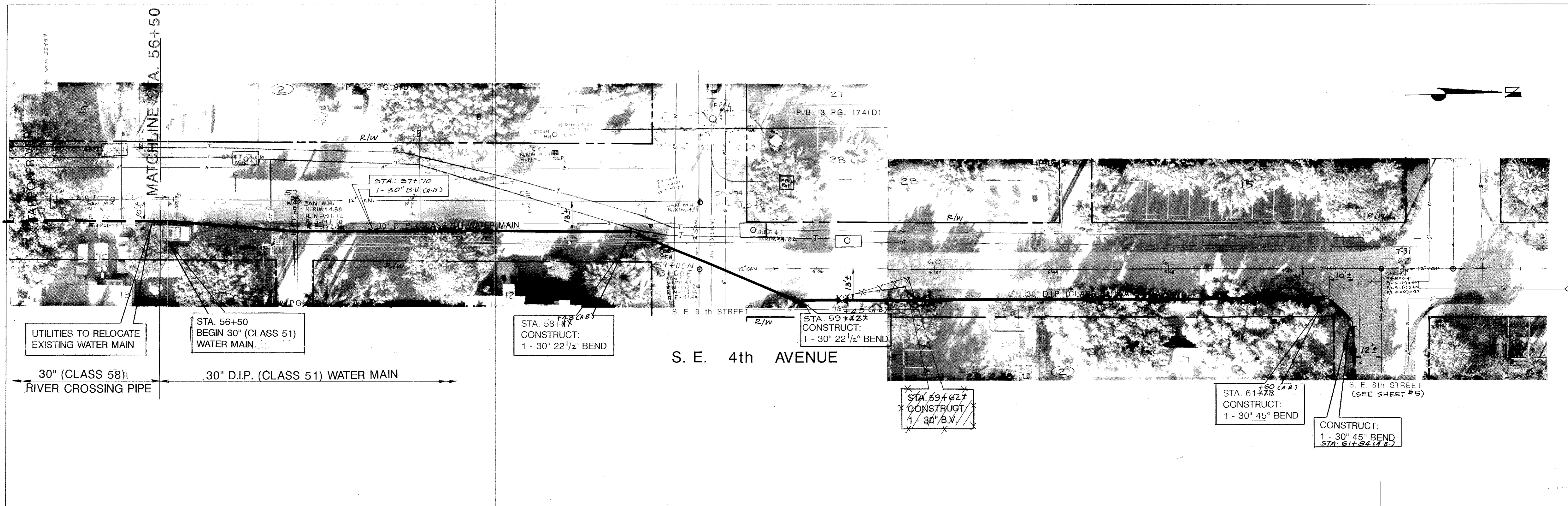
PROFILE	SURVISED	DATE
	PLOTTED	
	GRADES CHECKED	
	STRUCTURE NOTATIONS CHECKED	
	No.	



AS BUILT
 All Field Information
 entered by *[Signature]* Date *4/30/12*

DATE	
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DESIGNED	
CHECKED	
IN CHARGE	
NO.	

DATE	
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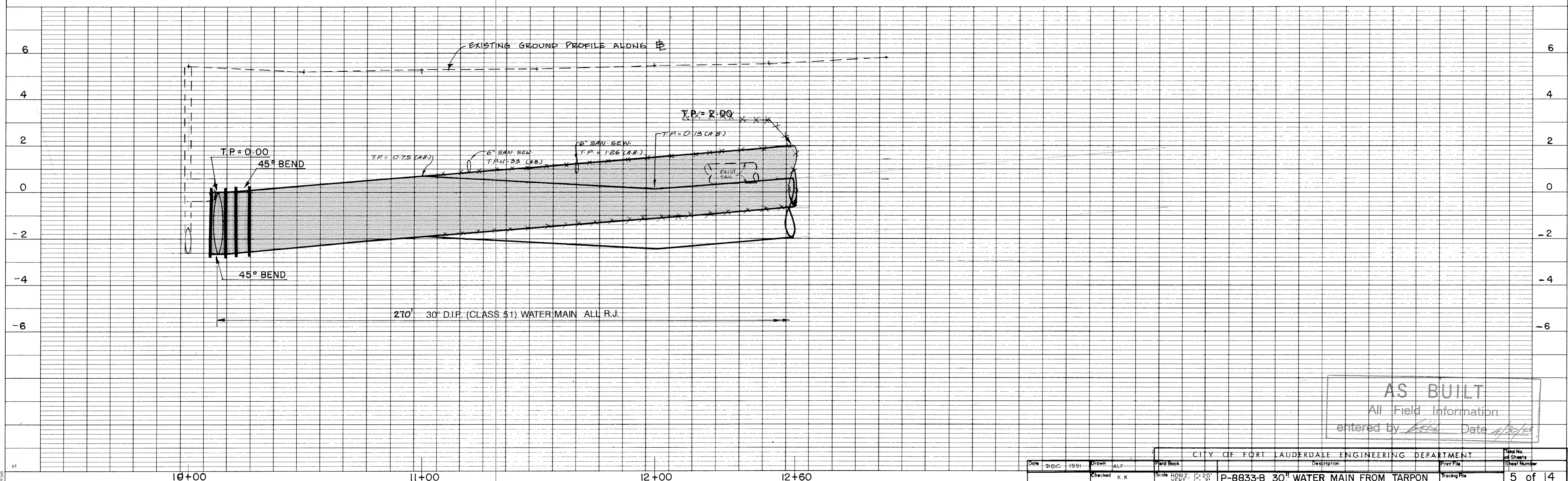
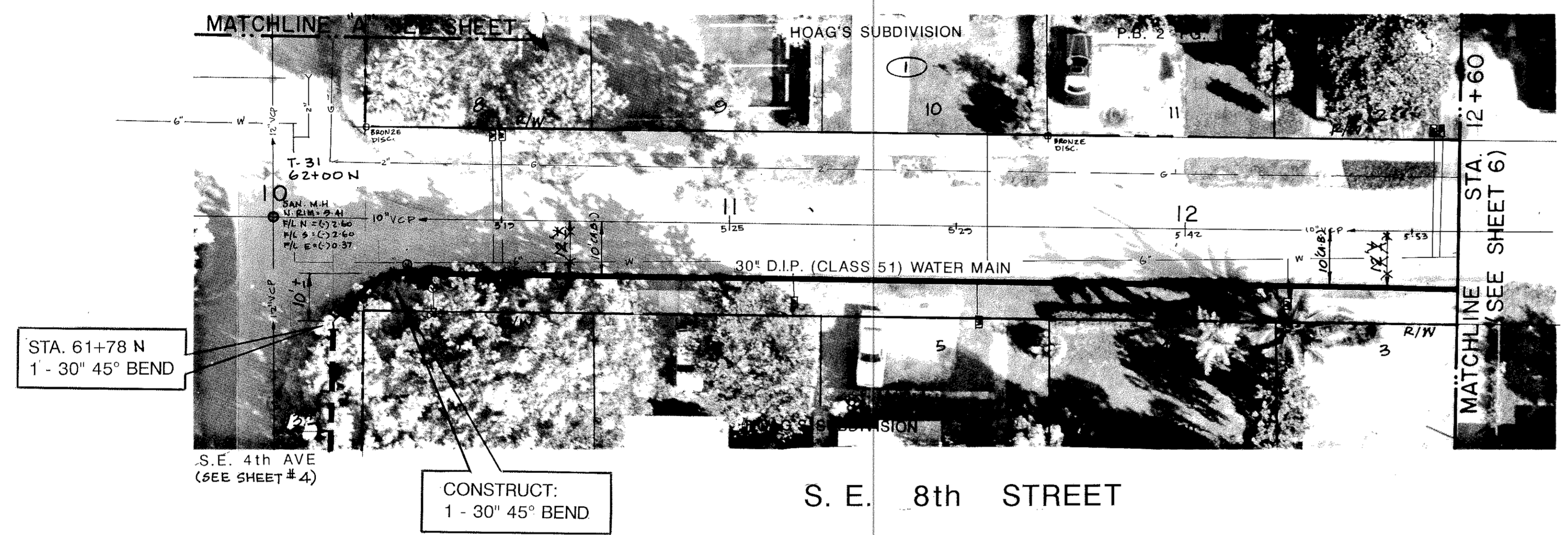
Date	NOV. 1991	Drawn	ALF	Field Book		CITY OF FORT LAUDERDALE ENGINEERING DEPARTMENT	Print File	Field No. of Sheets
Checked	K.K.	Scale	HORIZ: 1"=20'	VERT: 1"=2'				
P-8833-B 30" WATER MAIN FROM TARPON RIVER TO NEW RIVER							Working File	4 of 14
DESIGNED BY: H. BOUTROS							FILE # 4-115-76	

PLATE 1-SINGLE PLAN AND PROFILE-FULL LINE
 HIGHWAY FEDERAL AID SHEET
 TELEPHONE
 PRINTED IN U.S.A.

AS BUILT
 All Field Information
 entered by *AKH* Date *4/30/93*

PLAN
 SURVEYED BY: _____ DATE: _____
 NOTE BOOK NO. _____
 ALIGNMENT CHECKED BY: _____
 RT. OF WAY CHECKED BY: _____

PROFILE
 SURVEYED BY: _____ DATE: _____
 NOTE BOOK NO. _____
 GRADES CHECKED BY: _____
 R. W. S. NOTED BY: _____
 SPECIAL INDICATIONS CHECKED BY: _____

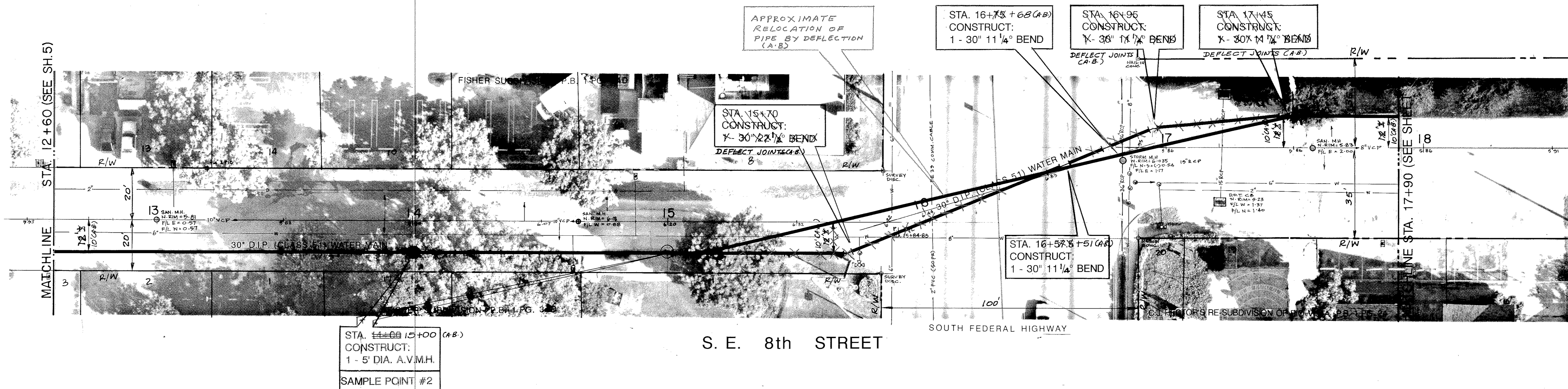


AS BUILT
 All Field Information
 entered by *[Signature]* Date *1/20/92*

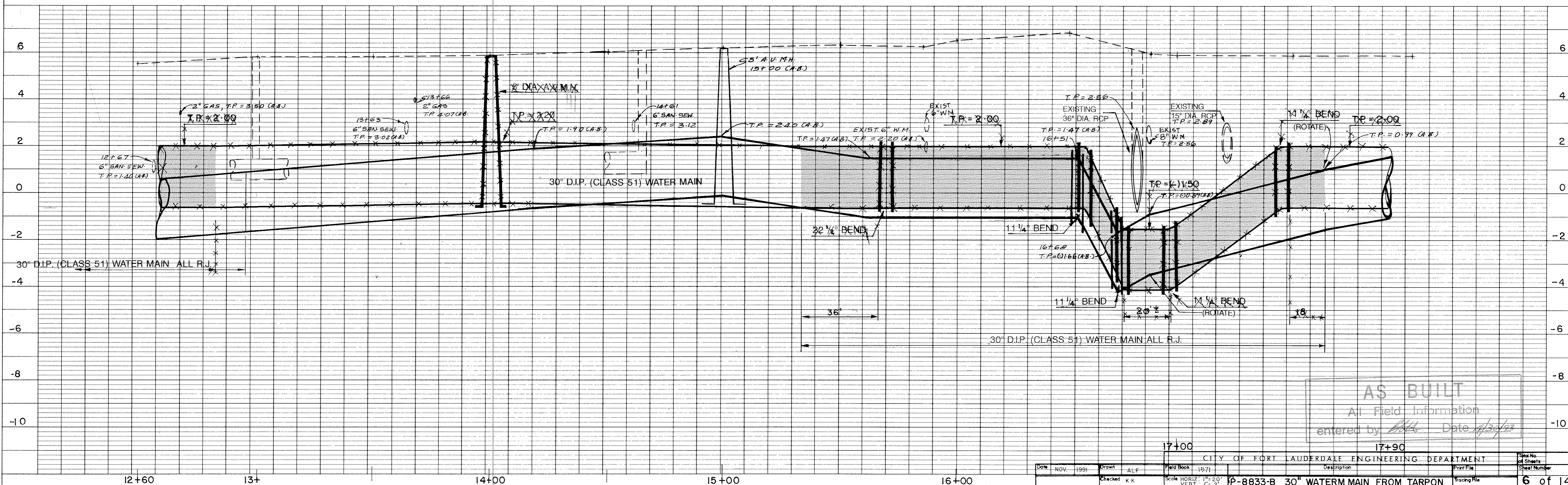
DATE	DEC 1991	DRAWN	ALF	FIELD BOOK	CITY OF FORT LAUDERDALE ENGINEERING DEPARTMENT	TOTAL NO. OF SHEETS	5 of 14
CHECKED	K. K.	SCALE	HORIZ: 1" = 20' VERT: 1" = 2'	DESCRIPTION	P-8833-B 30" WATER MAIN FROM TARPON RIVER TO NEW RIVER	TRACING FILE	FILE # 4-115-76
DESIGNED BY	H. BOUTROS						

HIGHWAY FEDERAL AID SHEET
 PLATE 1-SINGLE PLAN AND PROFILE-FULL LINE
 TELETYPE
 PRINTED IN U.S.A.

DATE	
BY	
REVISIONS	
NO. 1	
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DATE	
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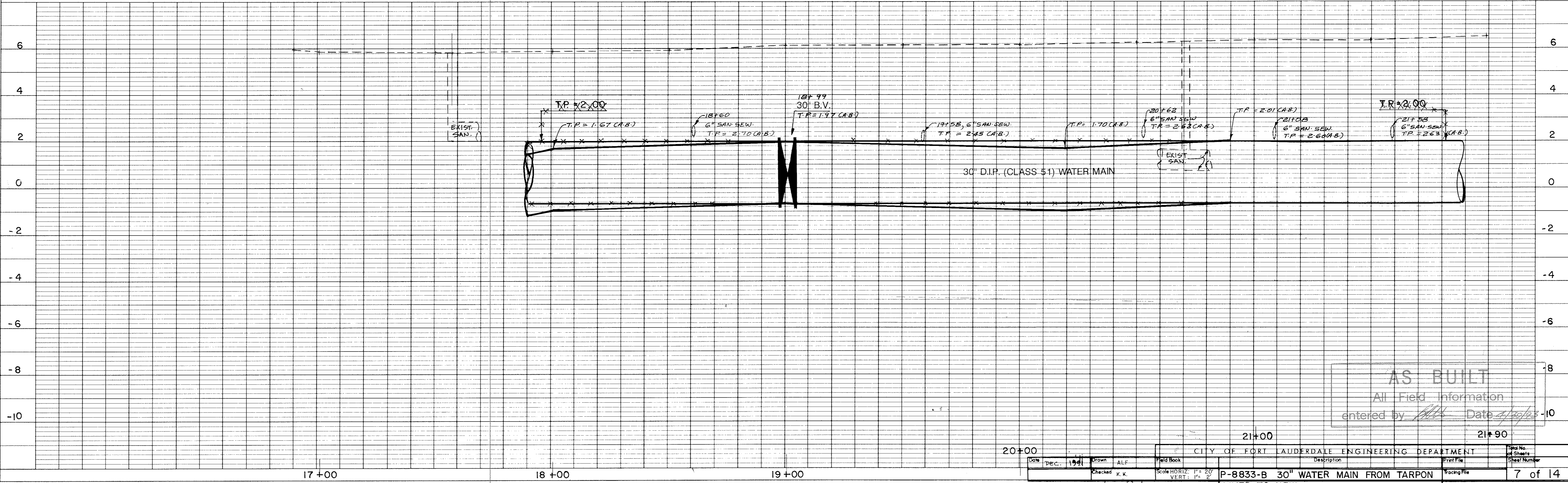
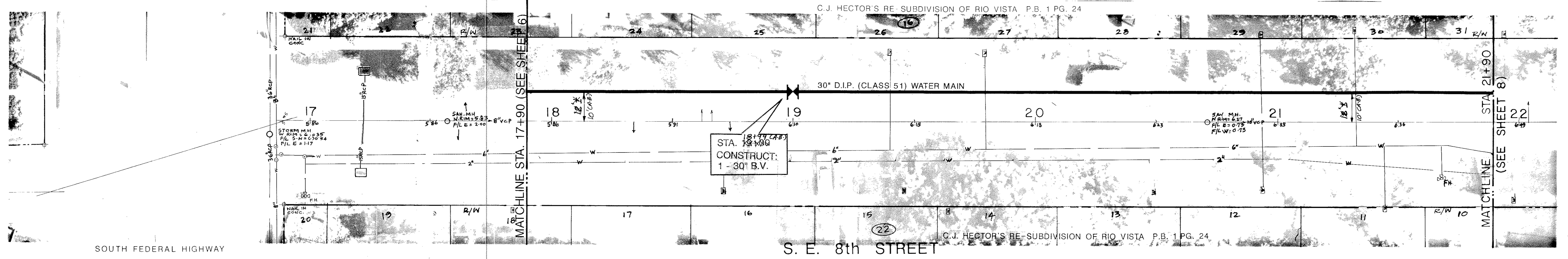


AS BUILT
 All Field Information
 entered by *[Signature]* Date *1/30/22*

Date	NOV. 1991	Drawn	ALF	Field Book	1571	City of Fort Lauderdale Engineering Department	Print File	Sheet No.	6 of 14
Checked	K K	Scale	HORIZ: 1"=20'	VERT: 1"=2'		P-8833-B 30" WATER MAIN FROM TARPON RIVER TO NEW RIVER	Tracing File	File #	4-115-76
DESIGNED BY:	H. BOUTROS								

DATE: _____
 BY: _____
 SURVEYED: _____
 NOTED: _____
 PLAN NOTE BOOK: _____
 NO. OF WAY CHECKED: _____
 No. _____

DATE: _____
 BY: _____
 SURVEYED: _____
 NOTED: _____
 PROFILE NOTE BOOK: _____
 NO. OF NOTATIONS CHECKED: _____
 No. _____



AS BUILT
 All Field Information
 entered by *[Signature]* Date *4/30/23*

Date: DEC. 19 2023	Drawn: ALF	Field Book	Description: P-8833-B 30" WATER MAIN FROM TARPON RIVER TO NEW RIVER	Print File	Sheet No. 7 of 14
Checked: K.K.	Scale HORIZ: 1" = 20'	Scale VERT: 1" = 2'	DESIGNED BY: H. BOUTROS	File # 4-115-76	

C.J. HECTOR'S RE-SUBDIVISION OF RIO VISTA P.B. 1 PG. 24

C.J. HECTOR'S RE-SUBDIVISION OF RIO VISTA P.B. 1 PG. 24

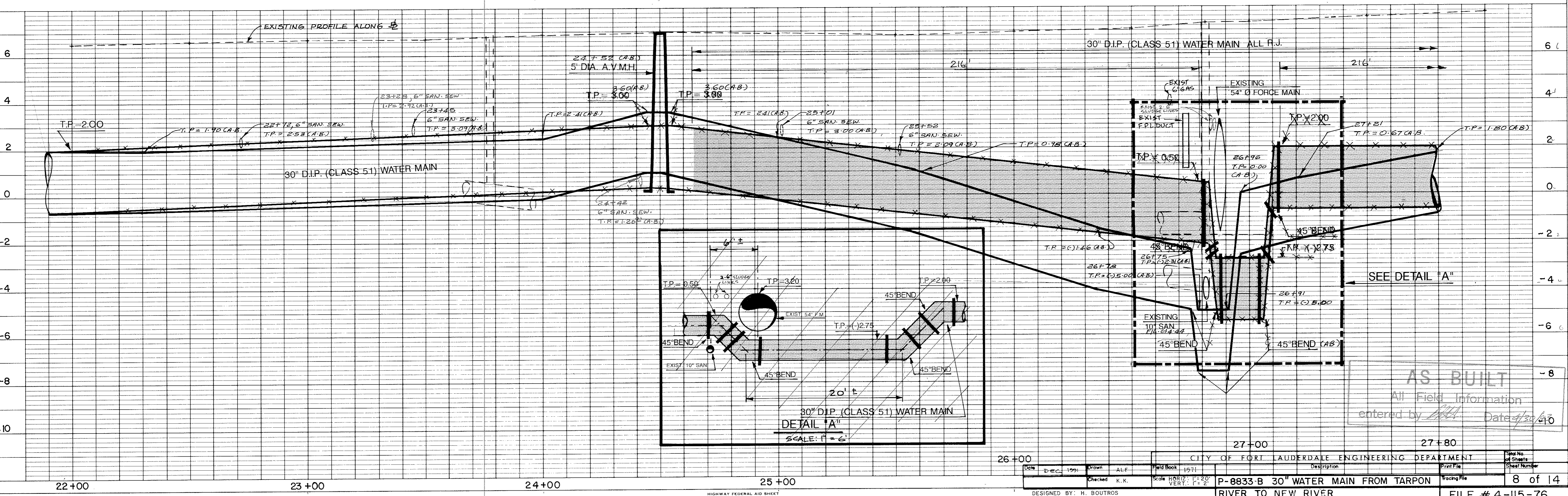
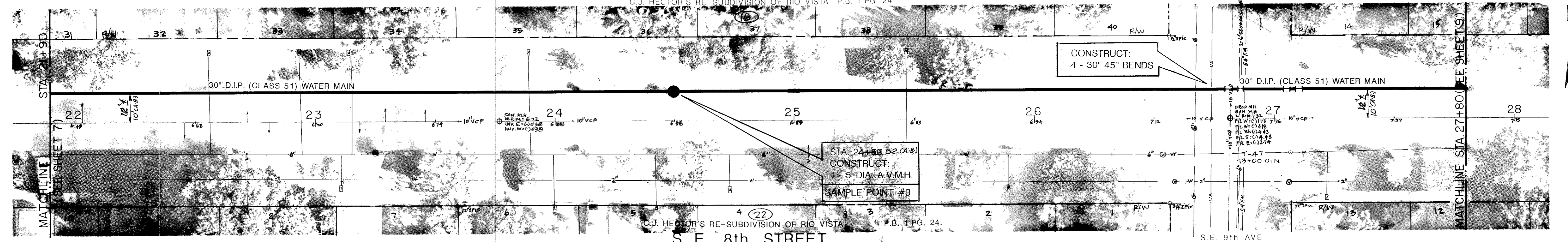
S. E. 8th STREET

CONSTRUCT:
4 - 30" 45° BENDS

STA. 24+50 (52.0 A.B.)
CONSTRUCT:
1 - 5' DIA. A.V.M.H.
SAMPLE POINT #3

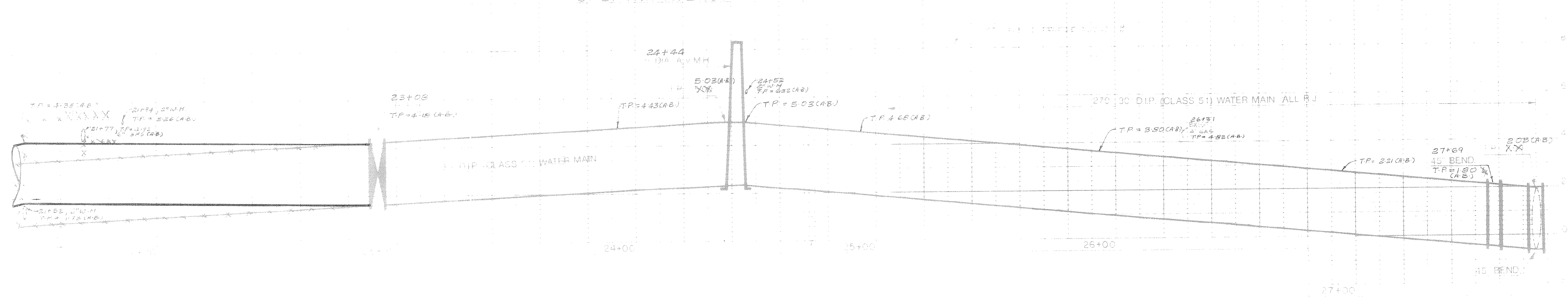
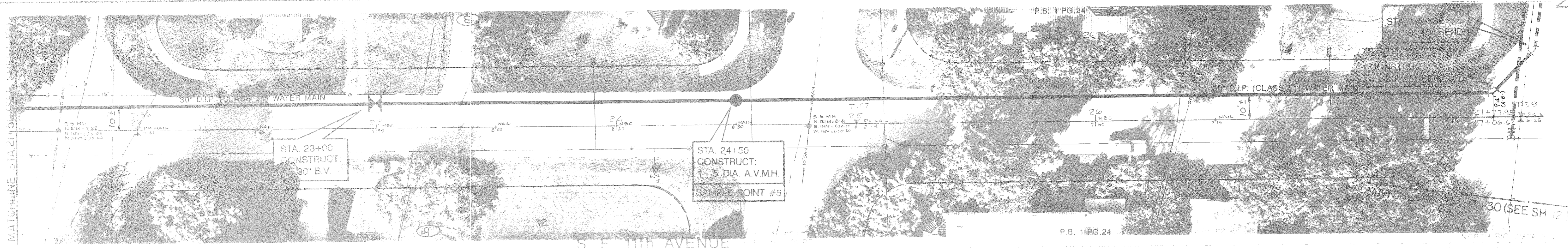
DATE	
BY	
DESIGNED	
DRAWN	
CHECKED	
IN CHARGE	
NO. OF SHEETS	
NO. OF THIS SHEET	

DATE	
BY	
DESIGNED	
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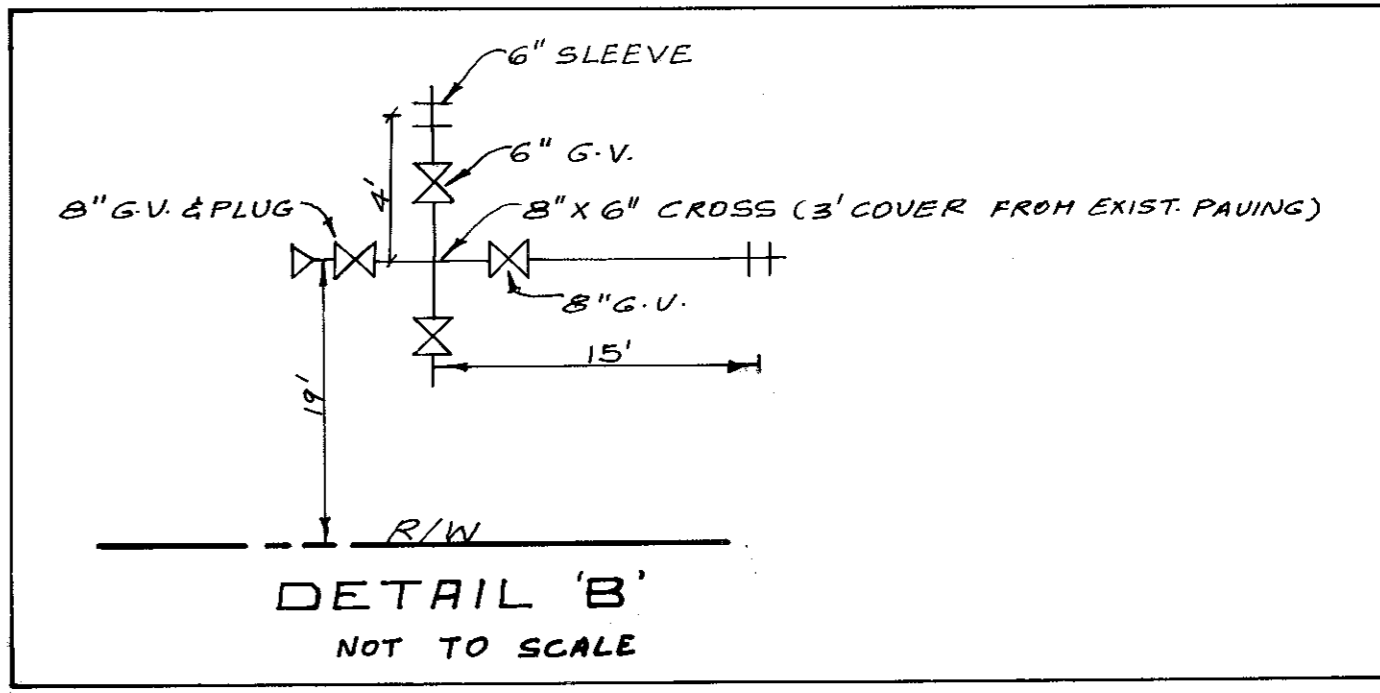
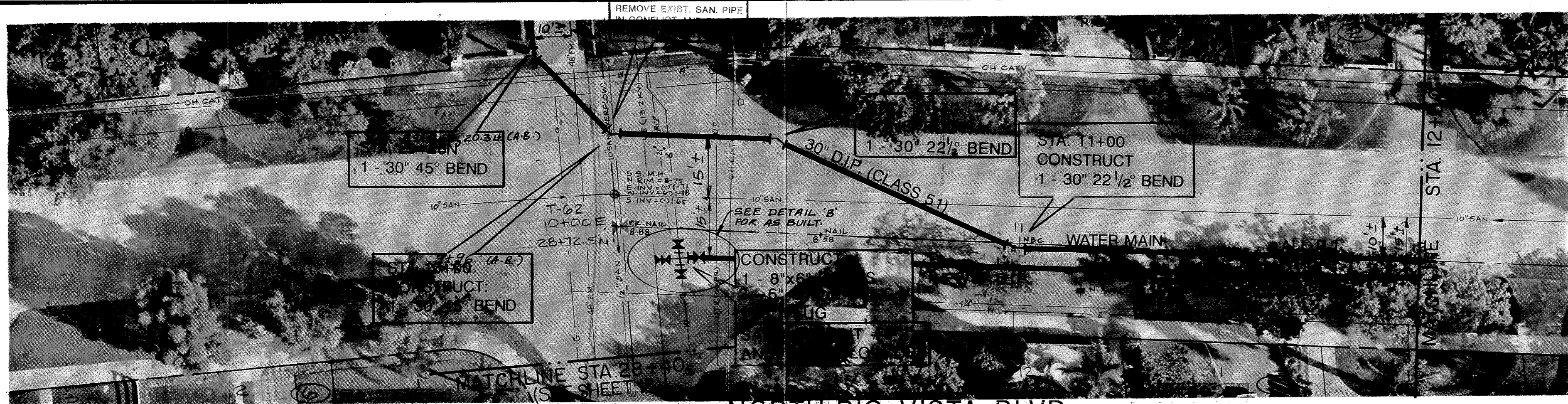


CITY OF FORT LAUDERDALE ENGINEERING DEPARTMENT									
DATE	Dec. 1999	Drawn	ALF	Field Book	1971	Description		Print File	
Checked	K.K.	Scale	HORIZ: 1"=20'	VERT: 1"=2'		P-8833-B 30" WATER MAIN FROM TARPON RIVER TO NEW RIVER	Working File		
DESIGNED BY:	H. BOUTROS								
Final No. of Sheets	8 of 14								
Sheet Number	8 of 14								
FILE #	4-115-76								

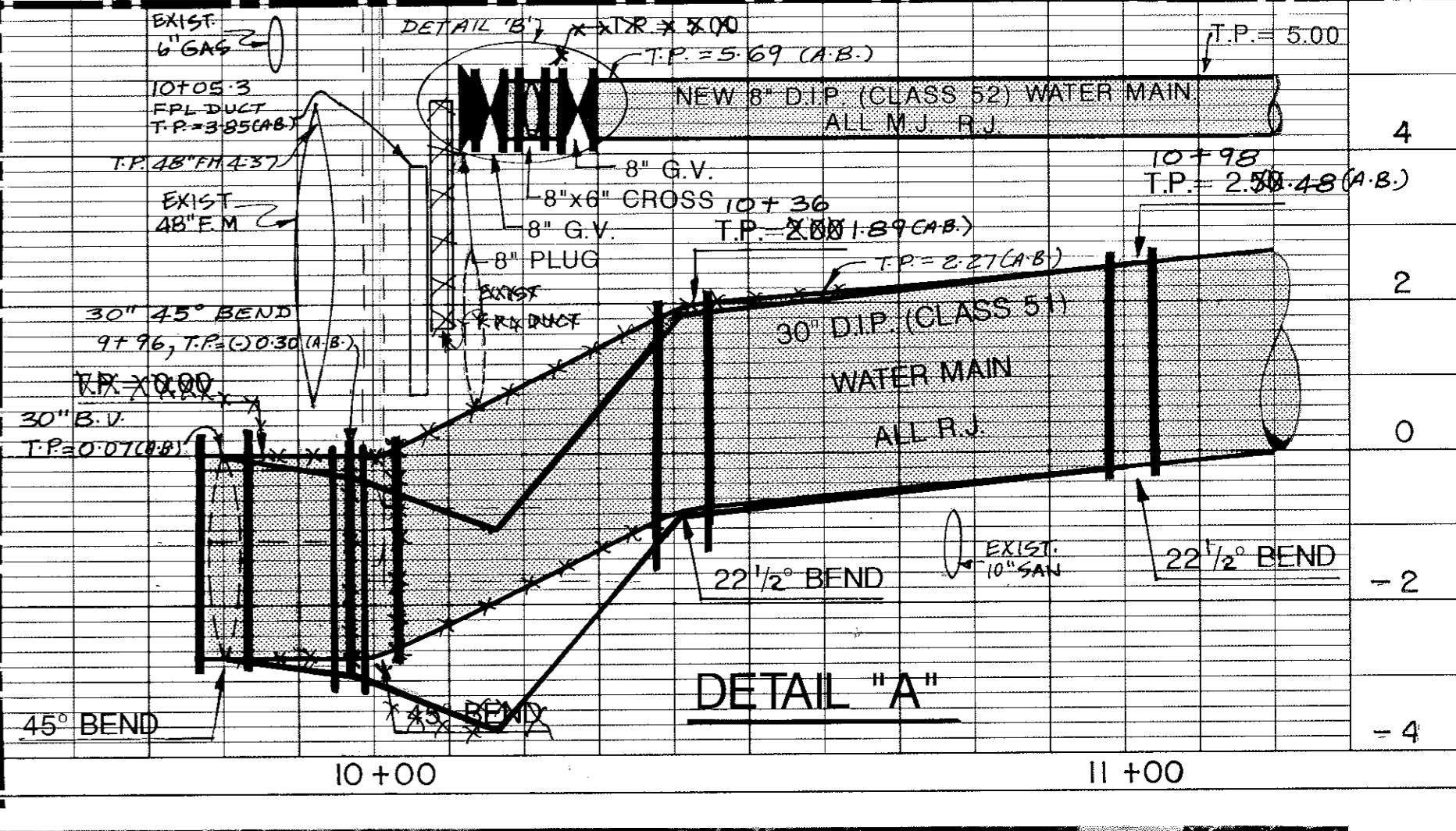
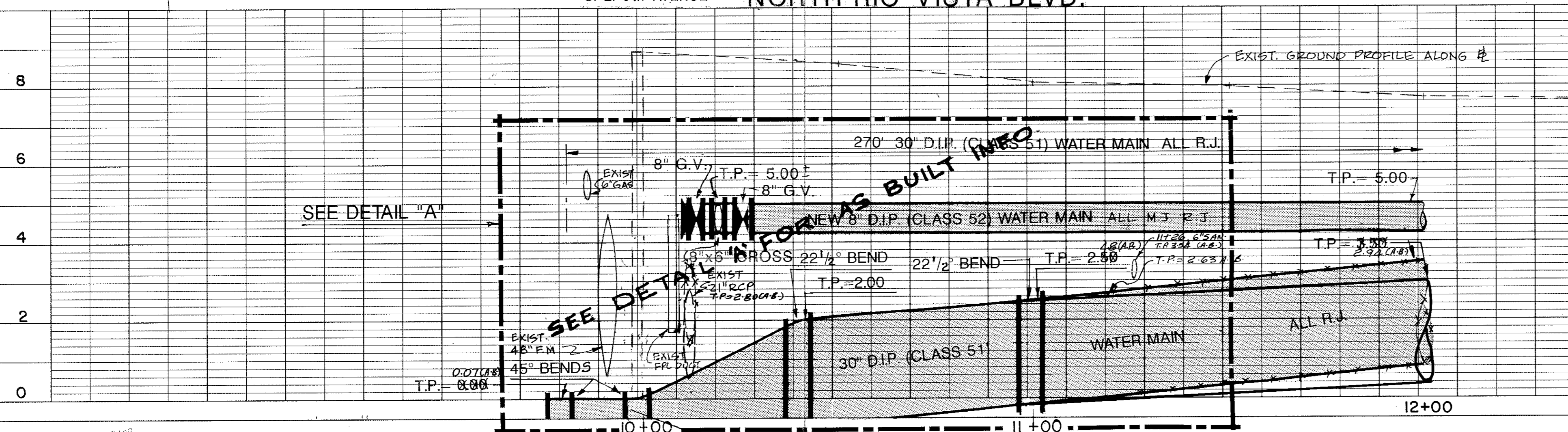
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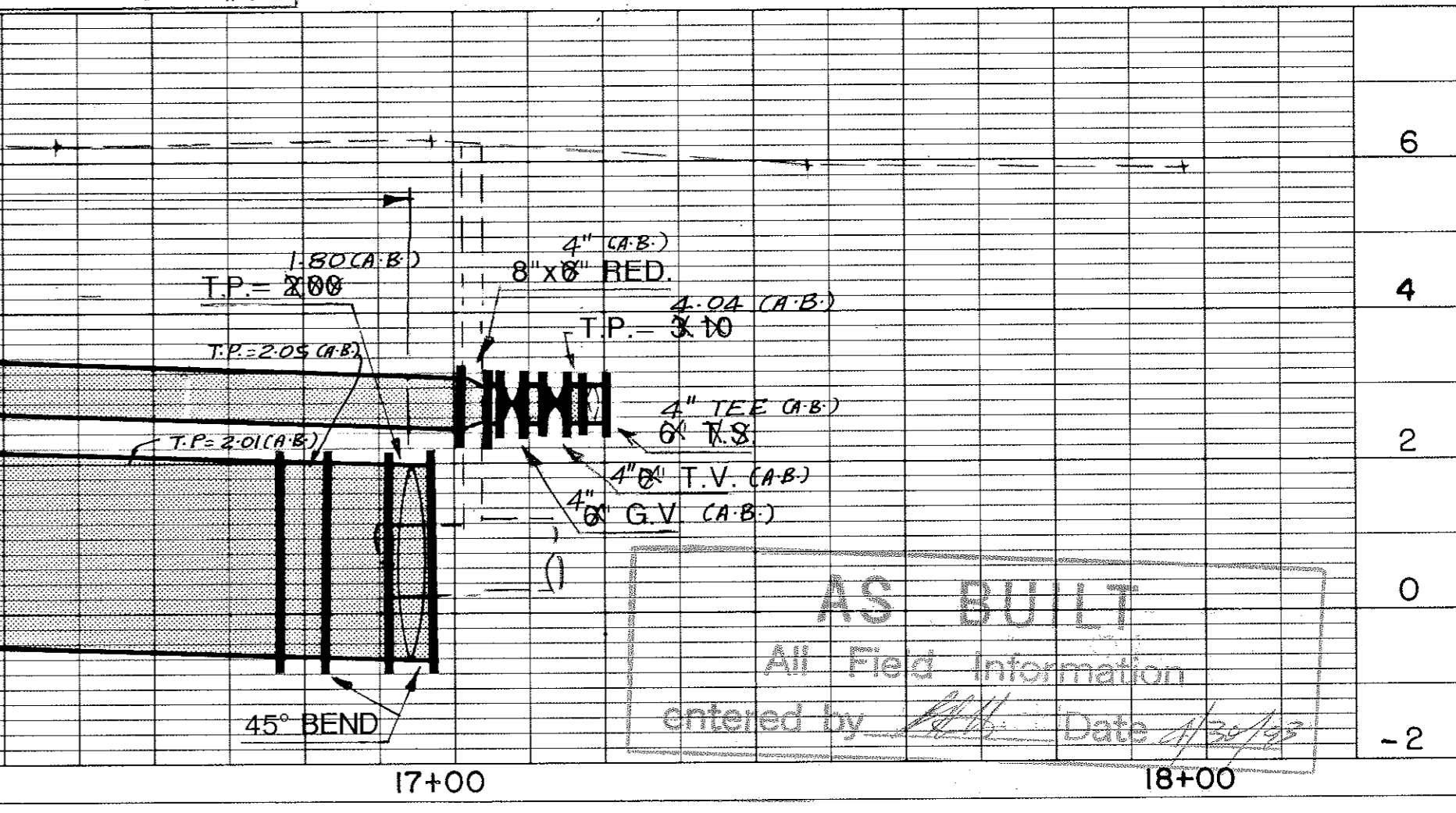
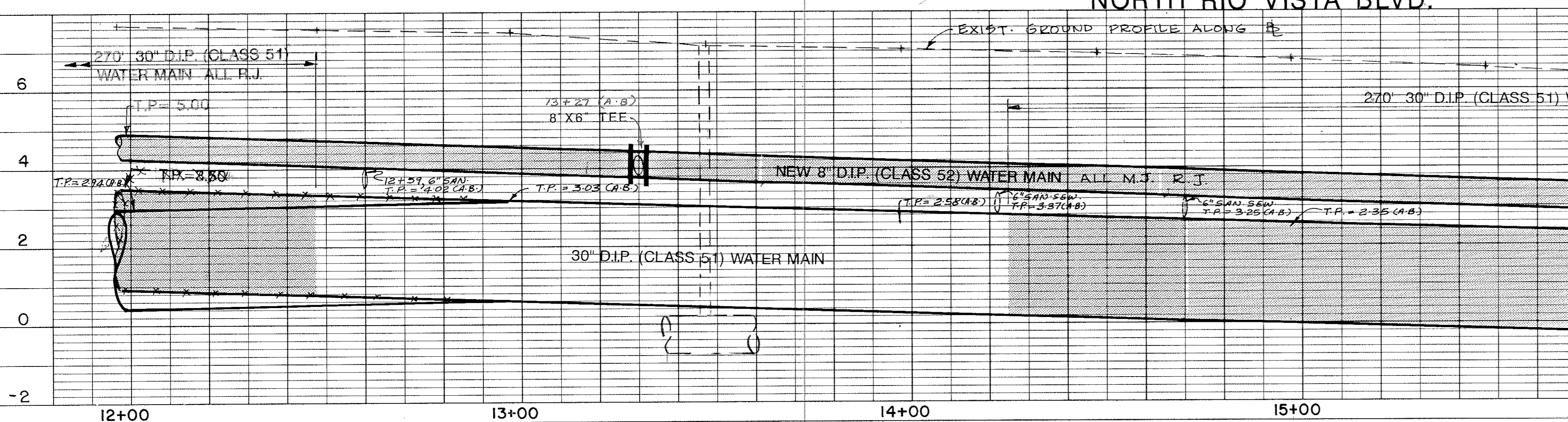
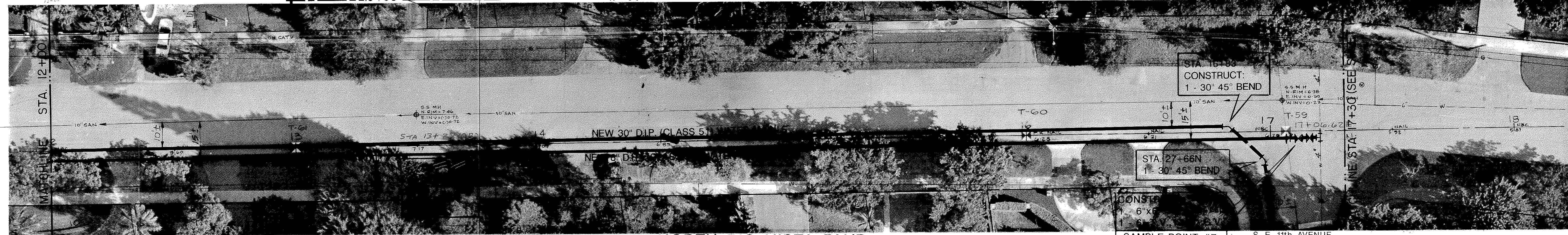
CITY OF FORT LAUDERDALE ENGINEERING DEPARTMENT			
Field No.	Description	Drawn By	Check'd By
	P-8833-B 30" WATER MAIN FROM TARPON RIVER TO S.W. 5th		



DATE	
BY	
SURVEYED	
PLOTTED	
NOTED	
NO.	



DATE	
BY	
SURVEYED	
PLOTTED	
NOTED	
NO.	



AS BUILT
All Field Information
Entered by *[Signature]* Date *1/20/99*

BOSWORTH AERIAL SURVEYS, INC.
Photogrammetry for the Professional

CITY OF FORT LAUDERDALE ENGINEERING DEPARTMENT						Total No. of Sheets
Date	Drawn	Field Book	Description	Print File	Sheet Number	
1/20/99	ALF	1562	P-8833-30" WATER MAIN FROM TARPON RIVER TO NEW RIVER		12 of 14	
Checked	K.V.	Scale HORIZ: 1" = 20'	Scale VERT: 1" = 2'	Tracing File		
DESIGNED BY: H. BOUTROS						FILE #4-115-76

[Handwritten Signature]

PLAN

DATE: _____ BY: _____

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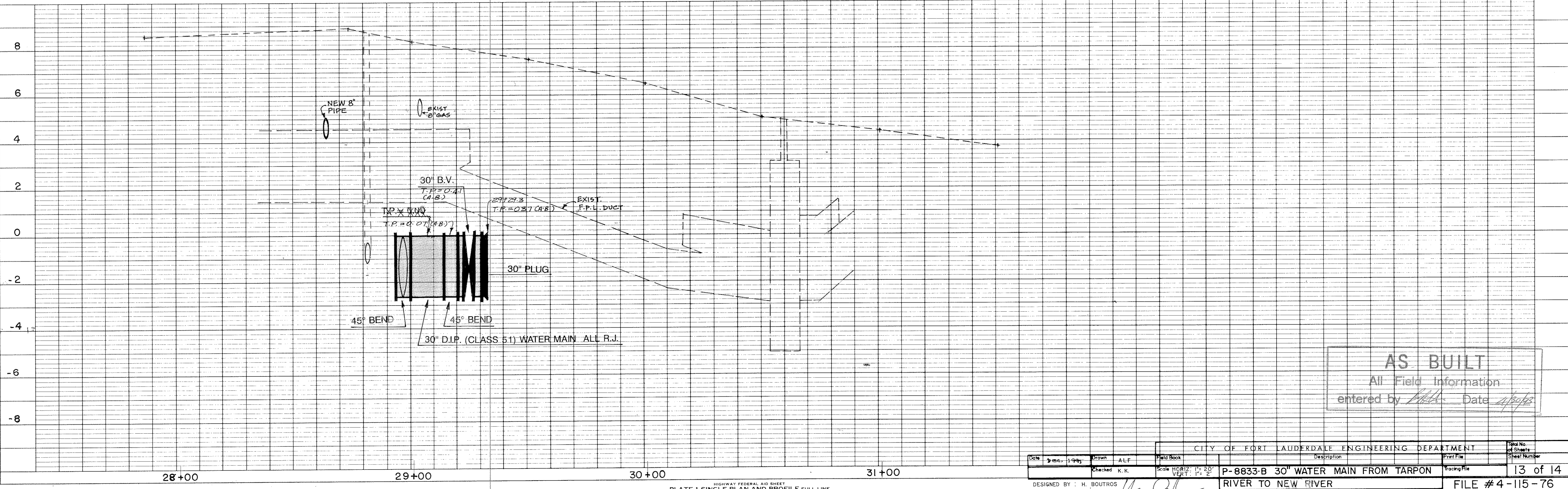
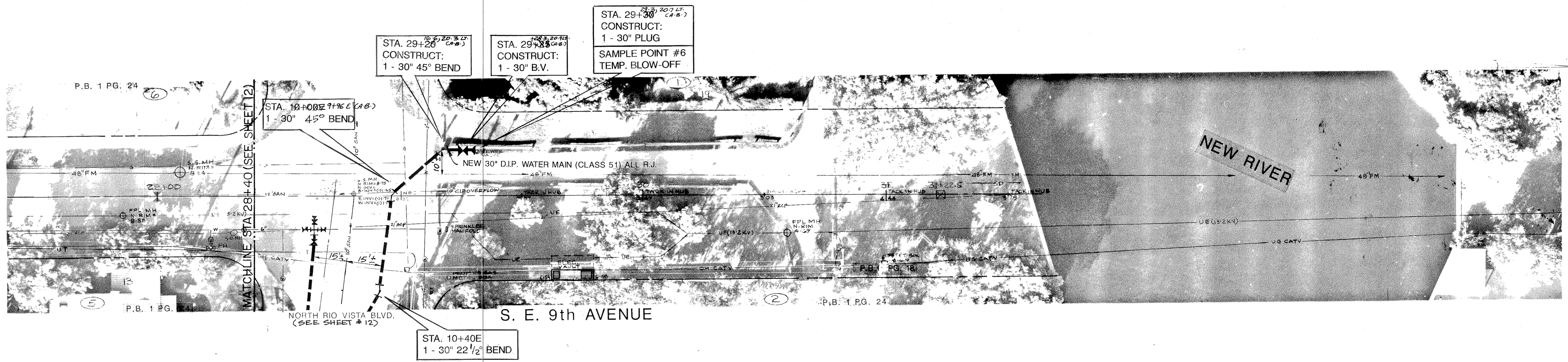
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AS BUILT
 All Field Information
 entered by *[Signature]* Date *4/10/22*

CITY OF FORT LAUDERDALE ENGINEERING DEPARTMENT				Sheet No. of Sheets
Date	Drawn	Checked	Field Book	Print File
1/28/2022	ALF	K.K.	P-8833-B	13 of 14
DESIGNED BY: H. BOUTROS				Sheet Number
P-8833-B 30" WATER MAIN FROM TARPON RIVER TO NEW RIVER				13 of 14
FILE # 4-115-76				

PLATE 1-SINGLE PLAN AND PROFILE-FULL LINE
 PRINTED IN U.S.A.

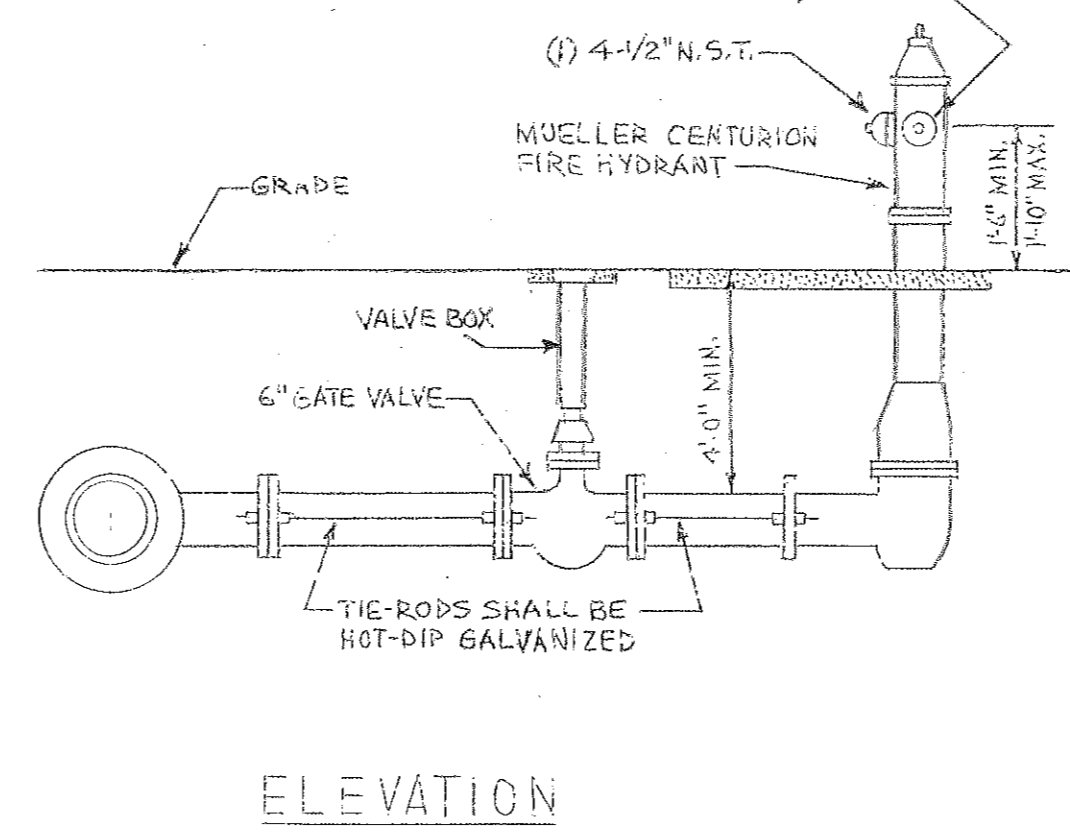
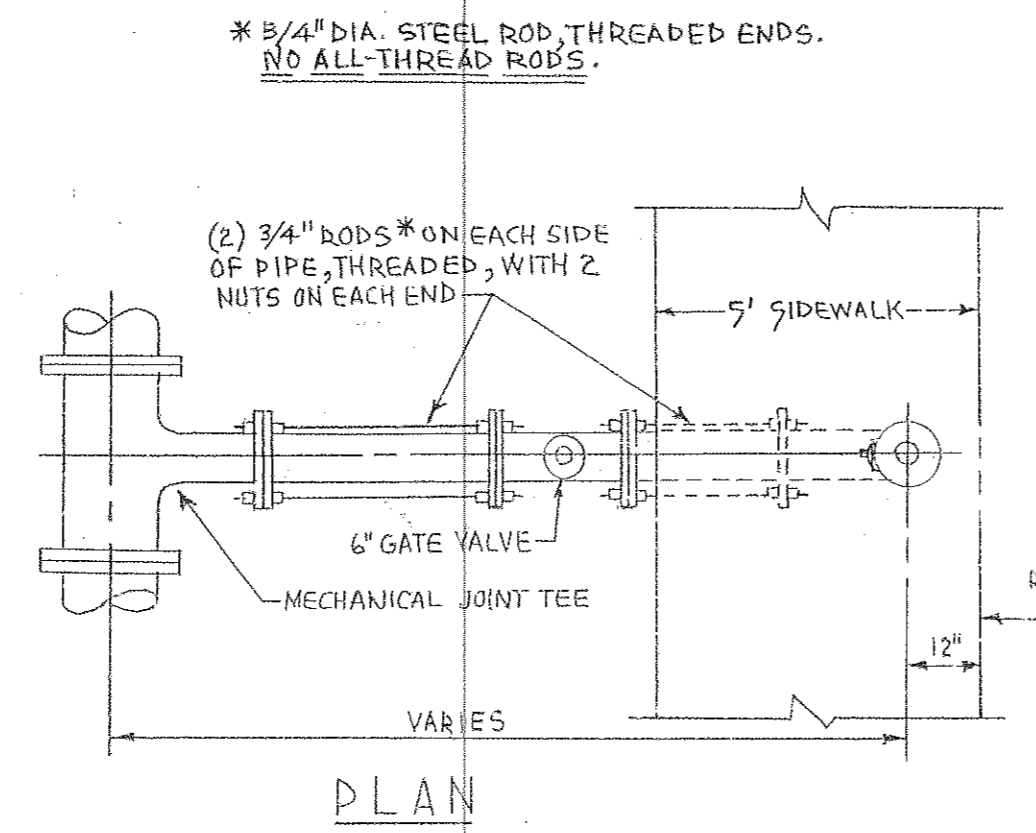
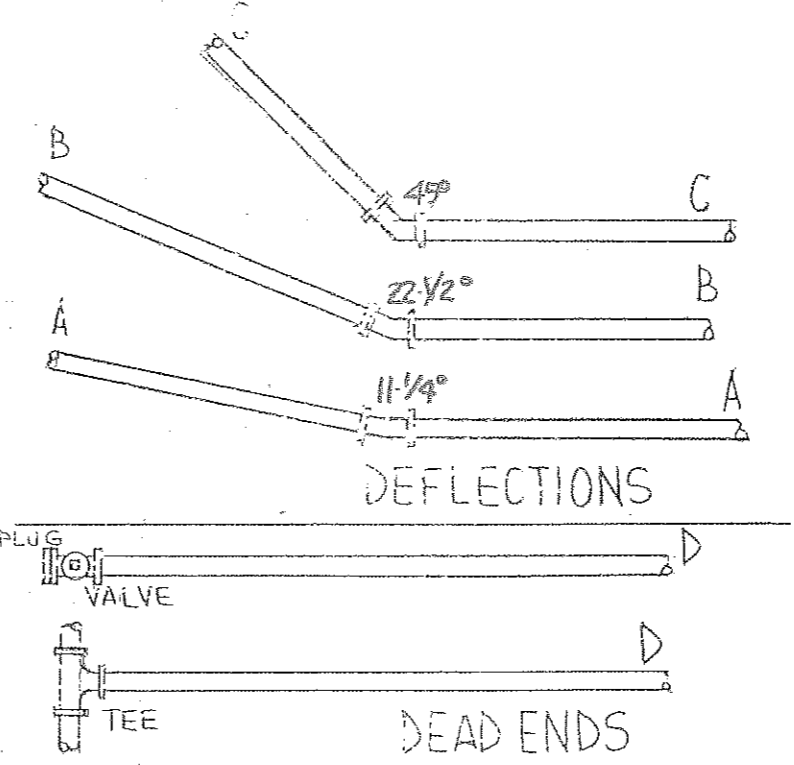
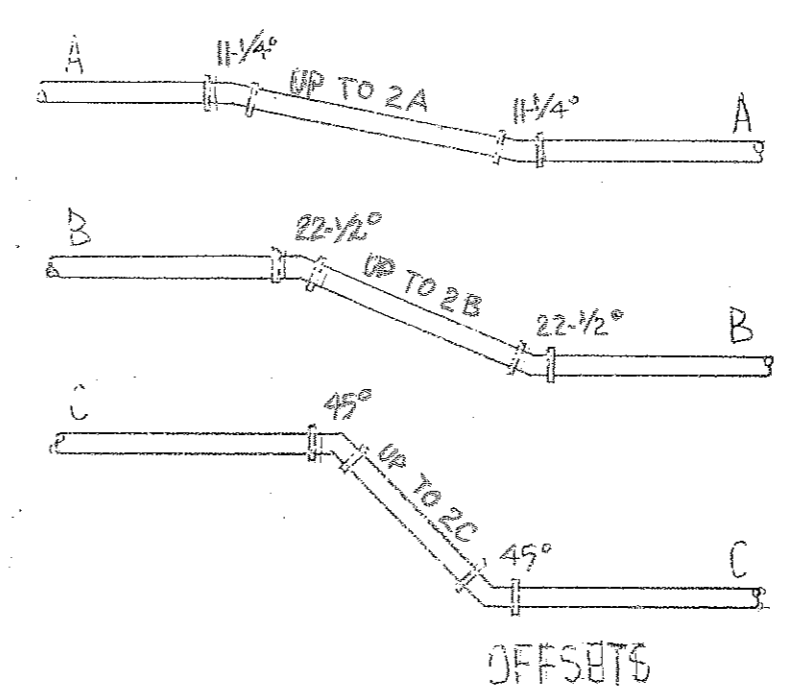
WATER SYSTEMS NOTES

- SPECIFICATIONS FOR THIS PROJECT SHALL BE THE CITY OF FORT LAUDERDALE'S "CONSTRUCTION STANDARDS AND SPECIFICATIONS, JANUARY, 1982," INCLUDING ANY REVISIONS THEREOF.
- ALL WATER MAIN PIPE SHALL BE DUCTILE IRON CONFORMING TO THE REQUIREMENTS OF A.S.T.M. C-151/A 21.51-86 AND LINED AND COATED PER A.S.T.M. C-104/A 21.4-90. 4" D.I.P., CLASS 53; 6" AND 8" D.I.P., CLASS 52; 10"-52", CLASS 51.
- FITTINGS SHALL BE CAST IRON OR DUCTILE IRON MEETING A.S.T.M. C-110/A 21.10-87. FITTINGS MUST BE CEMENT LINED AND SEAL COATED PER C-104/A 21.4-90.
- RESTRAINED JOINT PIPE SHALL BE USED FOR ALL BENDS, TEES, CROSSES, PLUGS, AND FIRE HYDRANTS. NO THRUST BLOCKS SHALL BE USED. USE OF RODS FOR RESTRAINED JOINTS SHALL BE APPROVED BY THE CITY ENGINEER. NO ALL-THREAD RODS WILL BE PERMITTED.
- ALL VALVES SHALL BE FURNISHED WITH EXTENSION TYPE CAST IRON VALVE BOXES OF PROPER LENGTH FOR PIPE DEPTH. ALL BOXES SHALL CONFORM WITH A.W.W.A. SPECIFICATIONS WITH A SHAFT OF NOT LESS THAN 5 INCHES AND HAVE THE WORD "WATER" CAST IN THE COVER. BASE OF VALVE BOX SHALL HAVE FLARED SECTION TO FIT OVER STUFFING BOX OF VALVE.
- GATE VALVES 4" AND LARGER SHALL MEET A.W.W.A. C-500-86 (LATEST REVISION) SPECIFICATION. VALVES SHALL BE MUELLER CO. OR APPROVED EQUAL.
- FIRE HYDRANTS SHALL BE BREAKAWAY MUELLER CO. CENTURION MODEL #A-423.
- FIRE HYDRANTS SHALL BE INSTALLED WITH THE CENTER OF THE NOZZLE 18" ABOVE FINISHED GRADE.
- WATER SERVICE PIPING SHALL BE POLYETHYLENE (PE 340) WATER SERVICE TUBING CONFORMING TO A.S.T.M. D-2737; S.D.R. 9, 200 P.S.I., TO MATCH COPPER TUBING SIZE.
- ALL METER SERVICE CONNECTIONS SHALL BE BRONZE FROM PLUG VALVE. NO GATE VALVES ARE TO BE USED (2" OR LESS).
- ALL TRENCHING, PIPE-LAYING, BACKFILL, PRESSURE TESTING AND DISINFECTING MUST COMPLY WITH ABOVE REFERENCED REQUIREMENTS.
- THE CITY OF FORT LAUDERDALE UTILITIES DEPARTMENT WILL TAKE ALL BACTERIOLOGICAL TESTS (TELEPHONE 492-7805) UNLESS DIRECTED TO USE A PRIVATE LAB.
- ALL CONNECTIONS TO EXISTING MAINS SHALL BE MADE UNDER THE DIRECTION OF THE CITY OF FORT LAUDERDALE UTILITIES DEPARTMENT.
- ALL PIPE, ETC., SHALL BE TESTED UNDER A CONSTANT PRESSURE OF 150 P.S.I. FOR A MINIMUM TEST PERIOD OF 6 HOURS AND SHALL NOT EXCEED THE LEAKAGE REQUIREMENTS AS PER A.W.W.A. SPECIFICATIONS OF C-600-87 LEAKAGE FORMULA $Q = \frac{5.77 P^2 D^2}{133,200}$
- THE MINIMUM DEPTH OF COVER OVER WATER MAINS IS 30" EXCEPT WHERE SHOWN DIFFERENTLY ON PLANS.
- DISINFECTING OF MAINS SHALL COMPLY WITH A.S.T.M. C-651-86 STANDARD BACTERIOLOGICAL SAMPLING POINTS SHALL BE DESIGNATED ON THE ENGINEERING PLANS. MINIMUM ONE SAMPLING POINT EACH END. MAXIMUM SPACE BETWEEN SAMPLING POINTS IS 1500 FEET.
- DEAD END WATER MAINS 6" AND LARGER SHALL TERMINATE WITH A FIRE HYDRANT.
- DEAD END WATER MAINS 4" AND SMALLER SHALL TERMINATE WITH A 2" BLOW OFF.
- THERE SHALL BE NO CONNECTION TO AN EXISTING WATER MAIN UNTIL PRESSURE AND BACTERIOLOGICAL TESTS HAVE BEEN RUN AND THE SYSTEM ACCEPTED BY THE CITY OF FORT LAUDERDALE.
- ALL SERVICE LINES SHALL BE COPPER TUBING, TYPE "K", OR PLASTICIZED POLYETHYLENE 3408, A.S.T.M. D-2737, S.D.R. 9, 200 P.S.I.

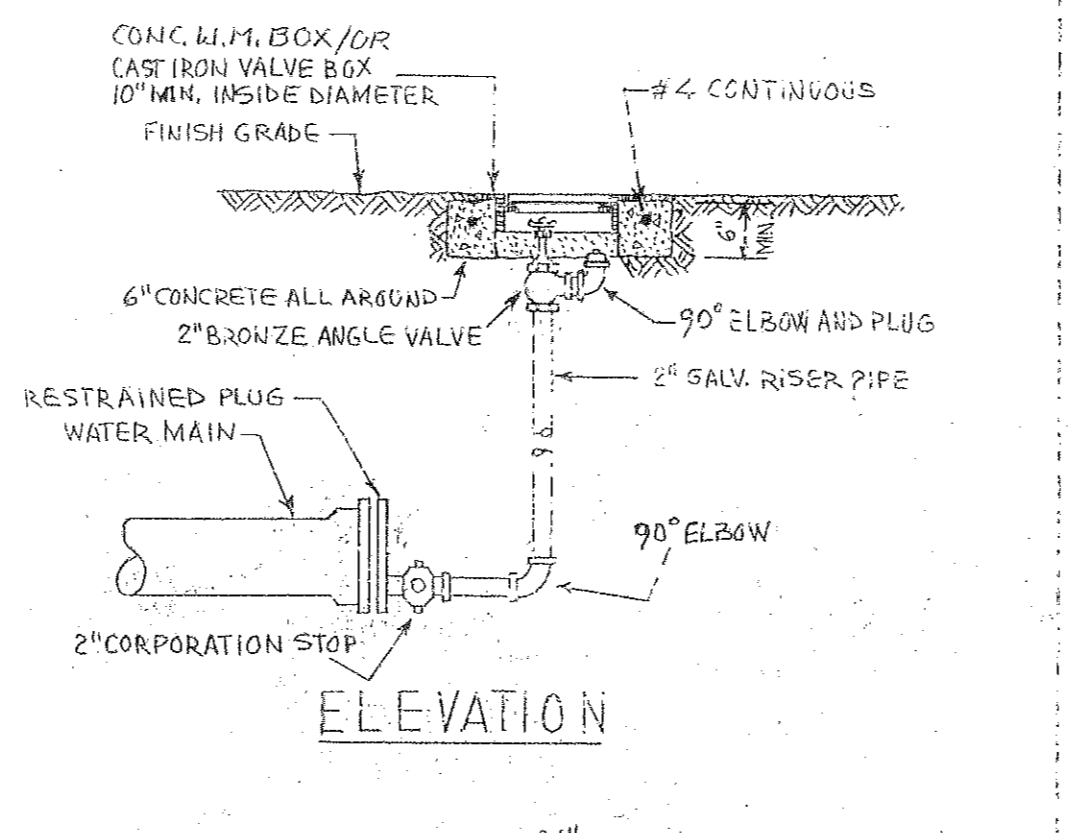
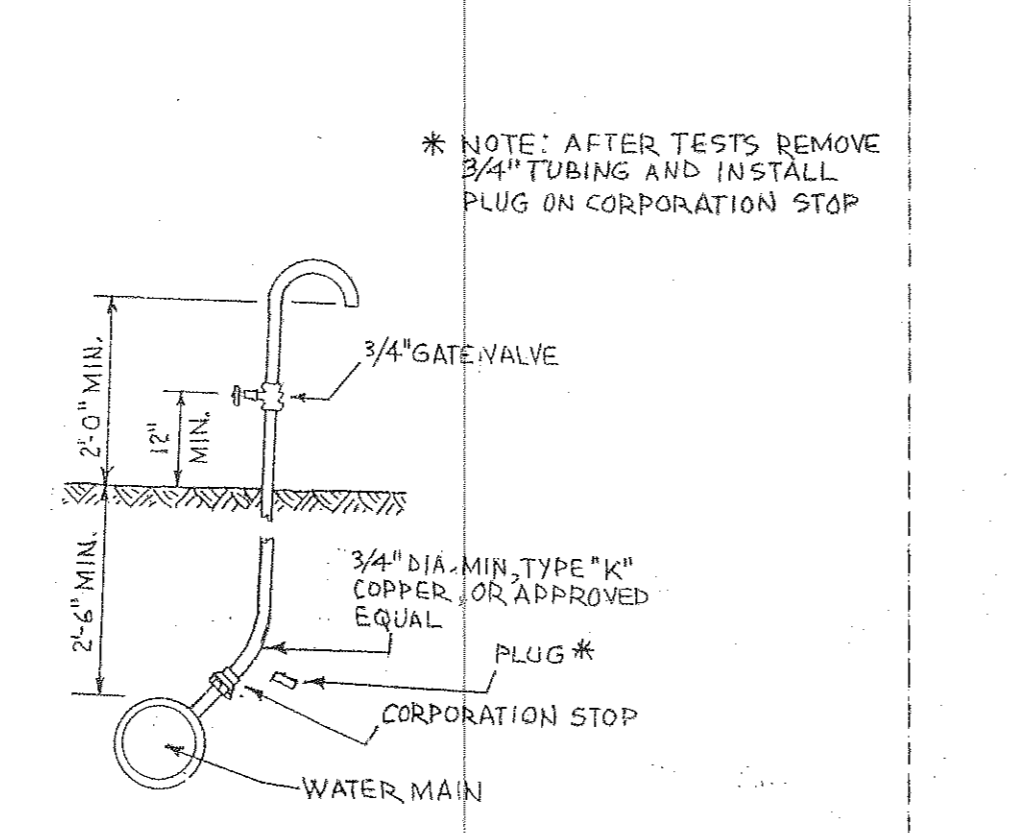
RESTRAINED PIPE

SIZE	A	B	C	D
4"	18	18	54	
6"	18	18	72	
8"	18	36	90	
10"	18	36	108	
12"	18	36	126	
14"	18	54	144	
16"	18	54	162	
18"	18	54	180	
20"	18	72	198	
24"	18	72	216	

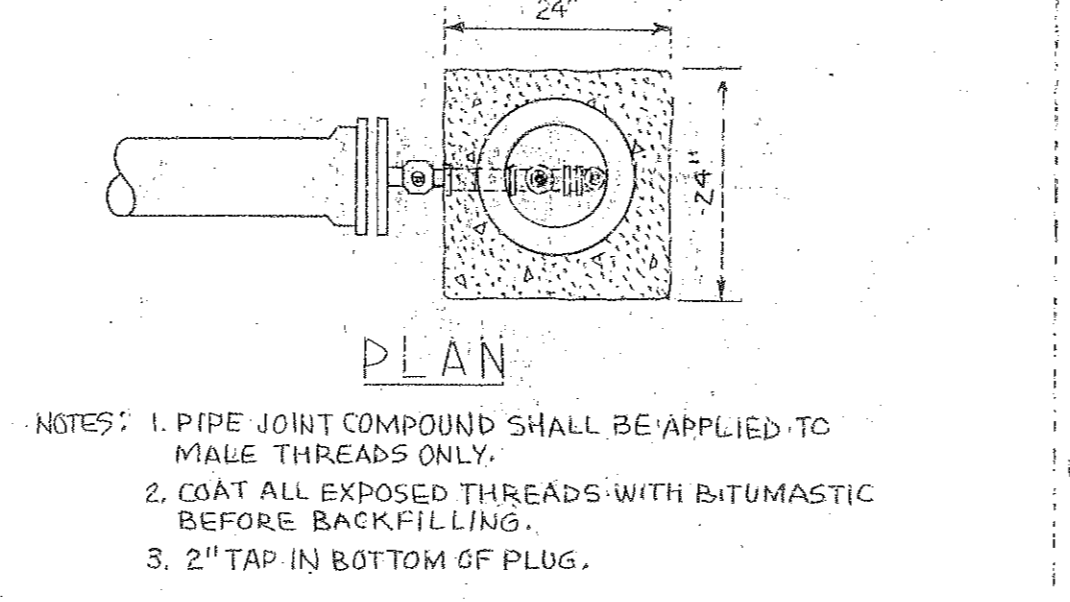
NOTE: FOR PIPE SIZE OVER 24" SEE CITY OF FORT LAUDERDALE'S "CONSTRUCTION STANDARDS AND SPECIFICATIONS", SHEET G.2.3



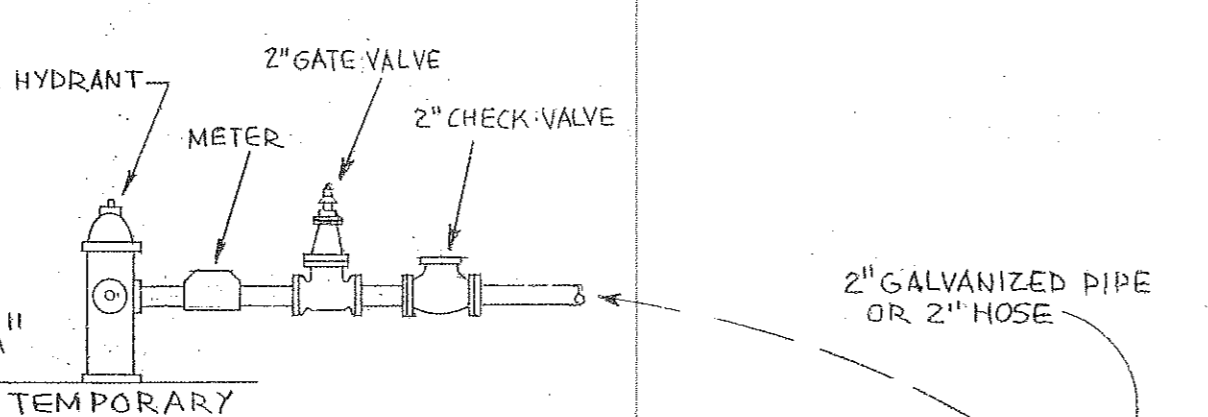
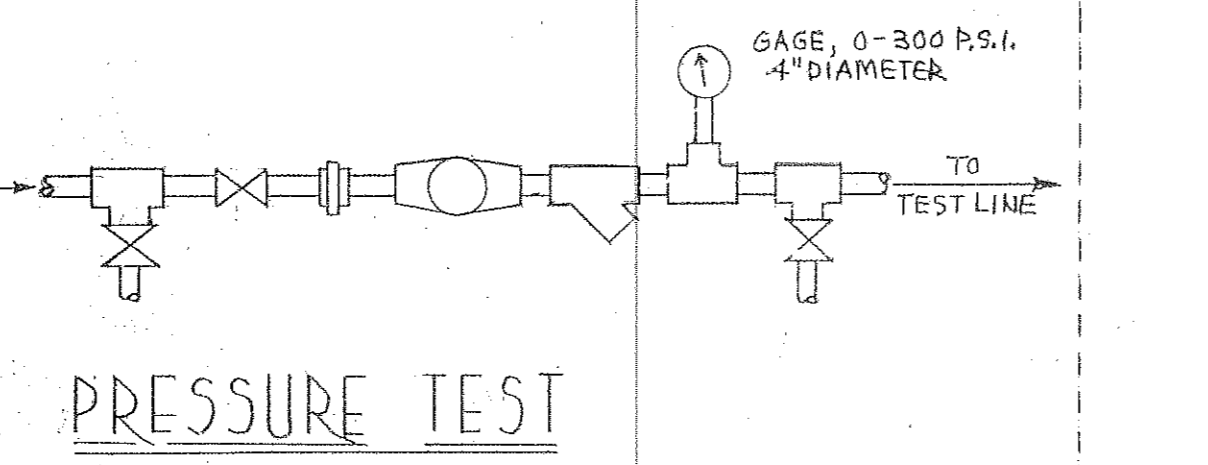
FIRE HYDRANT DETAIL



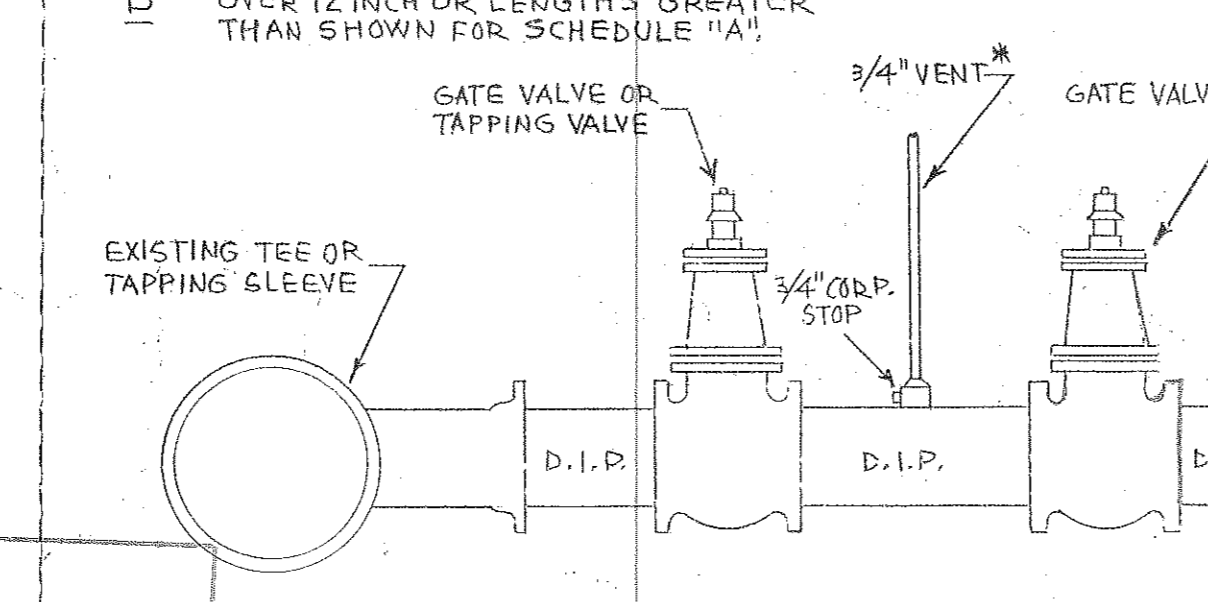
TYPICAL BACTERIOLOGICAL SAMPLING POINT AT INTERMEDIATE POINTS



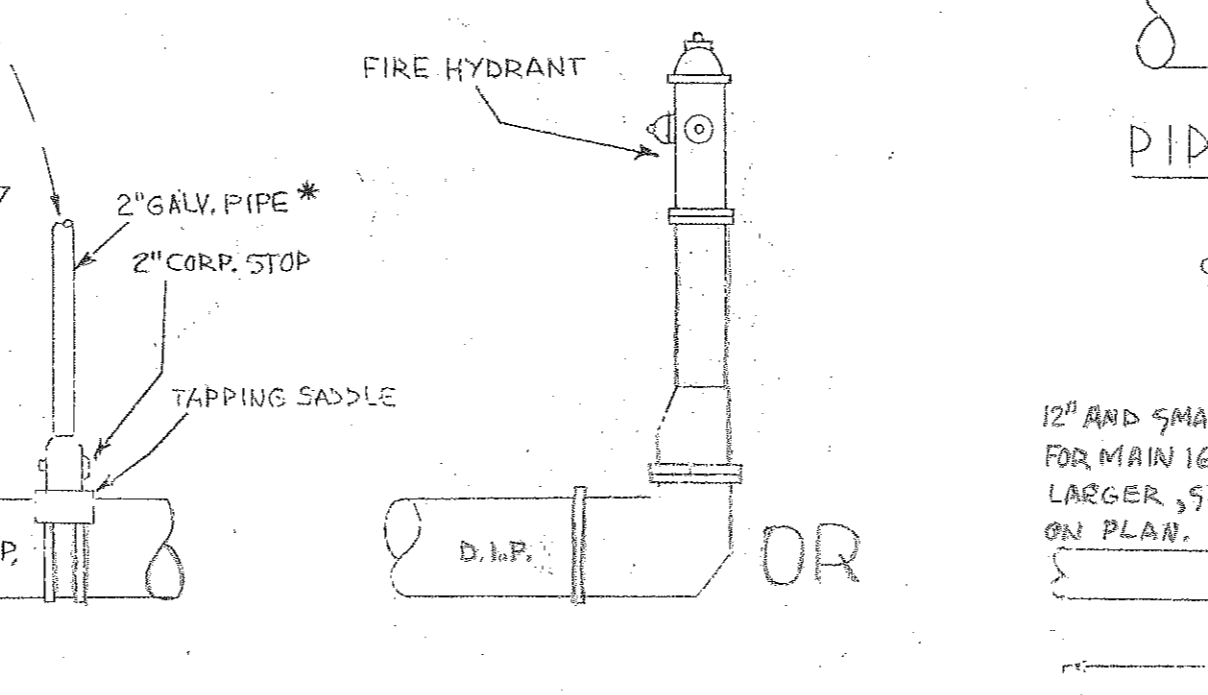
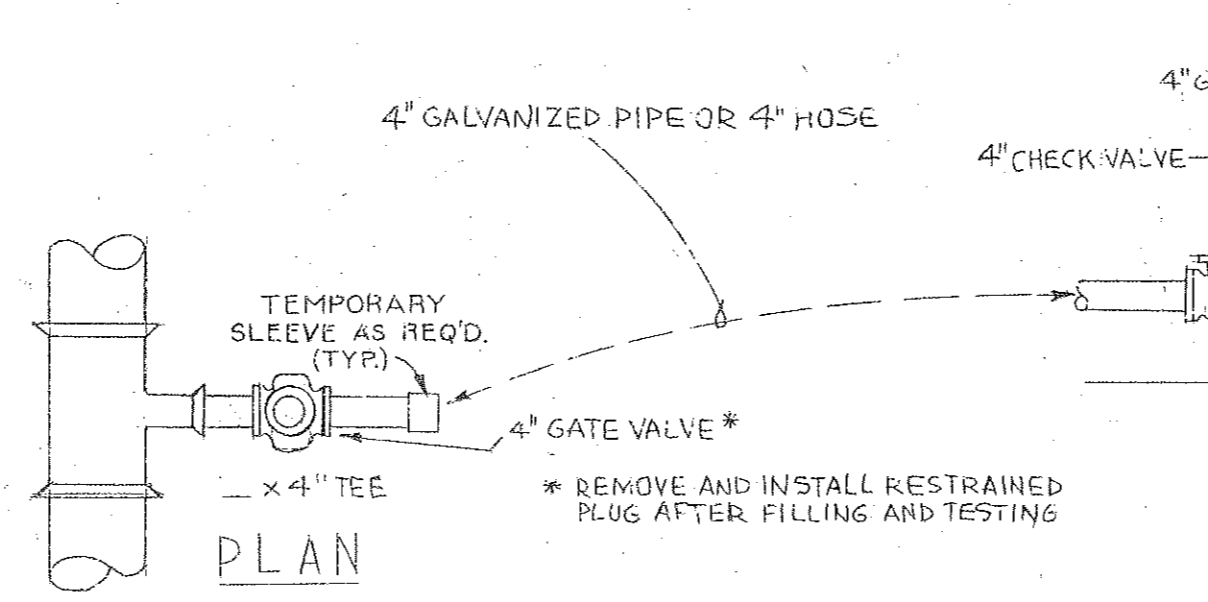
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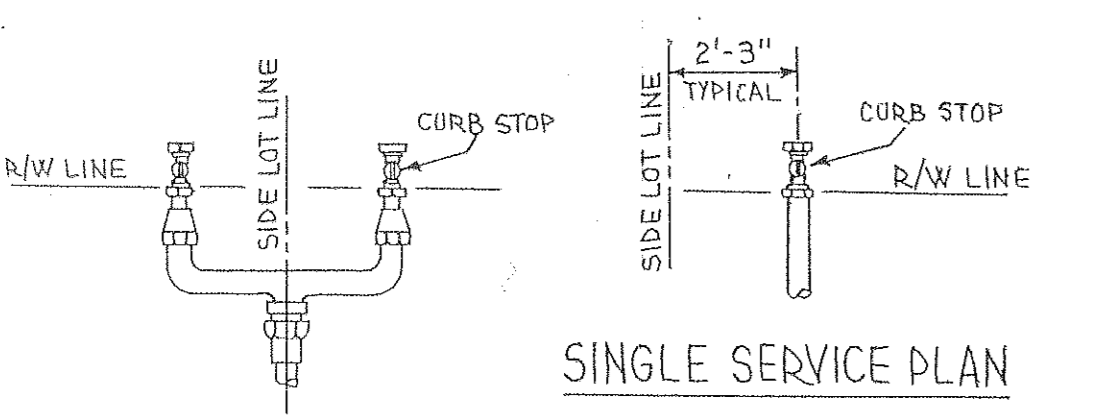
PIPE SIZE	MAX. LENGTH
6 INCH	MAX. 4800'
8 INCH	MAX. 2700'
10 INCH	MAX. 1750'
12 INCH	MAX. 1200'



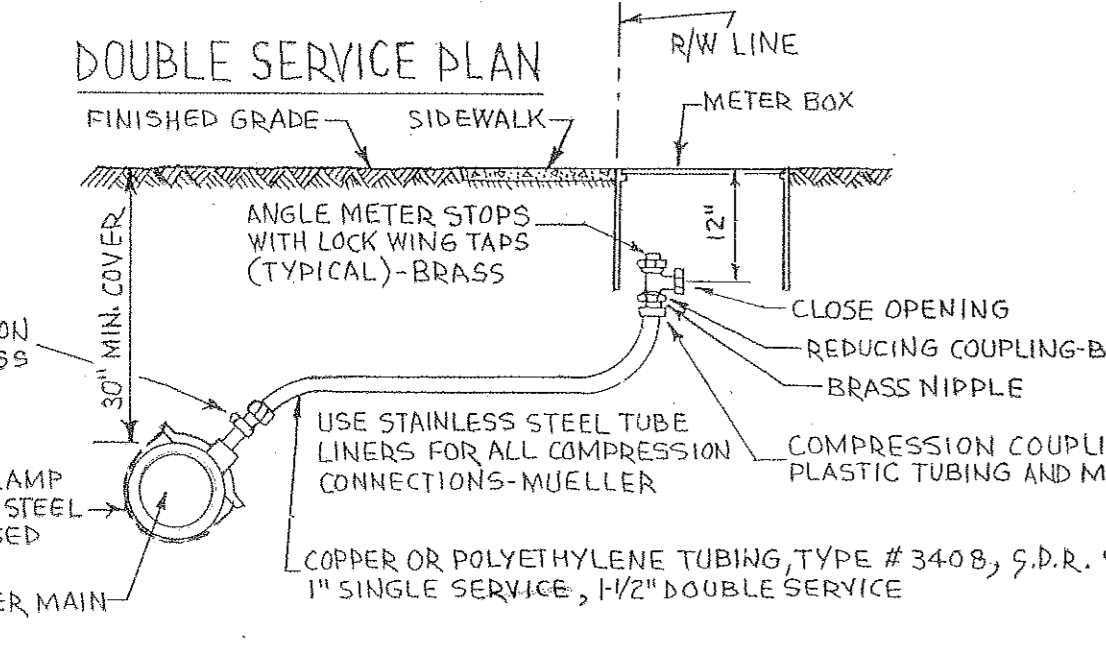
FILLING CONNECTION



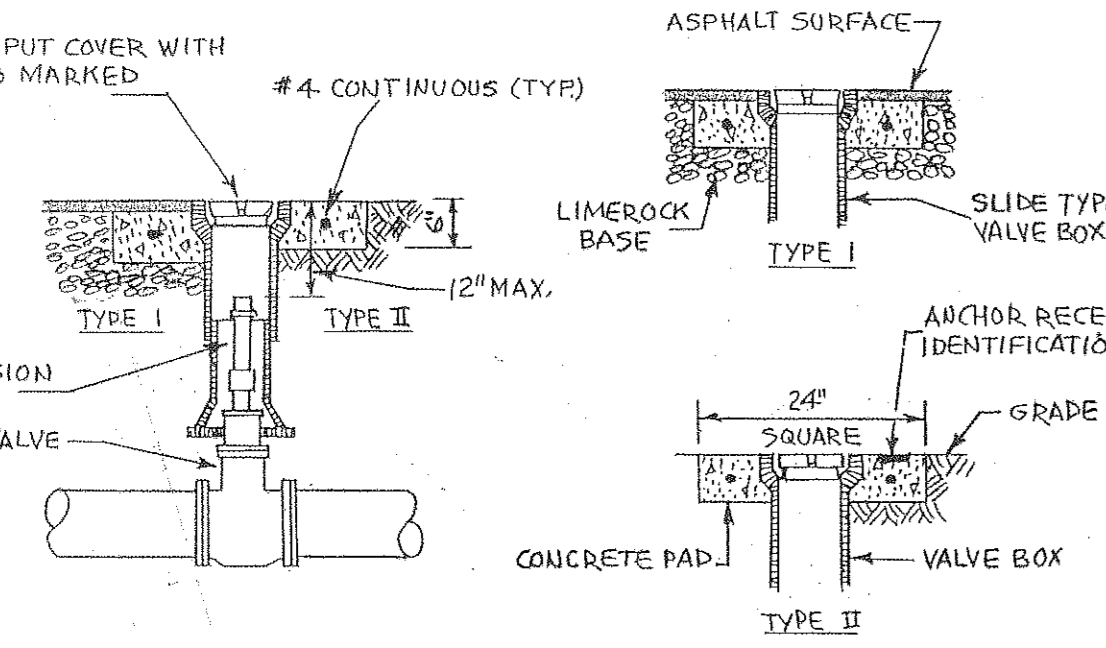
FLUSHING CONNECTION



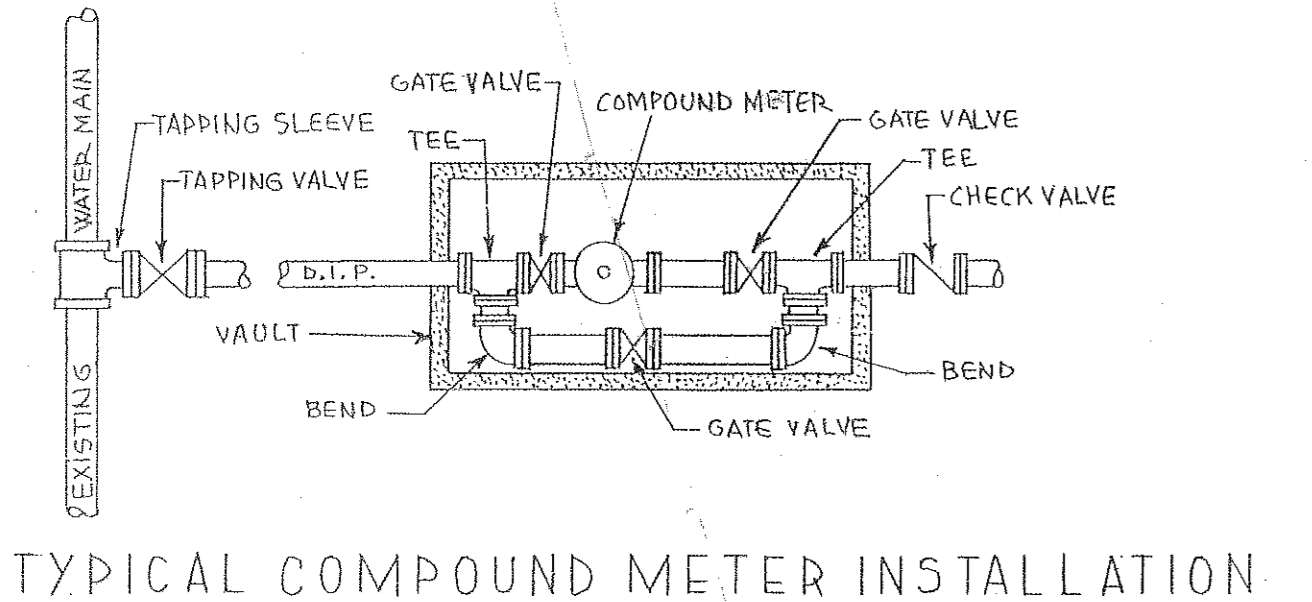
SINGLE SERVICE PLAN



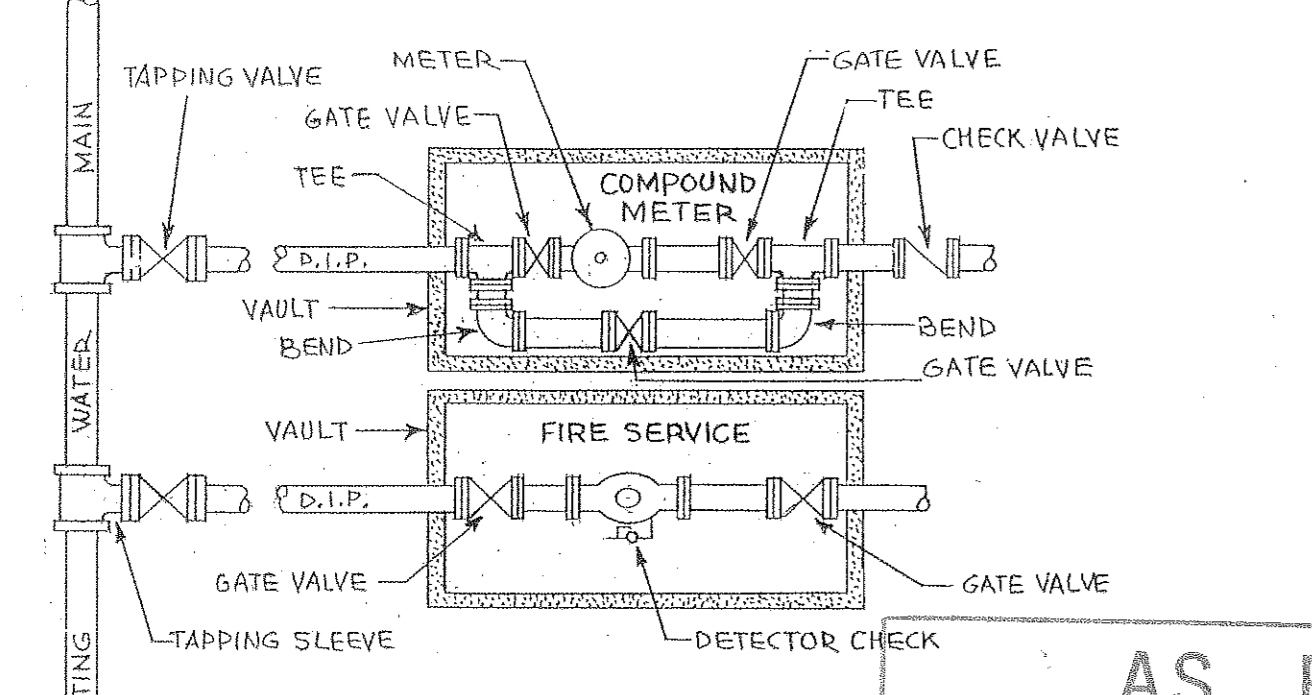
TYPICAL WATER SERVICE



VALVE BOX DETAIL



TYPICAL COMPOUND METER INSTALLATION



FIRE SERVICE AND COMPOUND METER INSTALLATION

AS BUILT
All Field Information
entered by *[Signature]* Date *12/30/83*

NOTE: AFTER TESTS REMOVE 3/4" TUBING AND 2" GALVANIZED PIPE. INSTALL PLUGS ON CORPORATION STOPS.

D.I.P. WATER-SEWER CLEARANCE NOTE

- SEWER PIPING SHALL BE LAID AT LEAST 10 FEET HORIZONTALLY FROM ANY EXISTING OR PROPOSED WATER MAINS.
- A VERTICAL DISTANCE OF AT LEAST 18" SHOULD BE MAINTAINED WHEN A SEWER PIPE CROSSES UNDER A WATER MAIN. IF THIS IS NOT POSSIBLE, THEN THE SEWER PIPE MUST BE ENCASED IN CONCRETE WITH A MINIMUM THICKNESS OF 4" FOR A DISTANCE OF 20 FEET CENTERING ON THE POINT OF CROSSING, OR THE SEWER PIPING MUST BE OF WATER MAIN QUALITY WITH 20 FOOT LENGTHS OF PIPE CENTERING ON THE POINT OF CROSSING.
- IF A CROSSING WHERE THE SEWER IS LAID ABOVE A WATER LINE IS UNAVOIDABLE, THEN THE ABOVE MENTIONED PRECAUTIONS SHALL BE OBSERVED REGARDLESS OF THE DISTANCE OF VERTICAL SEPARATION BETWEEN WATER MAINS AND SEWER PIPING.

STANDARD WATER DETAILS		CITY OF FORT LAUDERDALE, FLORIDA	
P - 8833-B		30" WATER MAIN FROM TARPON RIVER TO NEW RIVER	
NO. DATE BY	REVISIONS	CHECKED BY	FIELD BOOK
1 11/25/91 M.V.	D.S. REVISE NOTES 2 AND 3		
2 5/11/90 M.V.	A.J.D. REVISE NOTES 9 AND 20		
3 1/9/90 M.V.	D.S. REVISE FLUSHING CONNECTION		
4 2/27/89 M.V.	D.S. STANDARD DATE REVISIONS		
5 1/24/87 M.V.	D.S. GENERAL REVISIONS		
DESIGNED BY	S. STOCKTON	FILE NO.	CM 315-76
NOV 1984		OFFICE OF CITY ENGINEER	
14 OF 14 SHEET			

CITY OF FORT LAUDERDALE

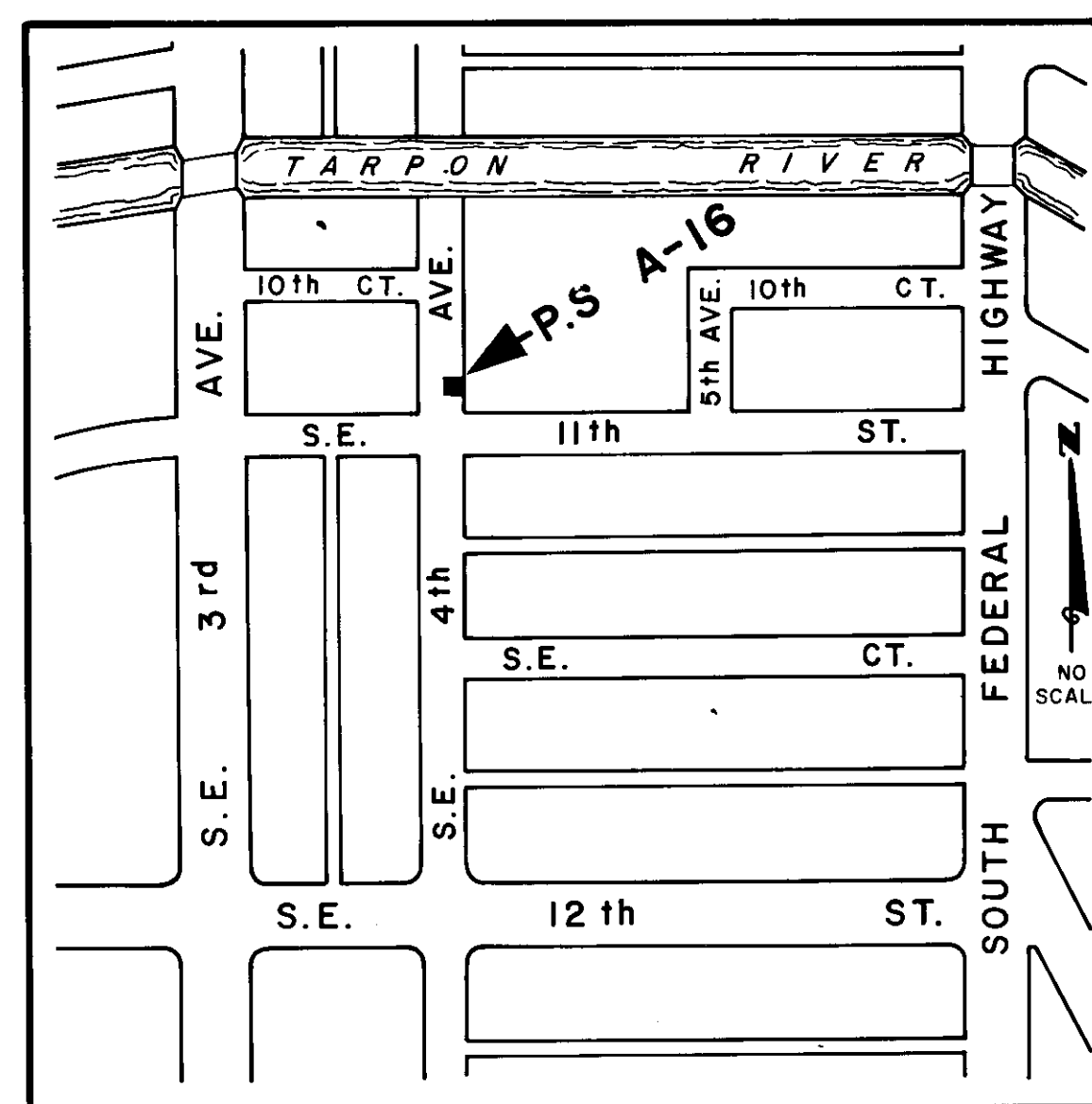
PROJECT NO. 3129

SEWAGE PUMPING STATION

A-16

INDEX

- 1- PLOT PLAN & ELECTRICAL
- 2- MECHANICAL
- 3- STRUCTURAL
- 4- MISCELLANEOUS DETAILS
- TRI - STANDARDS



LOCATION MAP

FORT LAUDERDALE CITY COMMISSION

F. PETER CLEMENTS - MAYOR
ROBERT O. COX
JAMES L. LEAVITT
EDMUND R. BERRY
HARRISON L. FRIESE

PREPARED IN THE OFFICE OF

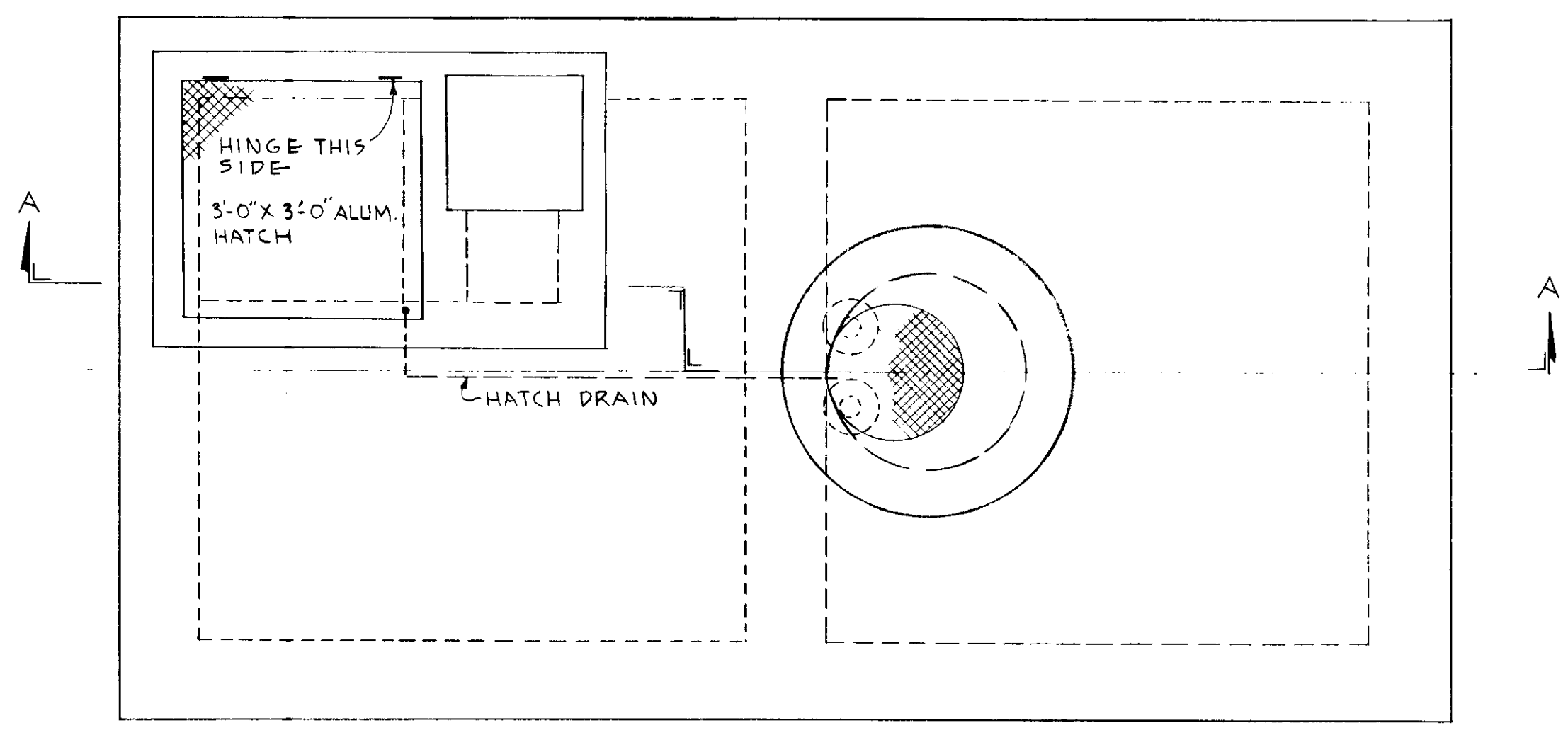
THE CITY ENGINEER

under the direct supervision

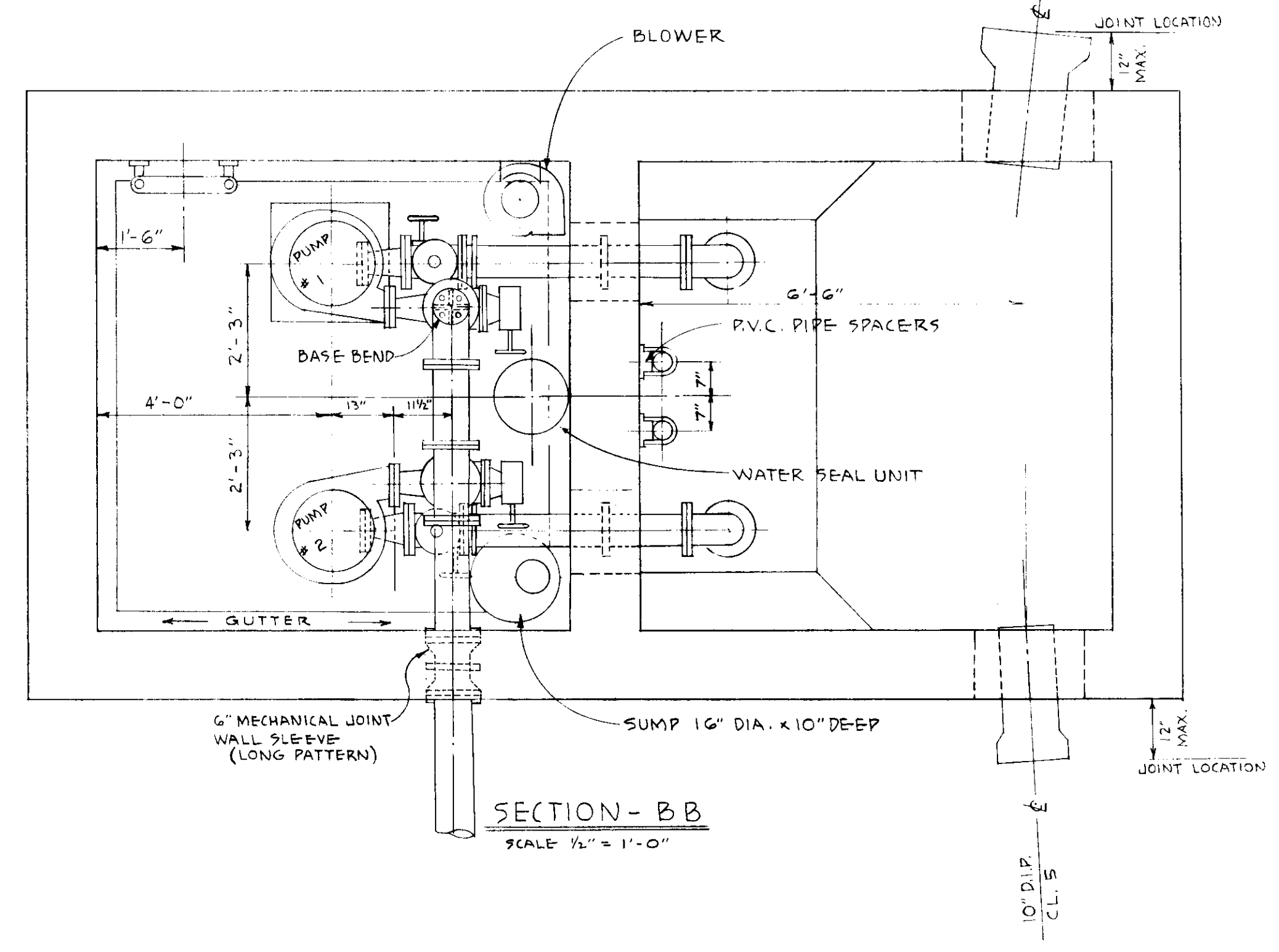
of *E. L. Patterson*

E. L. PATTERSON

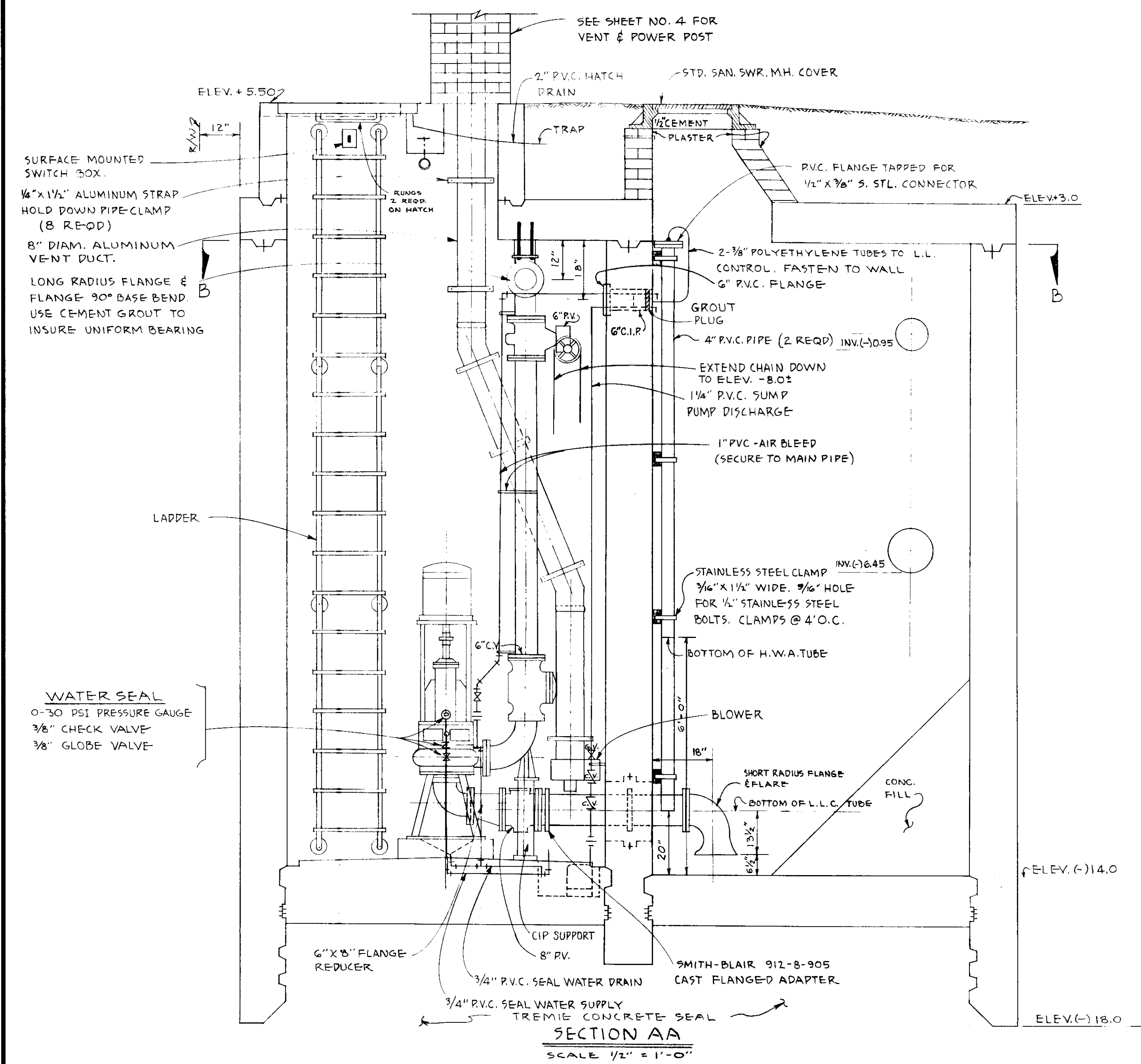
FLA. REG. ENG. NO. 2136



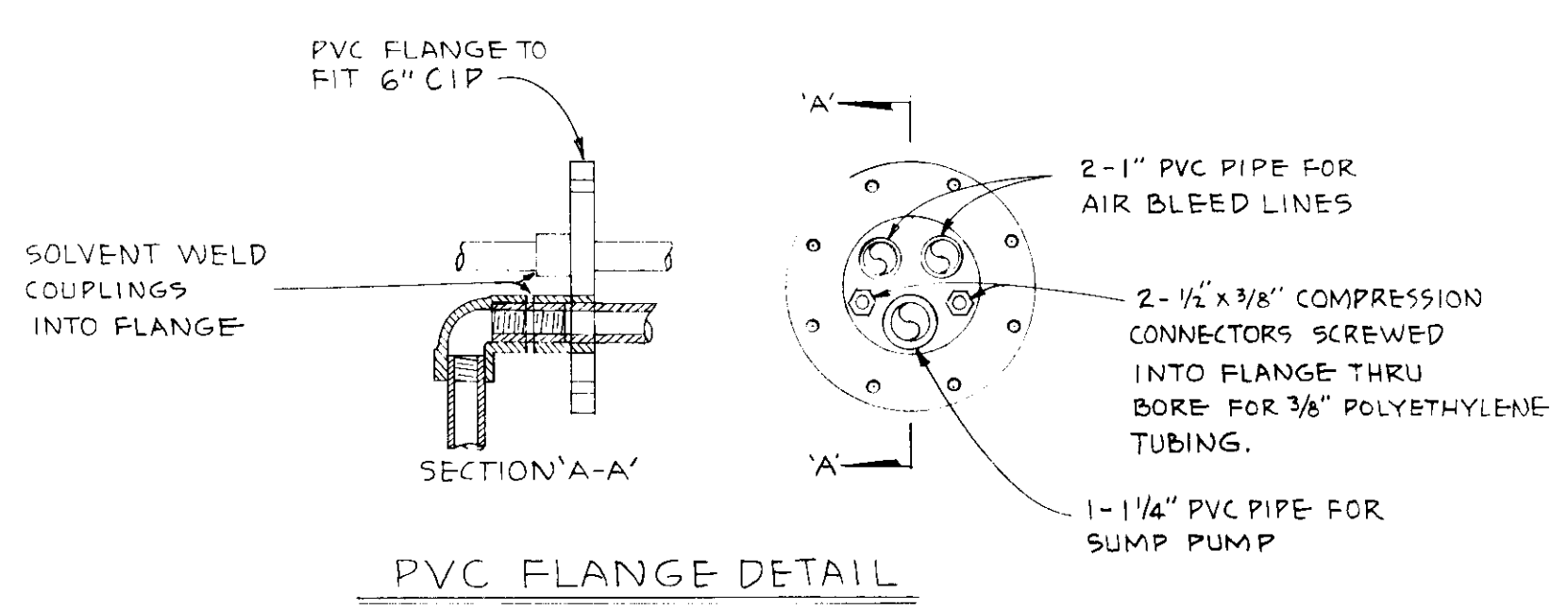
PLAN OF PUMPING STATION
SCALE 1/2" = 1'-0"



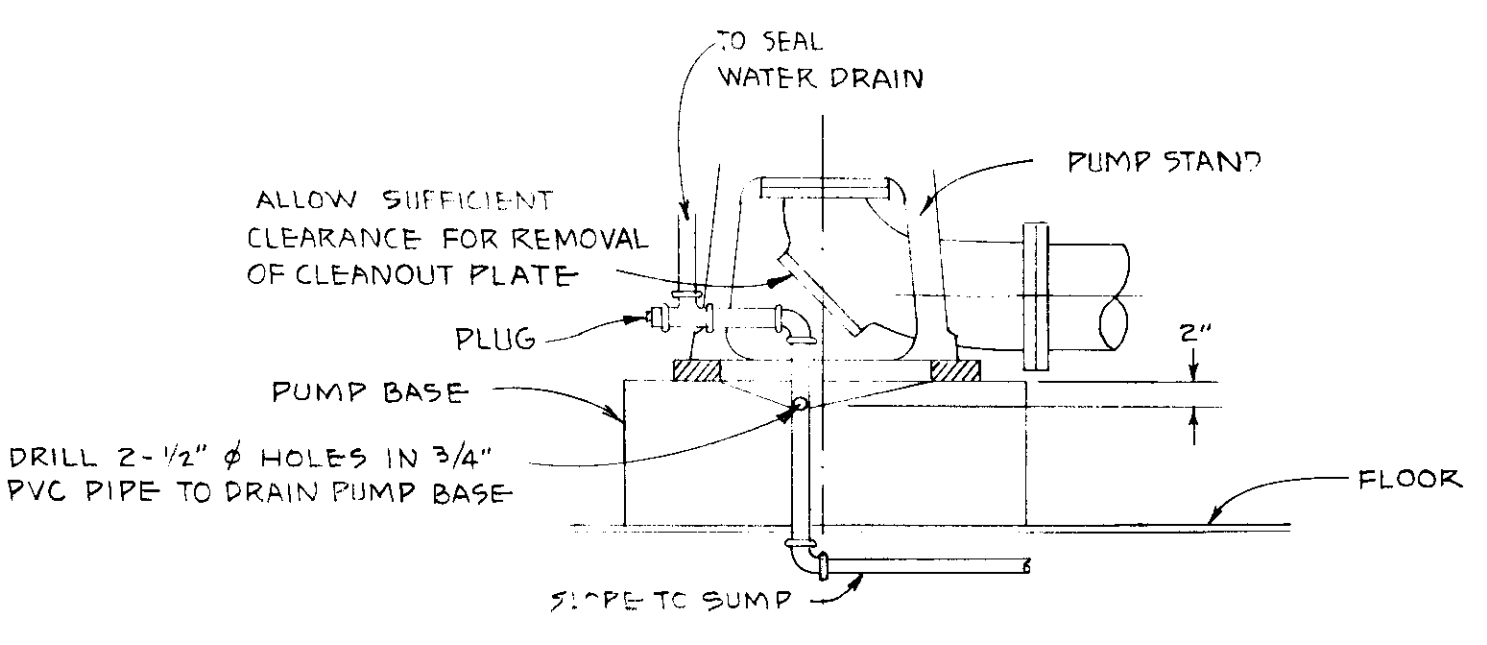
SECTION-BB
SCALE 1/2" = 1'-0"



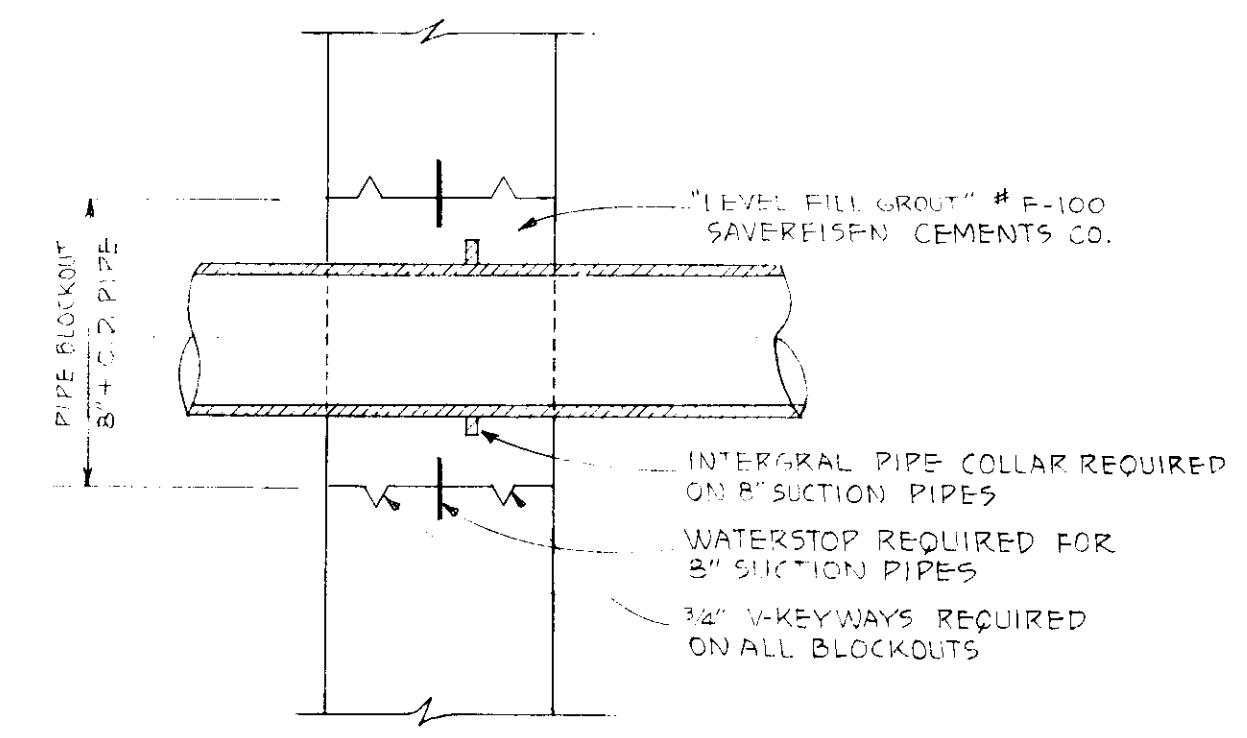
SECTION AA
SCALE 1/2" = 1'-0"



PVC FLANGE DETAIL



SECTION THRU PUMP BASE
SCALE: 1" = 1'-0"



TYPICAL PIPE & CONDUIT BLOCKOUT DETAIL
NO SCALE

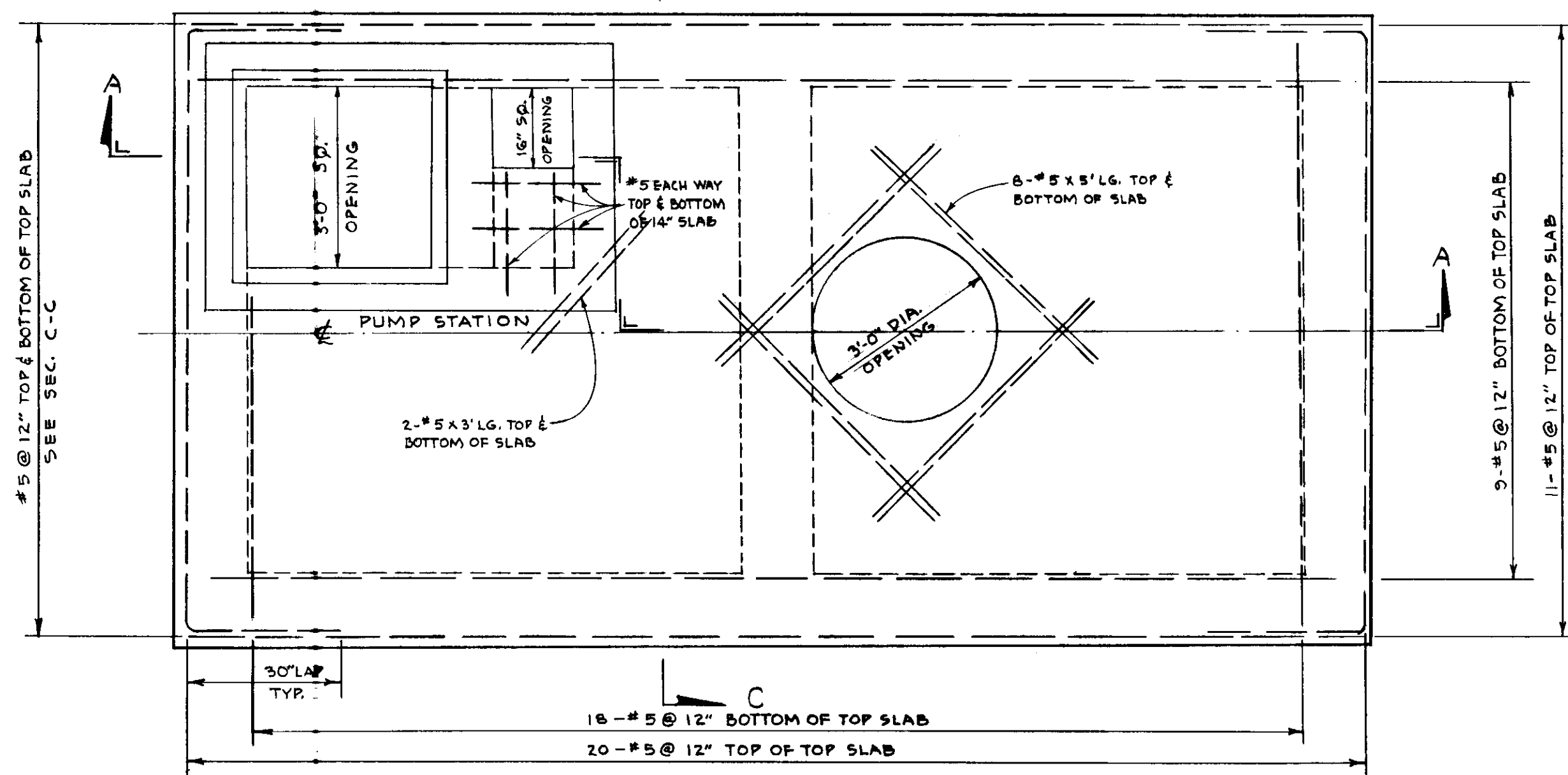
- LEGEND**
- X - GATE VALVE (UNLESS SPECIFIED OTHERWISE)
 - Z - SWING CHECK VALVE
 - = - UNION
 - PV - PLUG VALVE
 - CV - CHECK VALVE

- GENERAL NOTES**
1. ELEVATIONS REFER TO M.S.L. = 0.00 (USCGS)
 2. ALL PVC PIPE SHALL BE SCHEDULE 80, TYPE II WITH SOLVENT WELDED OR SCREWED JOINTS.
 3. CONCRETE SHALL BE CLASS 'A' WITH AIR ENTRAINMENT.
 4. THE WATERSEAL CONNECTION TO EACH SEWER PUMP SHALL BE MADE WITH A SHORT LENGTH OF 3/8" O.D. POLYETHYLENE TUBING.
 5. ALL BRACKETS SHALL BE OF NON-FERROUS METAL OR PLASTIC, WITH TYPE 316 STAINLESS STEEL FASTENERS.

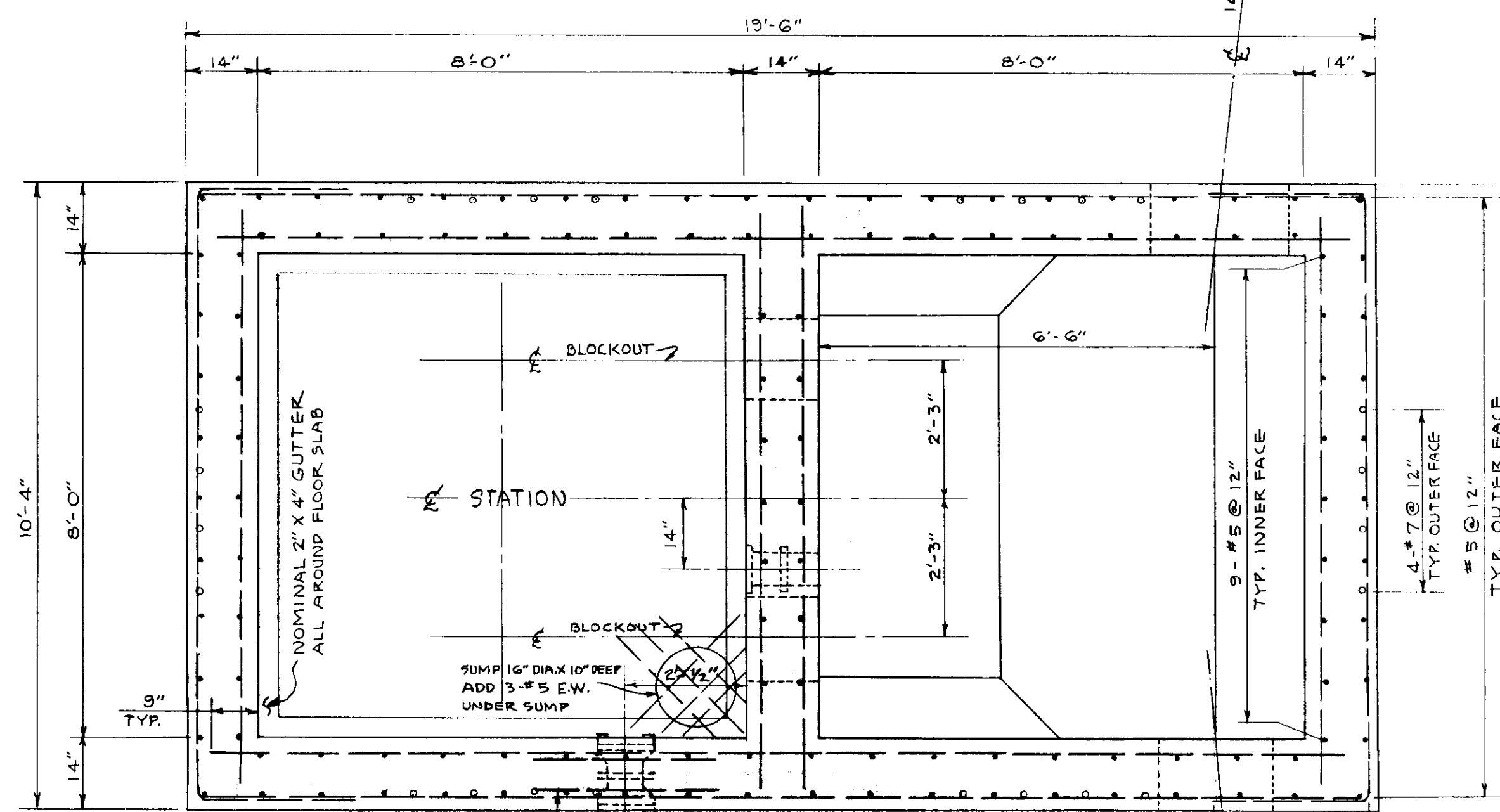
CITY OF FORT LAUDERDALE, FLORIDA
PROJECT 3129
SEWAGE
PUMPING STATION
A-16
MECHANICAL

(PUMP STA. A-16 TO SERVICE IMP 1244)

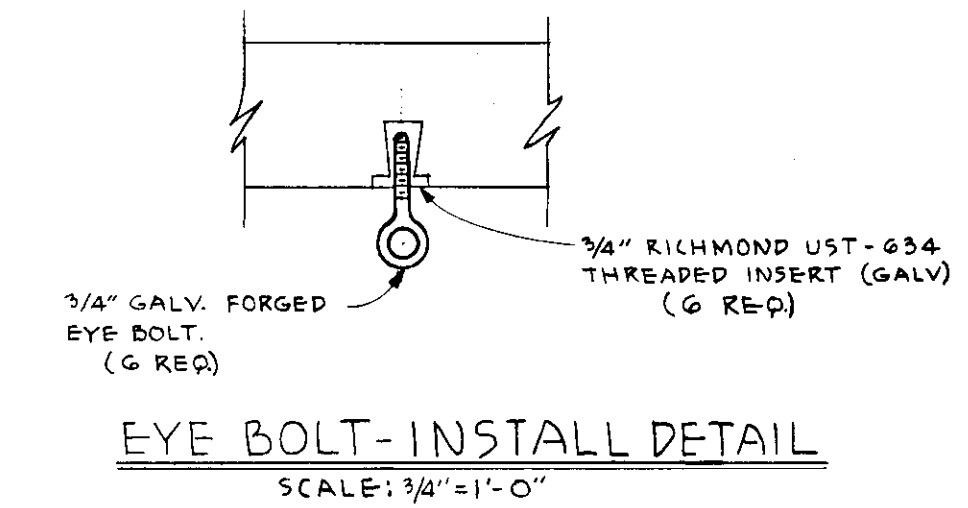
5						VAS DRAWN BY NO CHECKED BY NONE FIELD BOOK	OFFICE OF CITY ENGINEER	17 DEC 69	DATE									
4								AS NOTED	SCALE									
3								2 OF 4	SHEET									
2																		
1																		
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;">NO.</th> <th style="width: 10%;">DATE</th> <th style="width: 10%;">BY</th> <th style="width: 10%;">CHK.</th> <th style="width: 10%;">REMARKS</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>						NO.	DATE	BY	CHK.	REMARKS						REVISIONS		FILE NO. 4-10-69 12601-125
NO.	DATE	BY	CHK.	REMARKS														



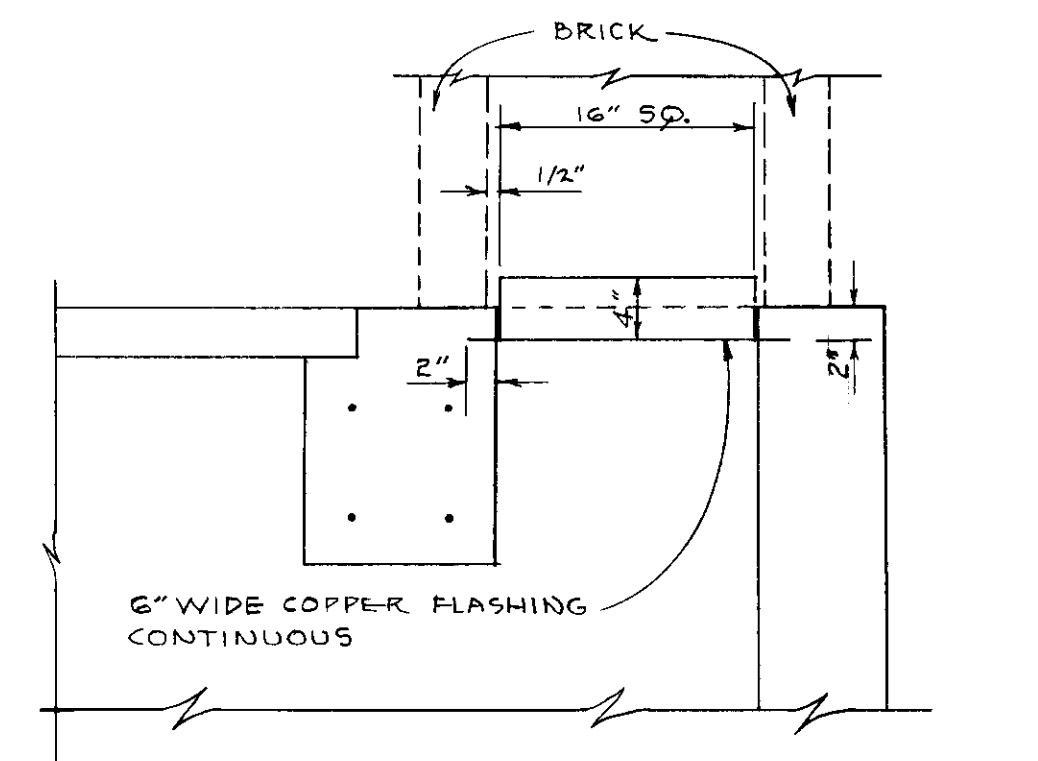
PLAN VIEW
TOP SLAB STEEL
SCALE: 1/2" = 1'-0"



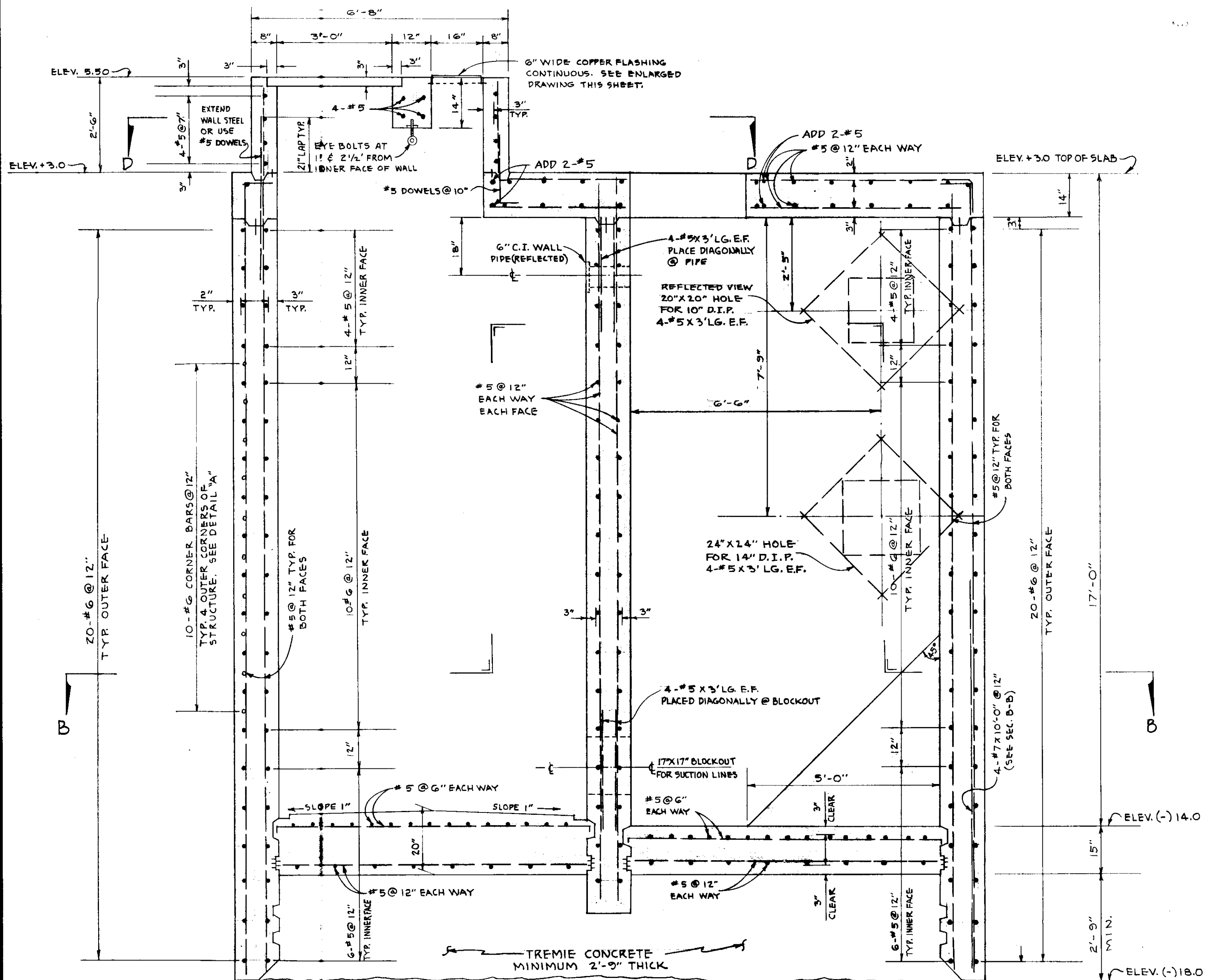
SECTION-BB
SCALE: 1/2" = 1'-0"



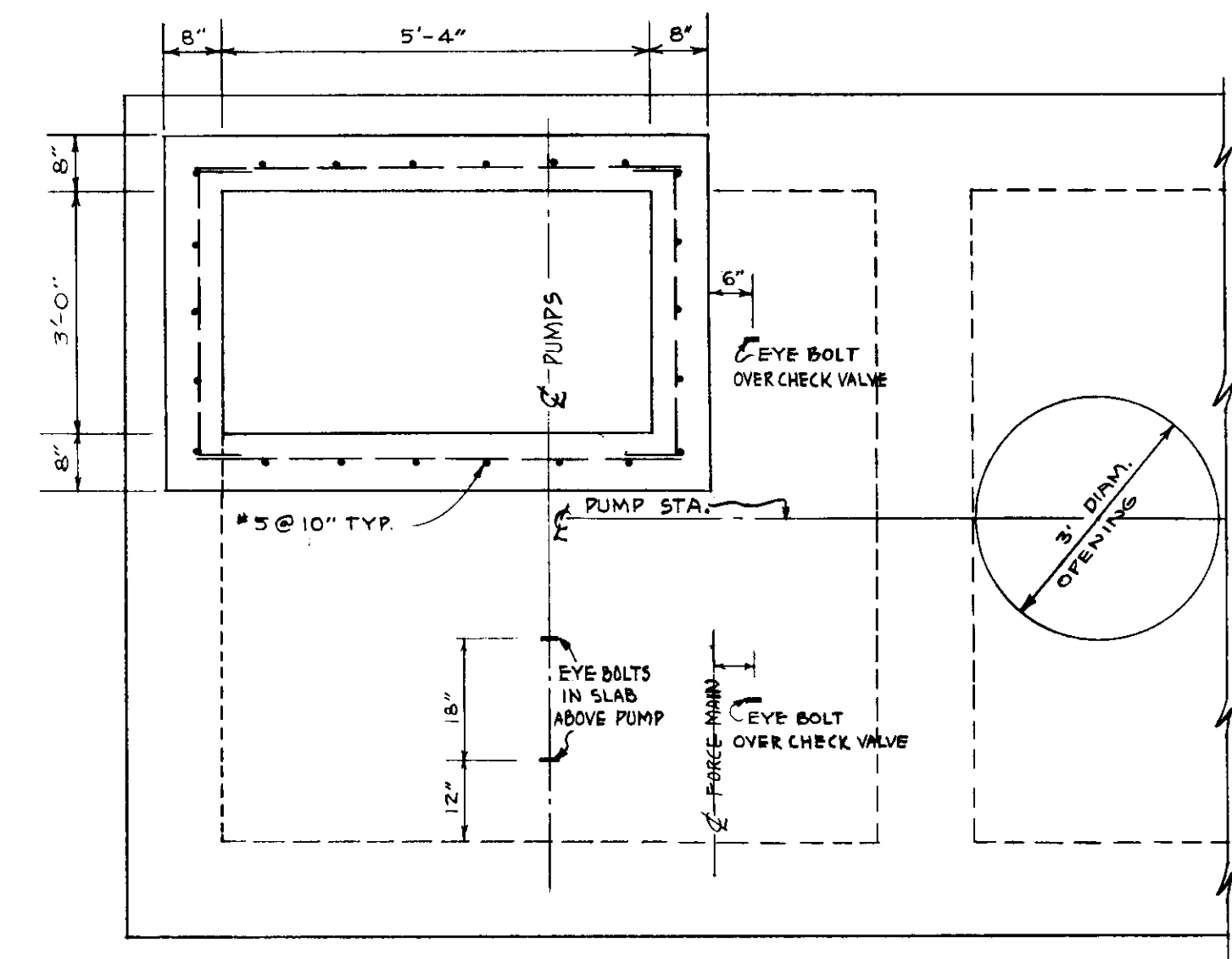
EYE BOLT-INSTALL DETAIL
SCALE: 3/4" = 1'-0"



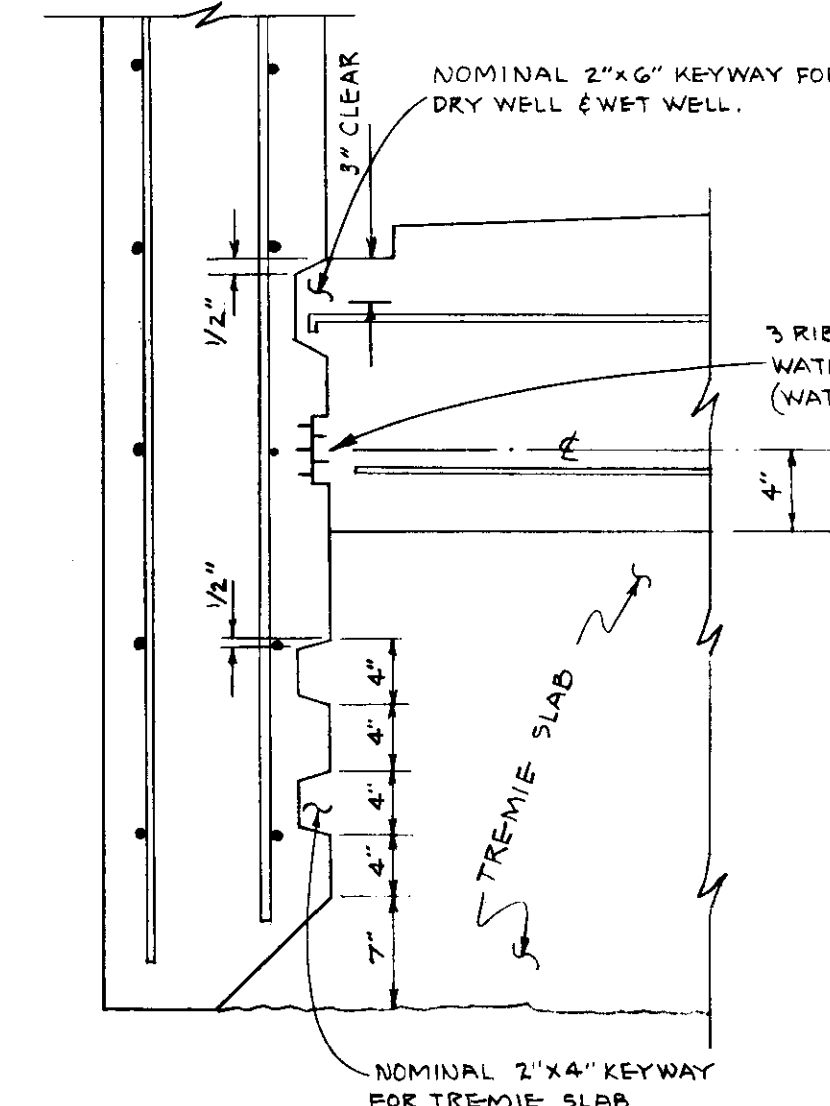
ENLARGED VIEW OF VENT OPENING
SCALE: 1" = 1'-0"



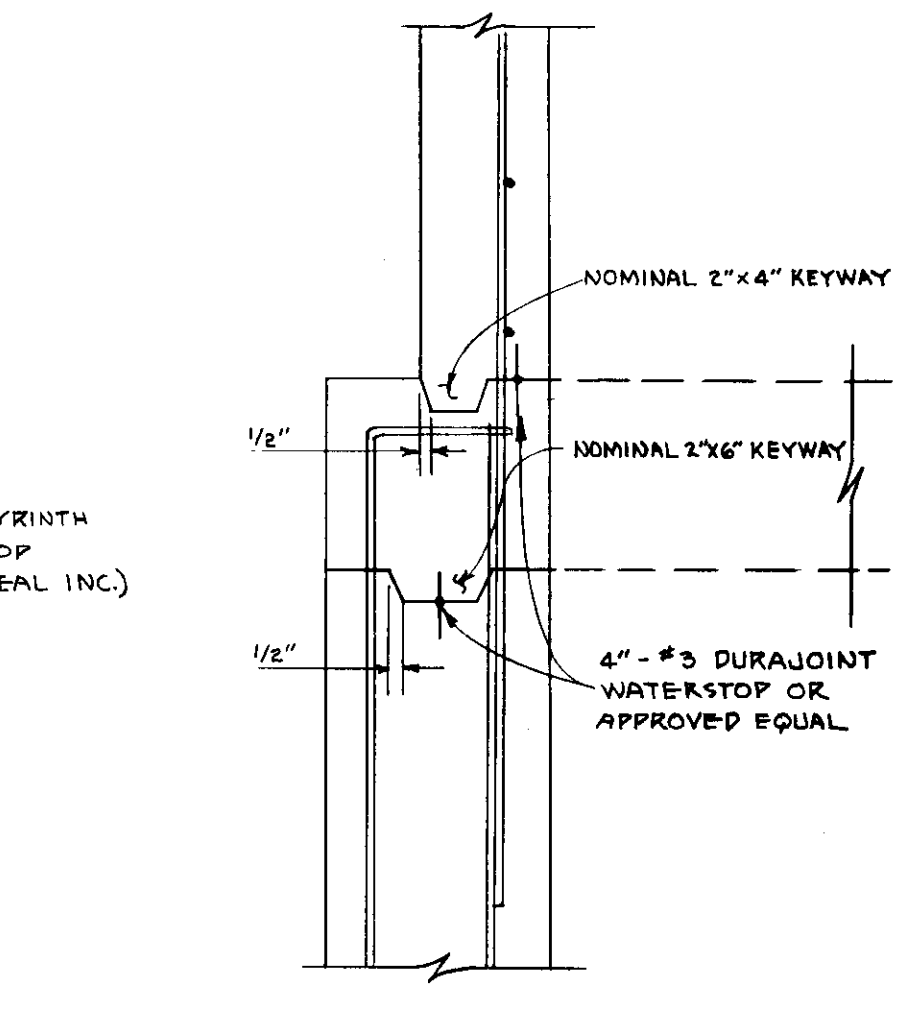
SECTION-AA
SCALE: 1/2" = 1'-0"



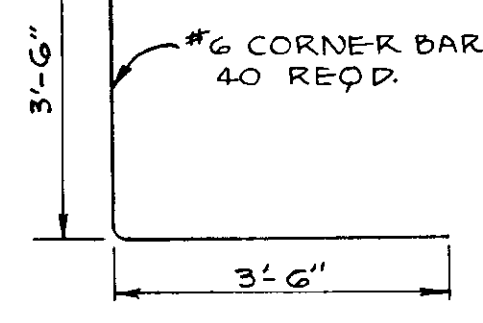
SECTION-DD
SCALE: 1/2" = 1'-0"



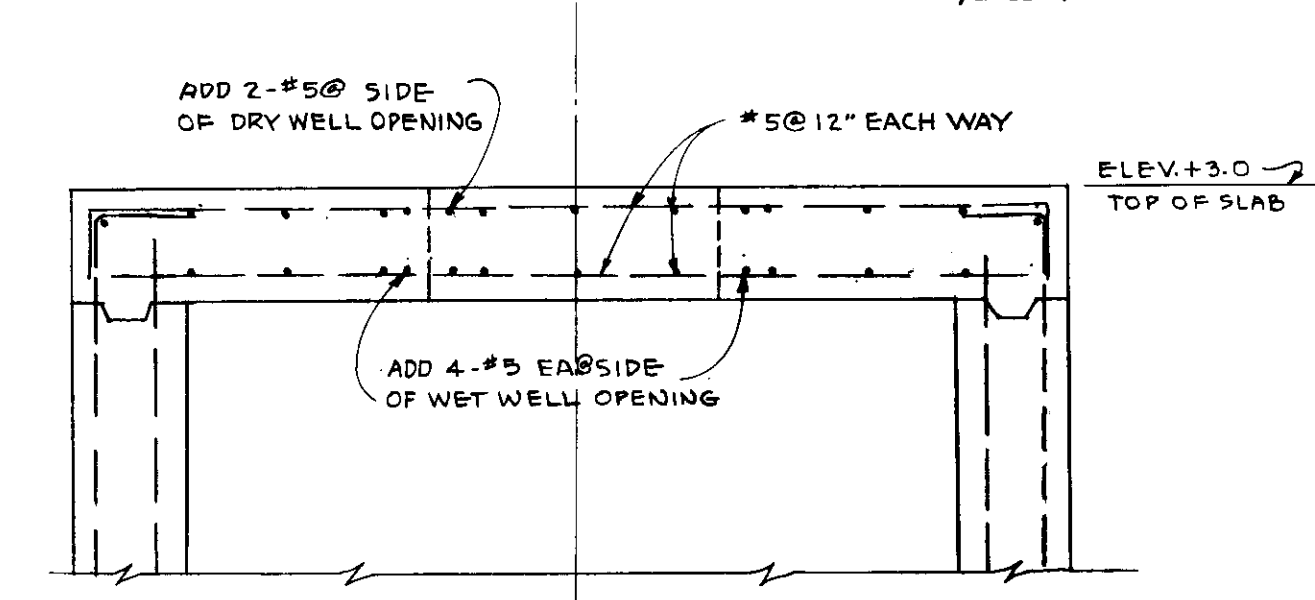
BOTTOM SLAB & TREMIE POUR
CONSTRUCTION JOINT
SCALE: 1" = 1'-0"



ENTRANCE TUBES & TOP SLAB
CONSTRUCTION JOINT
SCALE: 1" = 1'-0"



DETAIL A
SCALE: 1/2" = 1'-0"



SECTION-CC
SCALE: 1/2" = 1'-0"

GENERAL NOTES

1. ALL CONCRETE SHALL BE CLASS "A" WITH AIR ENTRAINMENT.
2. CHAMFER ALL EXPOSED CORNERS 3/4"
3. EXCAVATION MATERIAL BETWEEN WET WELL & DRY WELL NOT TO HAVE A DIFFERENTIAL OF MORE THAN SIX FEET.

(PUMP STA. A-16 TO SERVE IMP 1244)

NO.	DATE	BY	CHK.	REMARKS
5				
4				
3				
2				
1				

REVISIONS

CITY OF FORT LAUDERDALE, FLORIDA
PROJECT 3129
SEWAGE
PUMPING STATION
A-16
STRUCTURAL

WAS DRAWN BY
NO CHECKED BY
NONE FIELD BOOK

OFFICE OF
CITY ENGINEER

12 JAN 70
DATE
AS NOTED
SCALE
3 OF 4
SHEET

FILE NO. 4-6532



D-2: CITY ATLAS

Pumping Station A-16 Upgrade (Court House) 30" WM DCP
City of Fort Lauderdale Project 12412
CMA Project No. 047.057

SEWER LEGEND

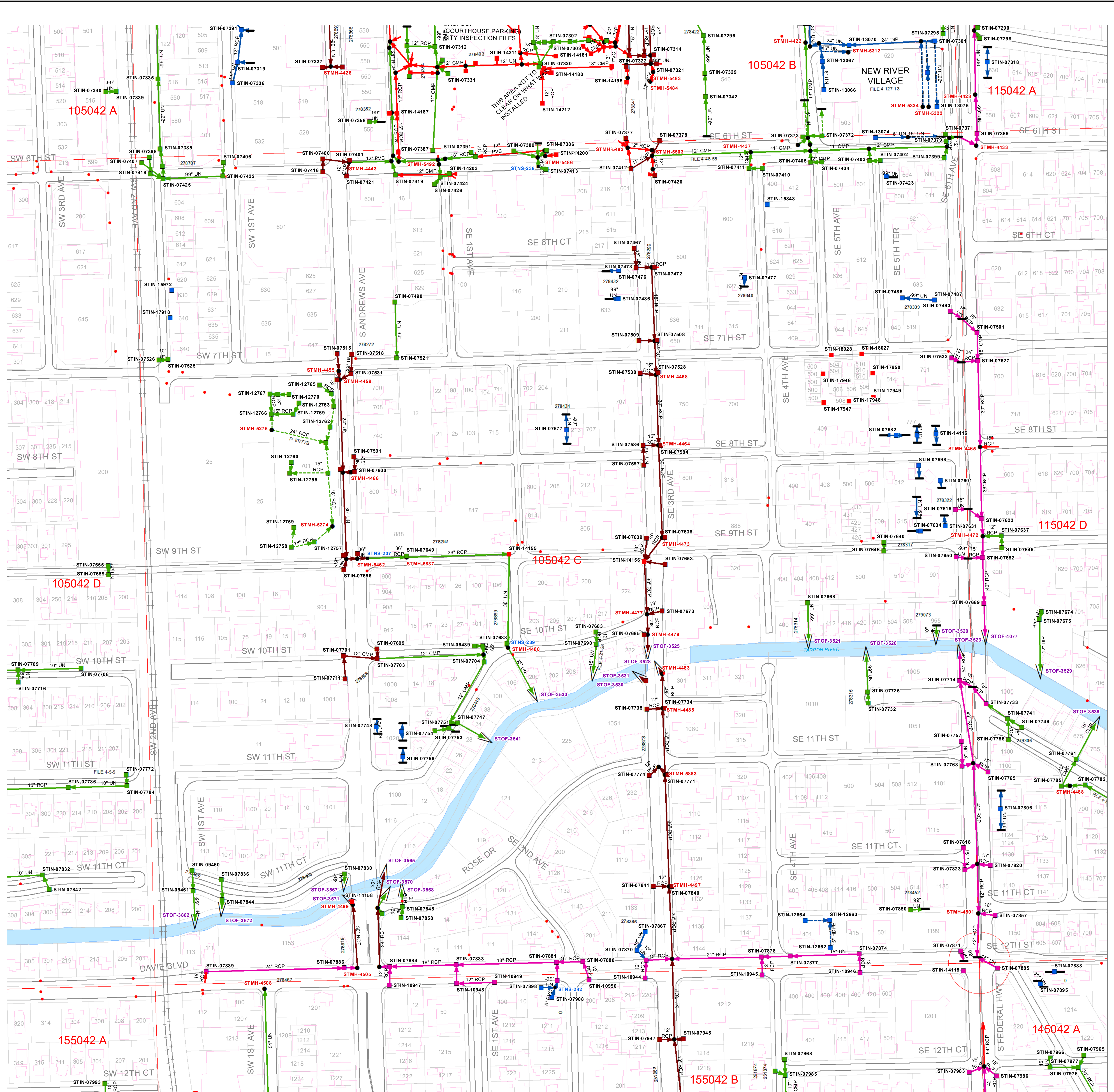
<p>Gravity Main</p> <ul style="list-style-type: none"> City Private County Abandoned or Inactive <p>Pressurized Main</p> <ul style="list-style-type: none"> City Private County Abandoned or Inactive 	<p>Pump Station</p> <ul style="list-style-type: none"> City Private County Abandoned or Inactive Reducer System Valve Air Release Valve Cleanout 	<p>Manhole</p> <ul style="list-style-type: none"> City Private County Abandoned or Inactive Unknown Section Boundaries Parcel Boundaries Fort Lauderdale Municipal Boundary 	<p> Railroads</p> <p> Sewer Eligibility Areas</p> <p>Retail Wastewater Treatment Area</p> <ul style="list-style-type: none"> Broward County Tamarac
---	---	--	--

WATER LEGEND

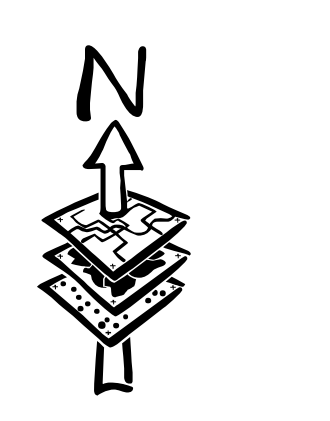
<ul style="list-style-type: none"> Storage Tank Water Meter Fire Service <p>Retail Water Service Area</p> <ul style="list-style-type: none"> Broward County <p>Fort Lauderdale Municipal Boundary</p> <ul style="list-style-type: none"> <p>Fire Hydrants</p> <ul style="list-style-type: none"> Non-City City 	<p>Well</p> <ul style="list-style-type: none"> Office Added DGPS (1-meter) GPS (< 1-foot) <p>Control Valve</p> <ul style="list-style-type: none"> Office Added DGPS (1-meter) GPS (< 1-foot) GPS Asbuilt Converted (< 1-foot) <p>Water Fitting</p> <ul style="list-style-type: none"> Other Plug Reducer Interconnect 	<p>Monitoring Wells</p> <ul style="list-style-type: none"> Office Added DGPS (1-meter) GPS (< 1-foot) GPS Asbuilt Converted (< 1-foot) <p>System Valves</p> <ul style="list-style-type: none"> Office Entry, Active DGPS (1-meter), Active DGPS (1-meter), Inactive Office Entry, Inactive Office Entry, Not Found GPS (< 1-foot), Active GPS Asbuilt Converted (< 1-foot), Active 	<p>Raw Water Main</p> <ul style="list-style-type: none"> Unverified City, Active City, Inactive Sludge Line Abandoned Raw Water Main <p>Pressurized Main</p> <ul style="list-style-type: none"> Non-City City, Inactive City, Active Abandoned Pressurized Main
---	---	--	---

STORM LEGEND

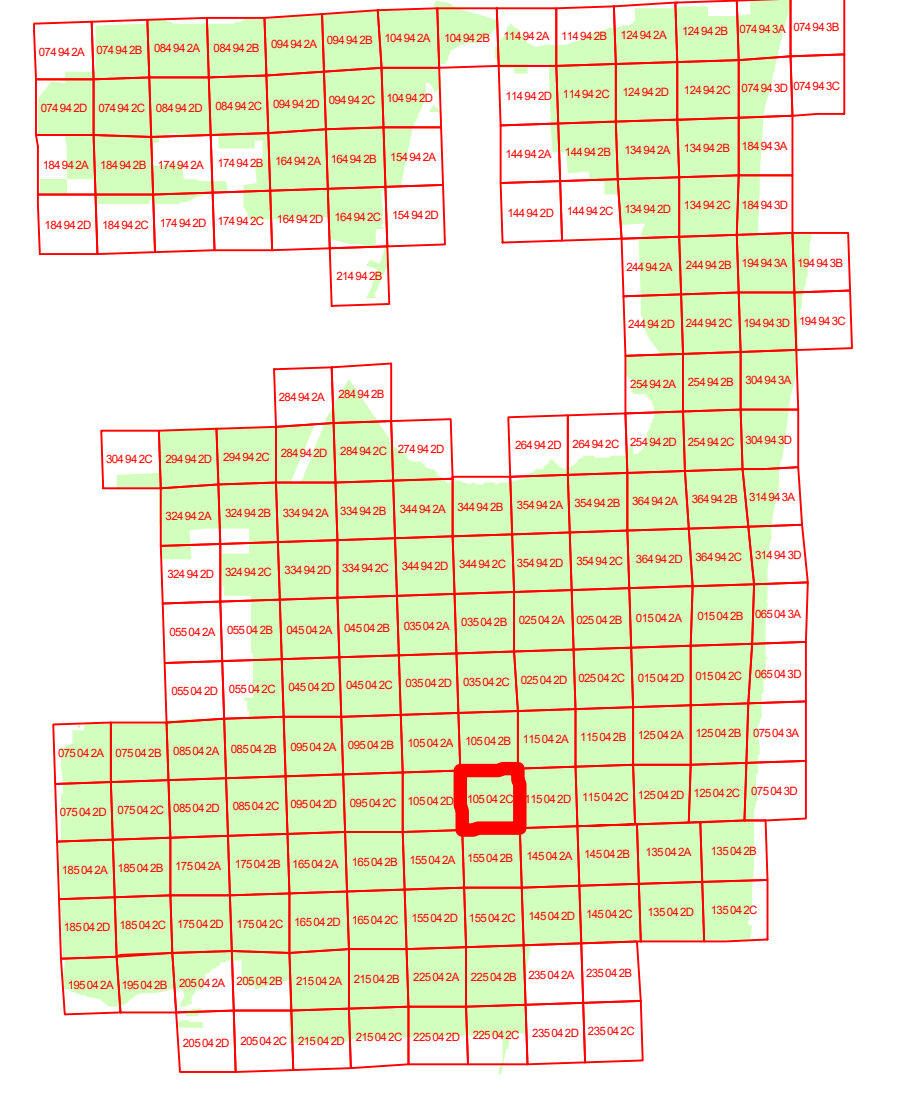
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---	---



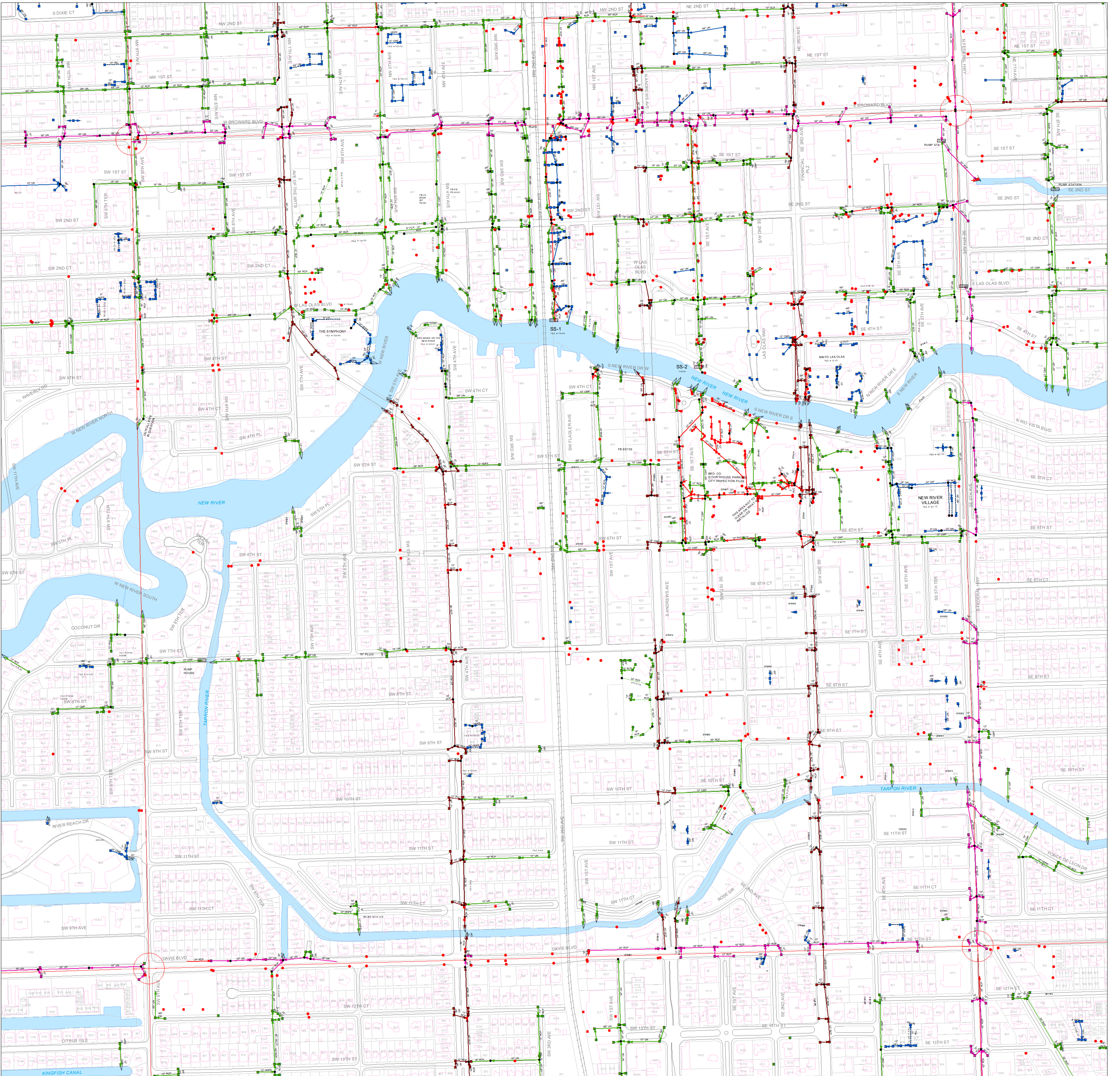
City of Fort Lauderdale
Storm Quartersection Atlas



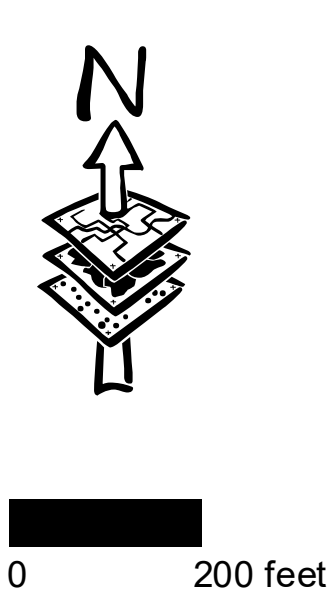
LEGEND	
	Inlet (Shaded by Ownership)
	Manhole
	Pump Station
	Outfall
	Junction Box
	Endpoint
	Drainage Well
	Storm Control Valve
	City Storm Water Line
	County Storm Water Line
	State Storm Water Line
	Private Storm Water Line
	Unknown Storm Water Line
	Perforated Pipe (Shaded By Ownership)
	Abandoned
	Dry Retention Systems



Section 105042 C

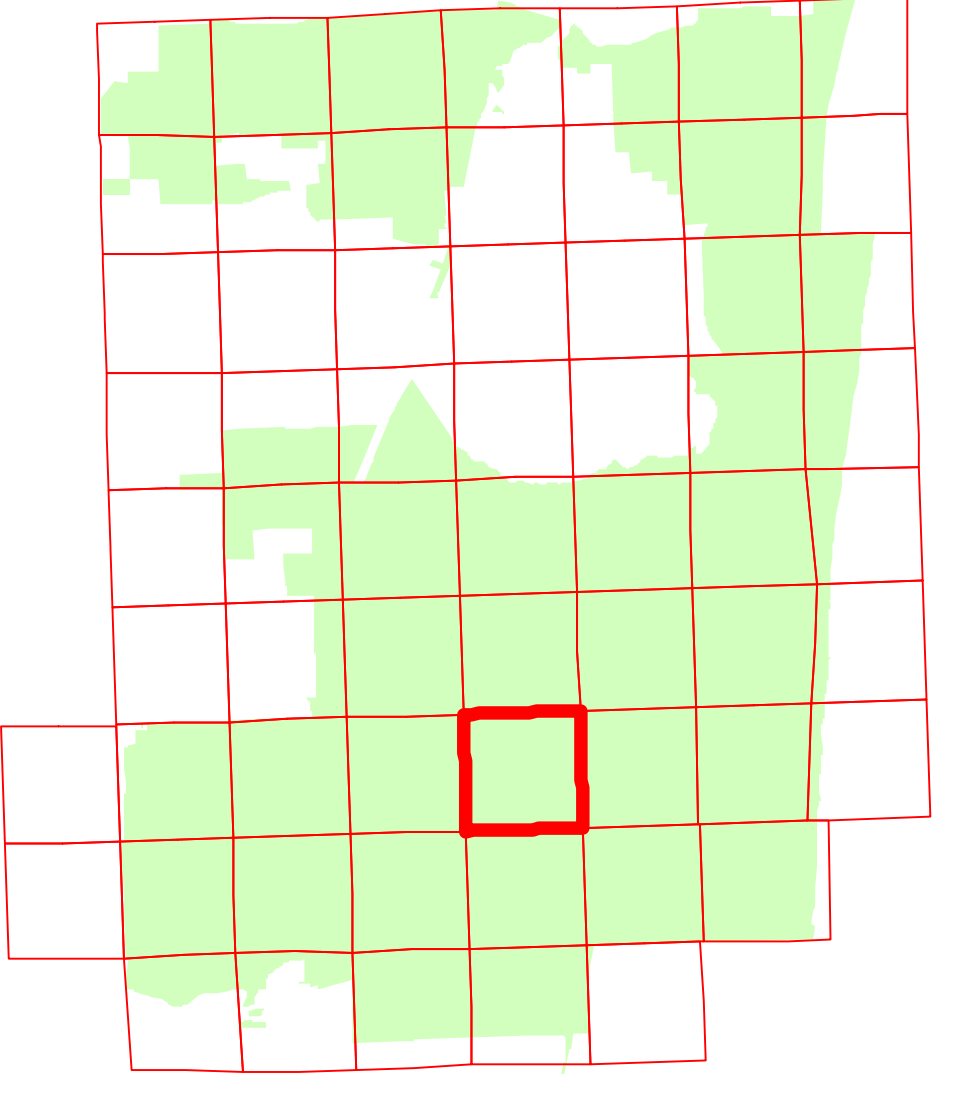


City of Fort Lauderdale
Storm Atlas Sheet

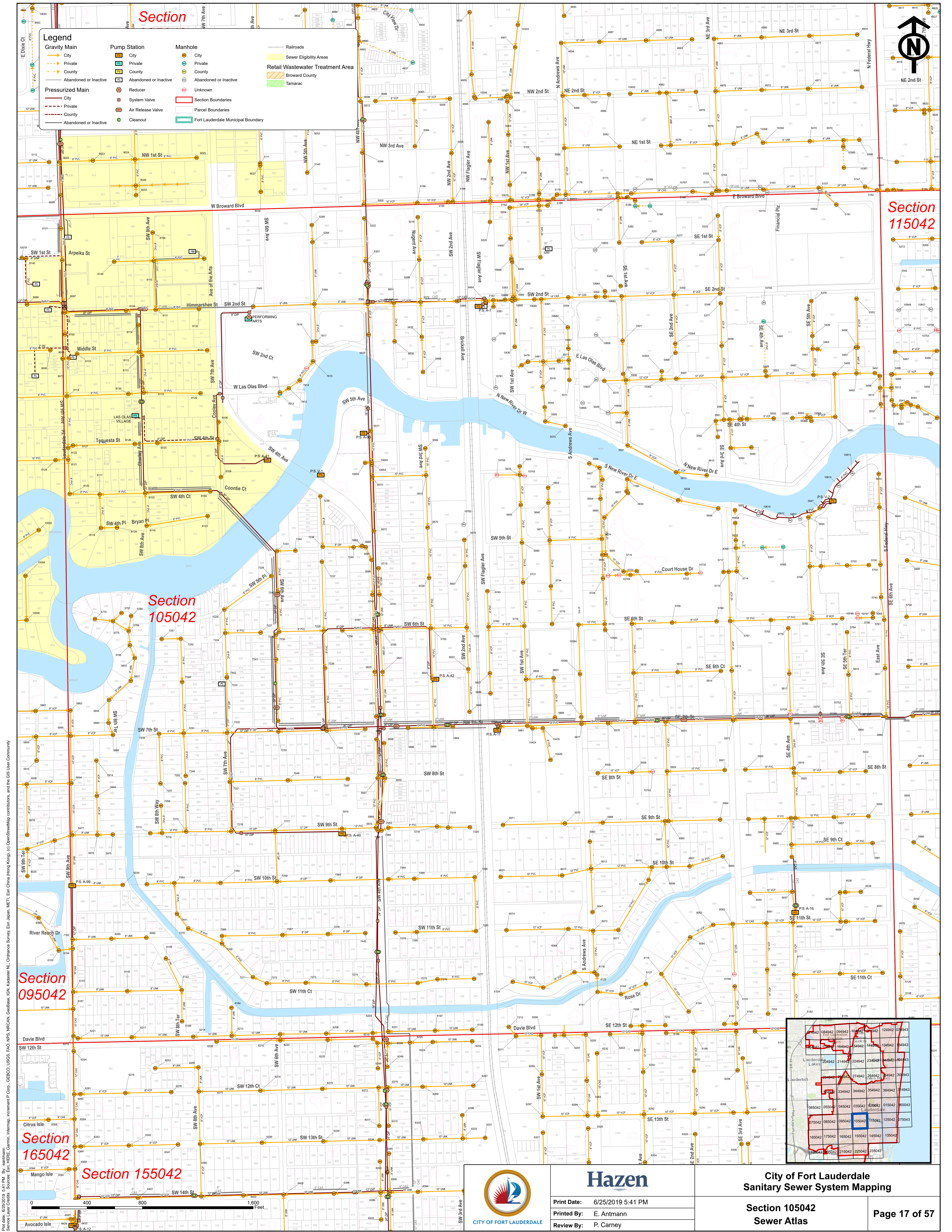


LEGEND

	Inlet (Shaded by Ownership)		City Storm Water Line
	Manhole		County Storm Water Line
	Pump Station		Private Storm Water Line
	Outfall		Unknown Storm Water Line
	Junction Box		Perforated Pipe (Shaded By Ownership)
	Endpoint		Abandoned
	Drainage Well		Dry Retention Systems
	Storm Control Valve		



Section 105042



Legend

Gravity Main	Pump Station	Manhole	Railroads
City (Orange line)	City (Square symbol)	City (Circle symbol)	Yellow shaded area
Private (Dashed orange line)	Private (Square symbol)	Private (Circle symbol)	Green shaded area
County (Dashed red line)	County (Square symbol)	County (Circle symbol)	Light green shaded area
Abandoned or inactive (Dashed grey line)	Abandoned or inactive (Square symbol)	Abandoned or inactive (Circle symbol)	Light blue shaded area
Pressurized Main	Reducer	Unknown	Section Boundaries
City (Red line)	Circle symbol	Circle symbol	Red dashed line
Private (Dashed red line)	Square symbol	Square symbol	Blue dashed line
County (Dashed red line)	Square symbol	Square symbol	Green dashed line
Abandoned or inactive (Dashed grey line)	Square symbol	Square symbol	Blue dashed line
Air Release Valve	System Valve	Parcel Boundaries	Fort Lauderdale Municipal Boundary
Circle symbol	Square symbol	Red dashed line	Green dashed line
Cleanout	Air Release Valve	Parcel Boundaries	Fort Lauderdale Municipal Boundary
Circle symbol	Square symbol	Red dashed line	Green dashed line

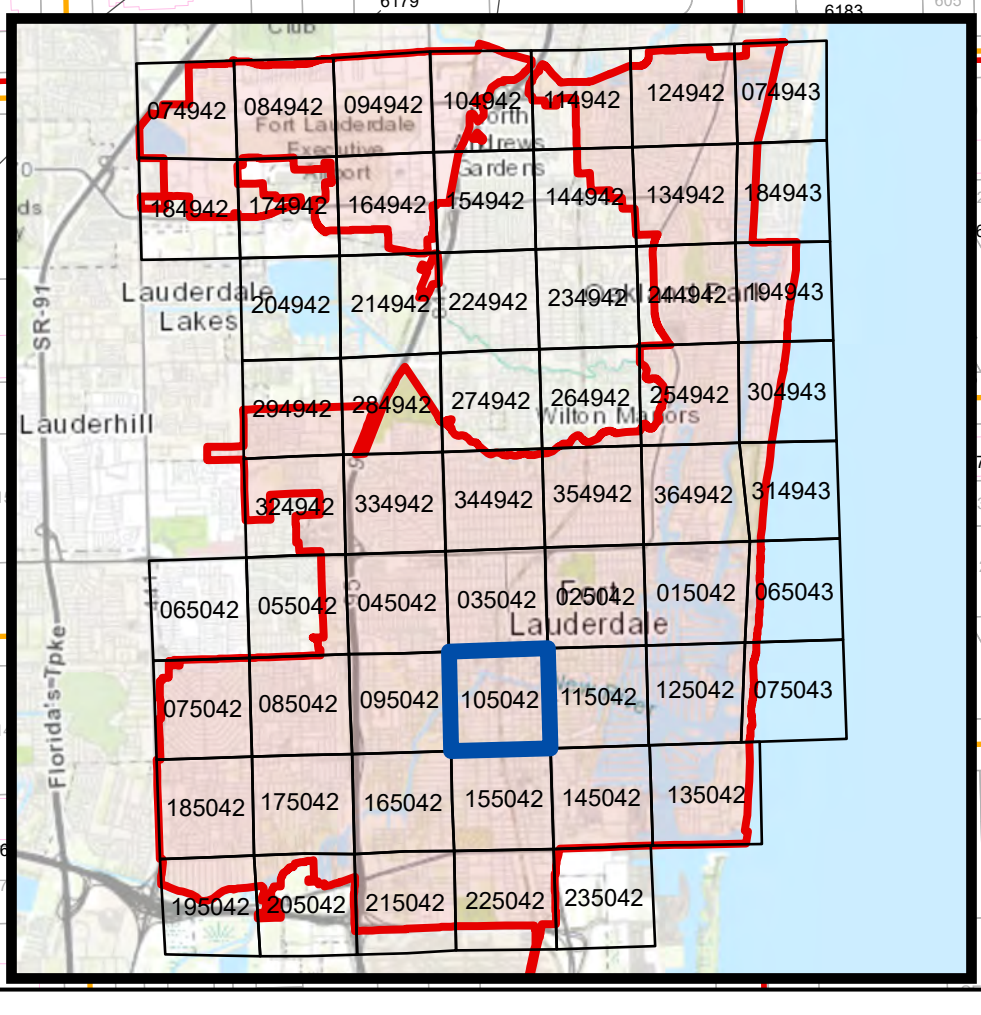
Section 115042

Section 105042

Section 095042

Section 165042

Section 155042



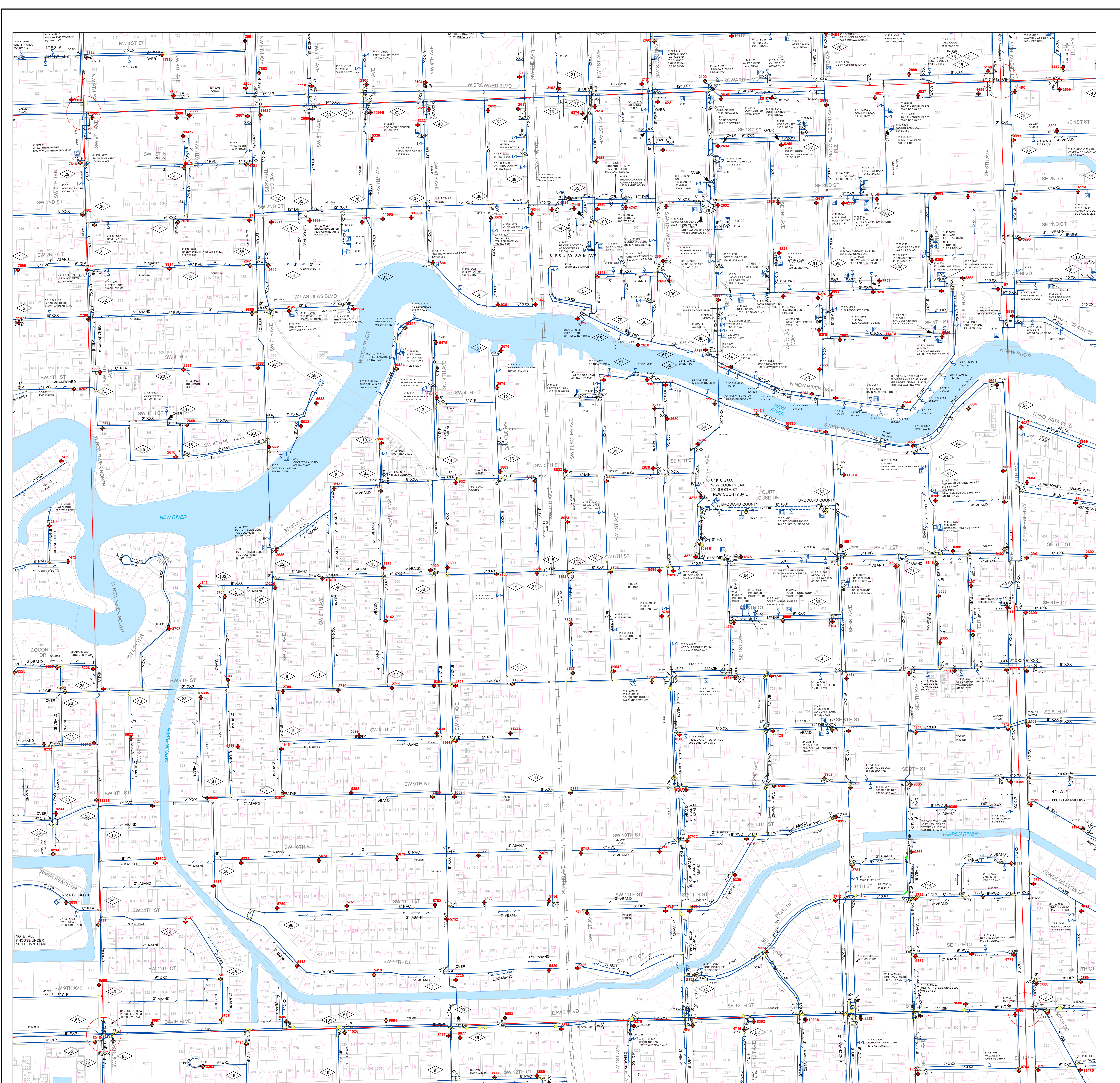
Hazen

Print Date: 6/25/2019 5:41 PM
 Printed By: E. Antmann
 Review By: P. Carney

City of Fort Lauderdale
Sanitary Sewer System Mapping

Section 105042
Sewer Atlas

Page 17 of 57



City of Fort Lauderdale
Water Atlas Sheet

Legend

- Storage Tank
- ⊕ Water Meter
- ⚡ Fire Service
- Retail Water Service Area
- Broward County
- Fort Lauderdale Municipal Boundary
- ⚡ Fire Hydrants
 - ⚡ Non-City
 - ⚡ City

Well

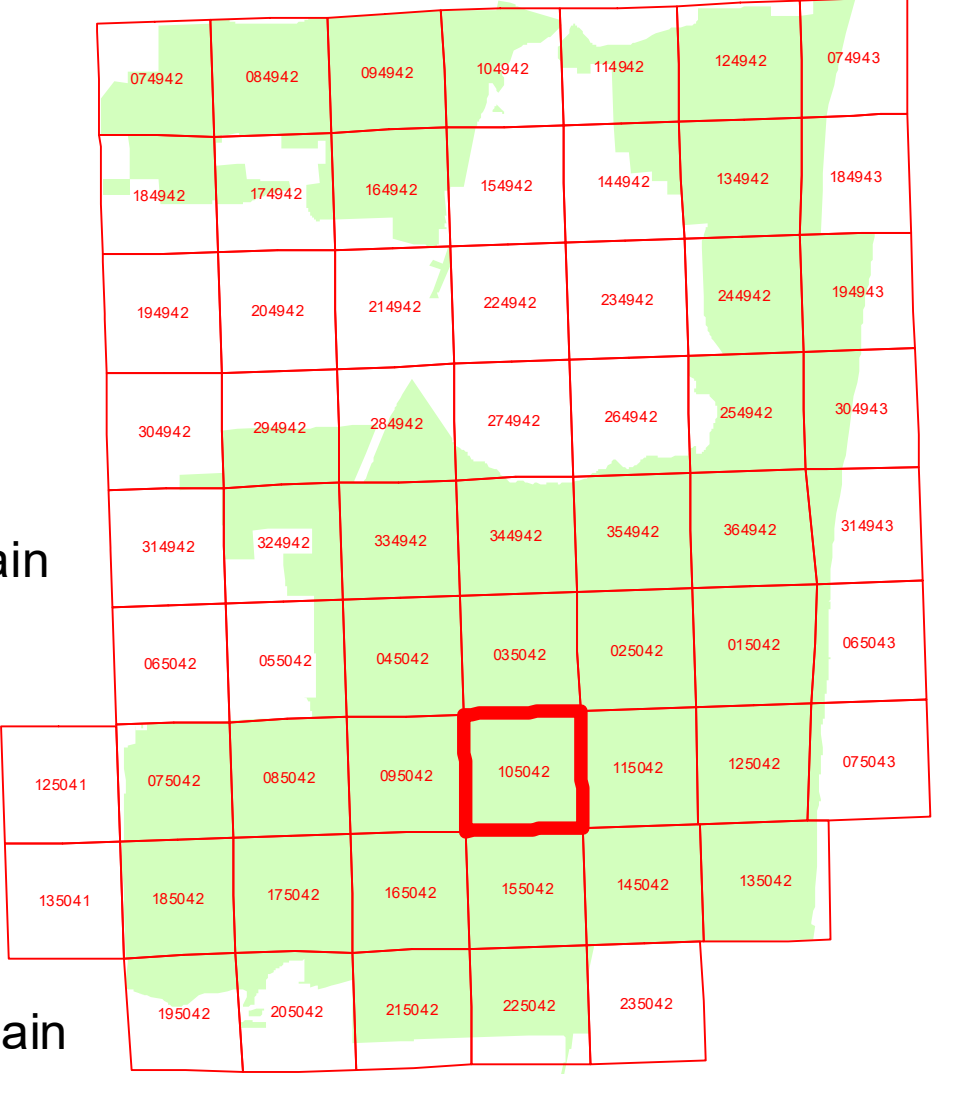
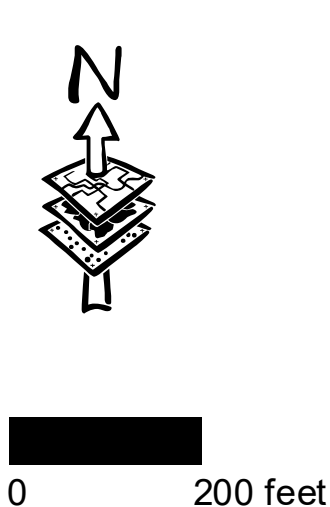
- Office Added
- DGPS (1-meter)
- GPS (< 1-foot)
- Control Valve**
 - Office Added
 - DGPS (1-meter)
 - GPS (< 1-foot)
 - GPS Asbuilt Converted (< 1-foot)
- Water Fitting**
 - Other
 - Plug
 - Reducer
 - Interconnect

Monitoring Wells

- ★ Office Added
- ★ DGPS (1-meter)
- ★ GPS (< 1-foot)
- ★ GPS Asbuilt Converted (< 1-foot)
- System Valves**
 - × Office Entry, Active
 - × DGPS (1-meter), Active
 - × DGPS (1-meter), Inactive
 - × Office Entry, Inactive
 - × Office Entry, Not Found
 - × GPS (< 1-foot), Active
 - × GPS Asbuilt Converted (< 1-foot), Active

Raw Water Main

- Unverified
- City, Active
- City, Inactive
- - - - Sludge Line
- Abandoned Raw Water Main
- Pressurized Main**
 - Non-City
 - City, Inactive
 - City, Active
 - Abandoned Pressurized Main



Section 105042



D-3: SUNSHINE 811 DESIGN TICKET INFORMATION

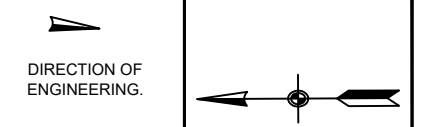
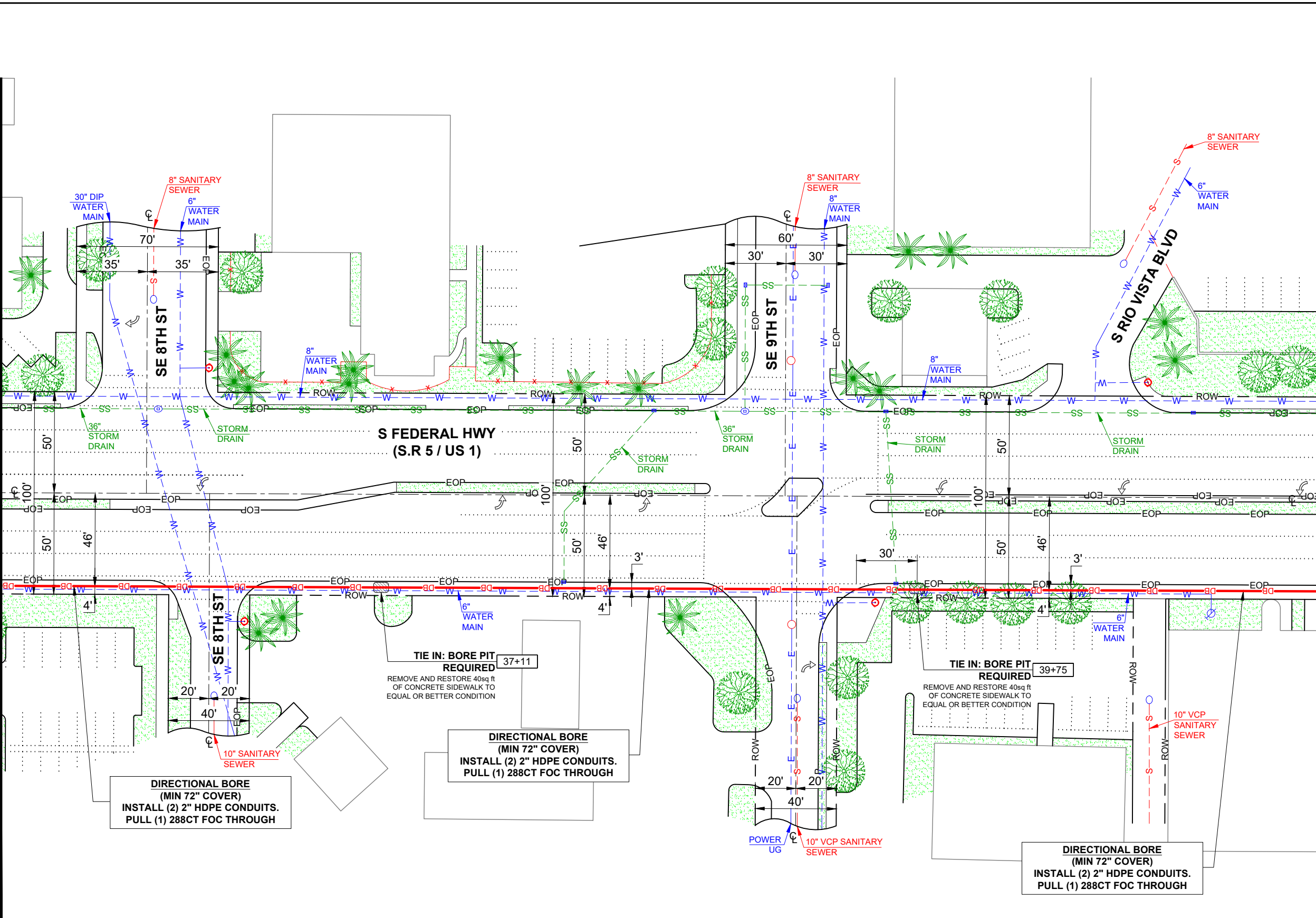
Pumping Station A-16 Upgrade (Court House) 30" WM DCP
City of Fort Lauderdale Project 12412
CMA Project No. 047.057

SEE SHEET: 005 OF 015

MATCH LINE STATION: 35+23

SEE SHEET: 007 OF 015

MATCH LINE STATION: 41+73



CONSTRUCTION NOTES:

- ALL DAMAGED SURFACES ARE TO BE RESTORED TO PREVIOUS CONDITION OR BETTER.
- ALL MEASUREMENTS AND DISTANCES ARE TO BE VERIFIED ON FIELD.
- MINIMUM 12" SEPARATION IS TO BE MAINTAINED BETWEEN EXISTING UTILITY AND NEW HOTWIRE CONDUITS.
- MINIMUM 5' RADIUS IS TO BE MAINTAINED ON ALL CONDUIT BENDING.

FOOTAGE (THIS SHEET)

DESCRIPTION	FOOTAGE
TRENCH	-
TRENCH OPEN CUT	-
DIRECTIONAL BORE	650'
BRIDGE ATTACHMENT	-
NEW AERIAL	-
OVERLASH AERIAL	-
PULL THROUGH EXISTING DUCT	-
TOTAL NEW HANDHOLES	-

CONSTRUCTION DWG

DIRECTIONAL BORE (MIN 72" COVER)
INSTALL (2) 2" HDPE CONDUITS.
PULL (1) 288CT FOC THROUGH

TIE IN: BORE PIT REQUIRED 37+11
REMOVE AND RESTORE 40sq ft OF CONCRETE SIDEWALK TO EQUAL OR BETTER CONDITION

DIRECTIONAL BORE (MIN 72" COVER)
INSTALL (2) 2" HDPE CONDUITS.
PULL (1) 288CT FOC THROUGH

TIE IN: BORE PIT REQUIRED 39+75
REMOVE AND RESTORE 40sq ft OF CONCRETE SIDEWALK TO EQUAL OR BETTER CONDITION

DIRECTIONAL BORE (MIN 72" COVER)
INSTALL (2) 2" HDPE CONDUITS.
PULL (1) 288CT FOC THROUGH

10360 USA TODAY WAY
MIRAMAR
FLORIDA 33025

FIBER OPTIC CABLE INSTALLATION

REVISIONS		
DATE	DESCRIPTION	INITIAL
04-26-17	ORIGINAL SUBMITTAL	DPI
11-03-17	CHANGES AS PER CITY OF FORT LAUDERDALE COMMENTS	DPI



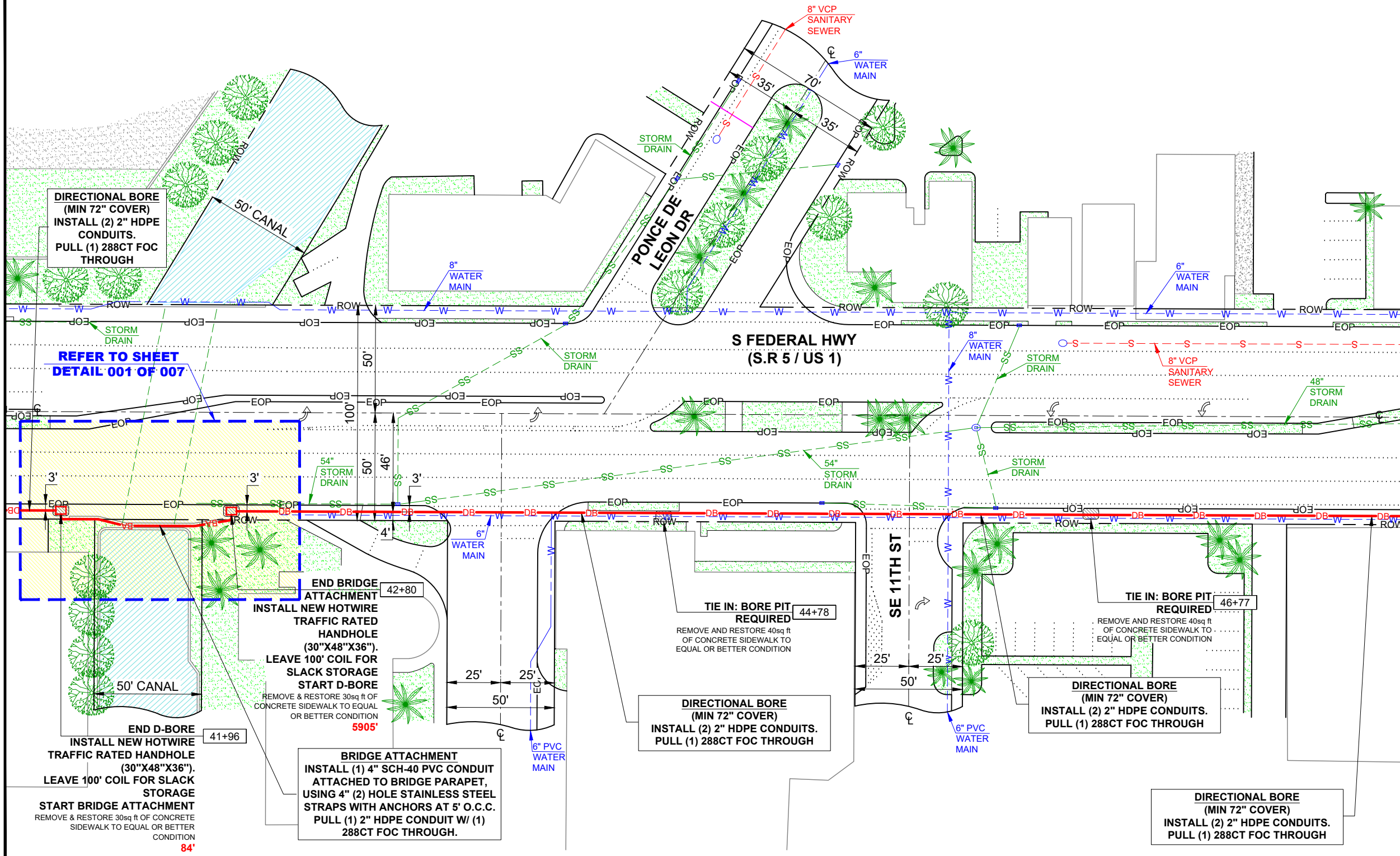
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PROJECT ADDRESS: 1300 - 1420 SE 17TH ST
OSP-ENG: PHIL GALLUB
OSP PH #: 305-219-0286
APPV BY:
PROJECT CODE: ---
DRAWN BY: DraftPros Inc.
FILE NAME: CAM 22-0163
1300-1420 SE 17TH ST EXHIBITION
SCALE: 1" = 50'
PAGE 07 OF 404 015

SEE SHEET: 006 OF 015

SEE SHEET: 008 OF 015

MATCH LINE STATION: 41+73

MATCH LINE STATION: 48+22



DIRECTION OF ENGINEERING.



CONSTRUCTION NOTES:

- ALL DAMAGED SURFACES ARE TO BE RESTORED TO PREVIOUS CONDITION OR BETTER.
- ALL MEASUREMENTS AND DISTANCES ARE TO BE VERIFIED ON FIELD.
- MINIMUM 12" SEPARATION IS TO BE MAINTAINED BETWEEN EXISTING UTILITY AND NEW HOTWIRE CONDUITS.
- MINIMUM 5' RADIUS IS TO BE MAINTAINED ON ALL CONDUIT BENDING.

FOOTAGE (THIS SHEET)

DESCRIPTION	FOOTAGE
TRENCH	-
TRENCH OPEN CUT	-
DIRECTIONAL BORE	565
BRIDGE ATTACHMENT	84'
NEW AERIAL	-
OVERLASH AERIAL	-
PULL THROUGH EXISTING DUCT	-
TOTAL NEW HANDHOLES	2

CONSTRUCTION DWG

10360 USA TODAY WAY
MIRAMAR
FLORIDA 33025

FIBER OPTIC CABLE INSTALLATION

REVISIONS

DATE	DESCRIPTION	INITIAL
04-26-17	ORIGINAL SUBMITTAL	DPI
11-03-17	CHANGES AS PER CITY OF FORT LAUDERDALE COMMENTS	DPI



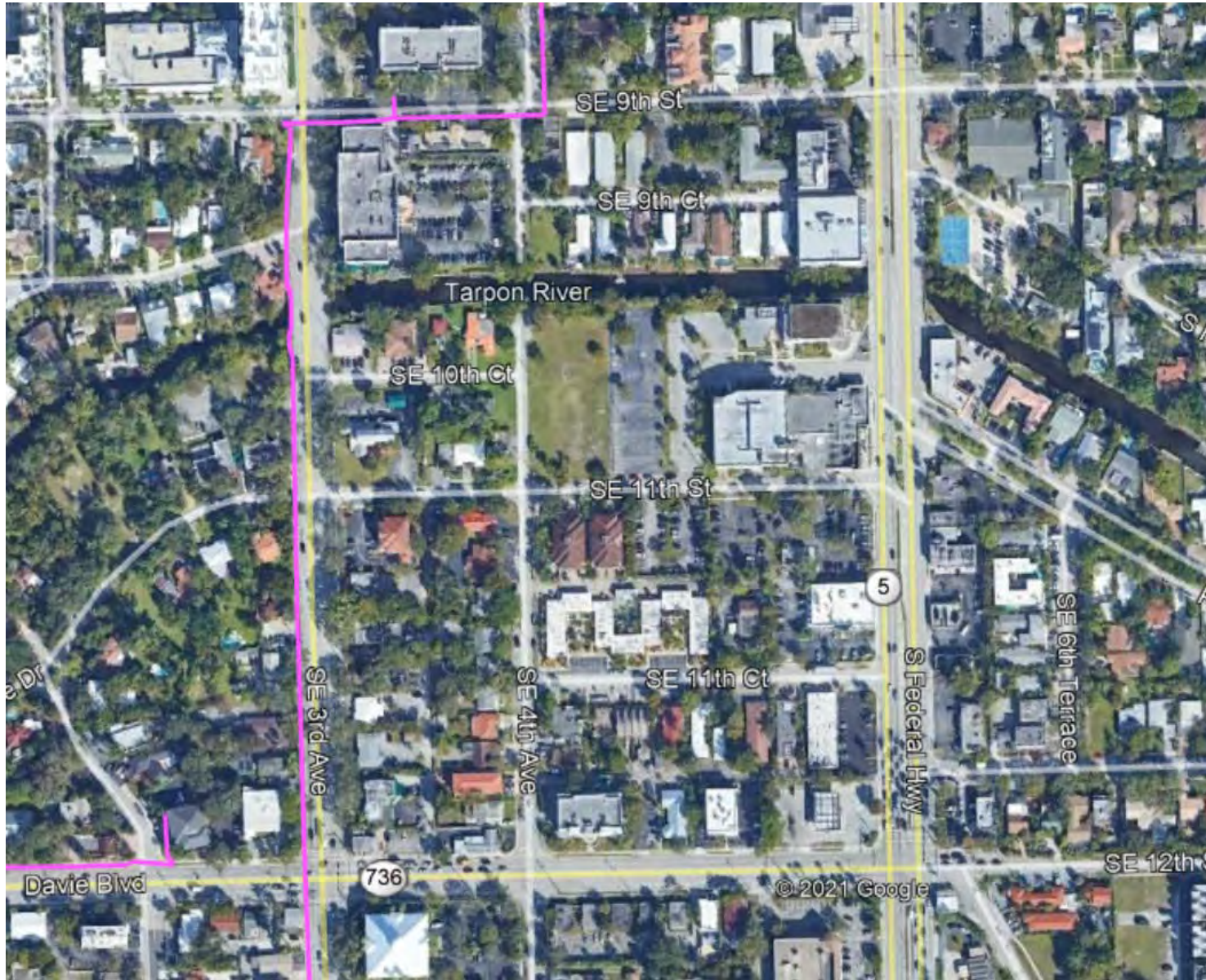
PROJECT NAME: 1300 - 1420 SE 17TH ST
PROJECT ADDRESS: 1300 - 1420 SE 17TH ST

OSP-ENG: PHIL GALLUB
OSP PH #: 305-219-0286
APPV BY: [Signature]

PROJECT CODE: ---
DRAWN BY: DraftPros Inc.

FILE NAME: CAM 22-0163
1300-1420 SE 17TH ST EXHIBITION

SCALE: 1" = 50'
PAGE: 071 of 404 015



Crown Castle Utilities ARE present at this location

Request Number: 0012403

FIBER DIG SERVICES

1500 Corporate Dr., Canonsburg, PA 15317

1-888-632-0931 Option 2

Fiber.dig@CrownCastle.com

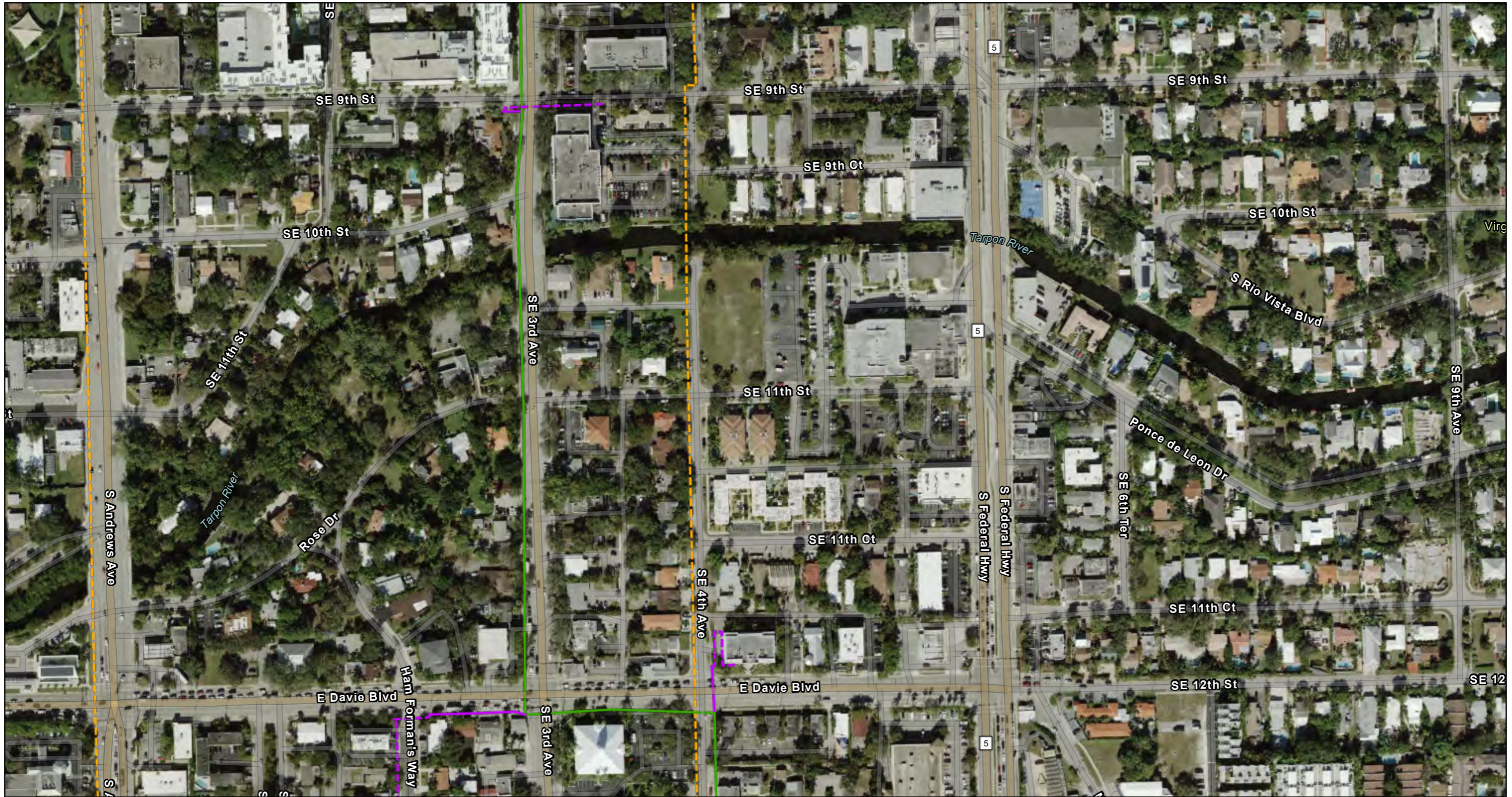
CROWN CASTLE COLOR KEY

-  UNDERGROUND CONDUIT
-  AERIAL FIBER
-  UNDERGROUND FIBER



CAM 22-0163
Exhibit 1
Page 372 of 404

LUMEN Relo Utility Map - Satellite



9/9/2021, 1:56:11 PM

1:2,866

Routes Leased

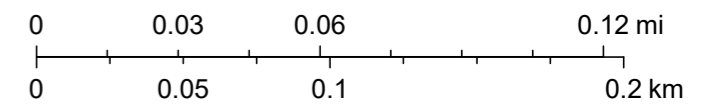
--- METRO, UNDERGROUND

Routes Owned

— METRO LATERAL, AERIAL

--- METRO LATERAL, UNDERGROUND

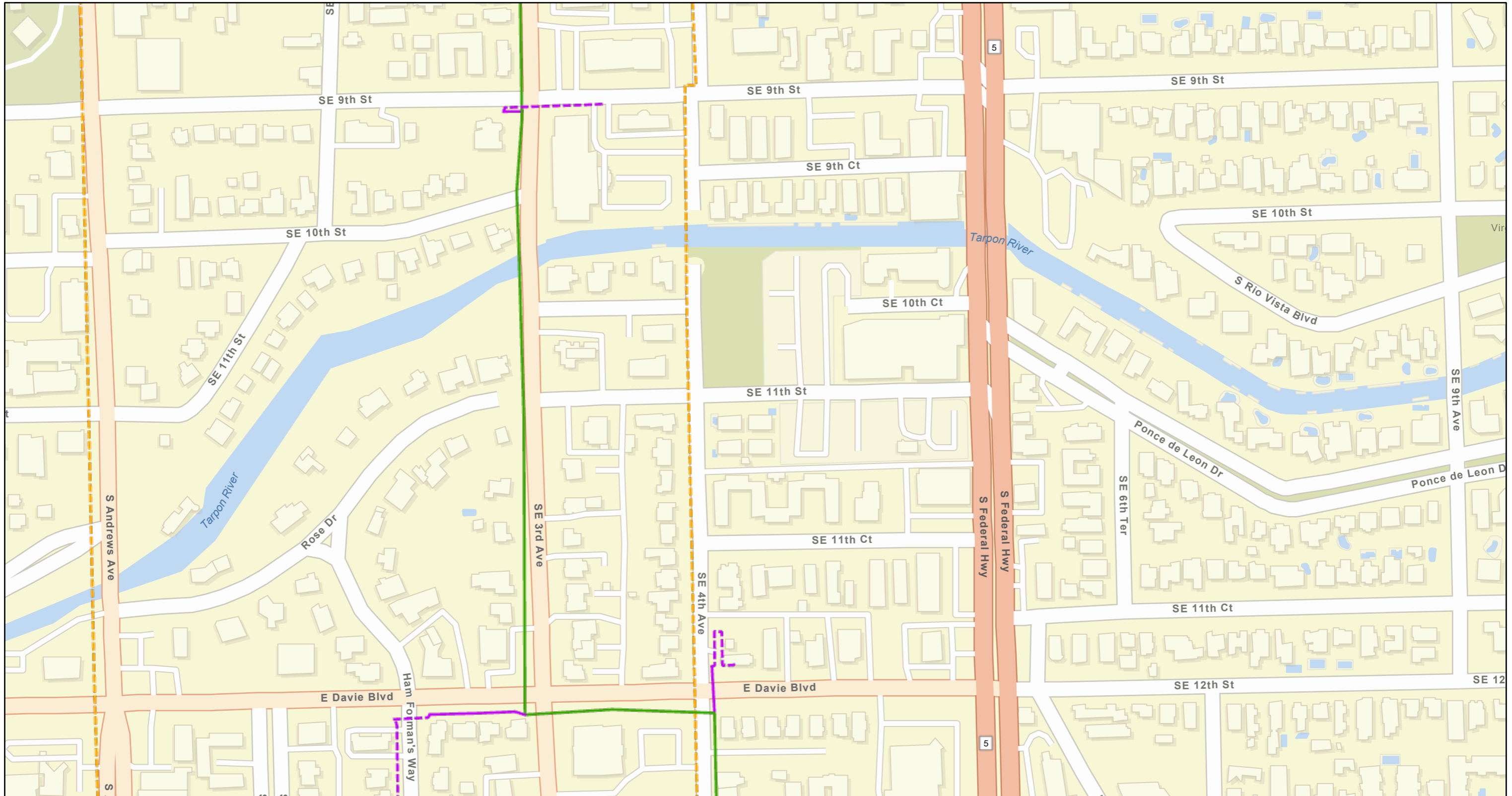
— METRO, AERIAL



Esri, Community Maps Contributors, FDEP, BuildingFootprintUSA, Esri, HERE, Garmin, SafeGraph, INCREMENT P, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, State of Florida, Maxar, Microsoft

CAM 22-0163
Exhibit 1

LUMEN Relo Utility Map - Street



9/9/2021, 1:56:22 PM

1:2,866

Routes Leased

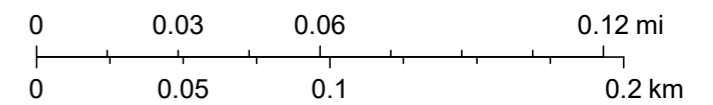
--- METRO, UNDERGROUND

Routes Owned

— METRO LATERAL, AERIAL

--- METRO LATERAL, UNDERGROUND

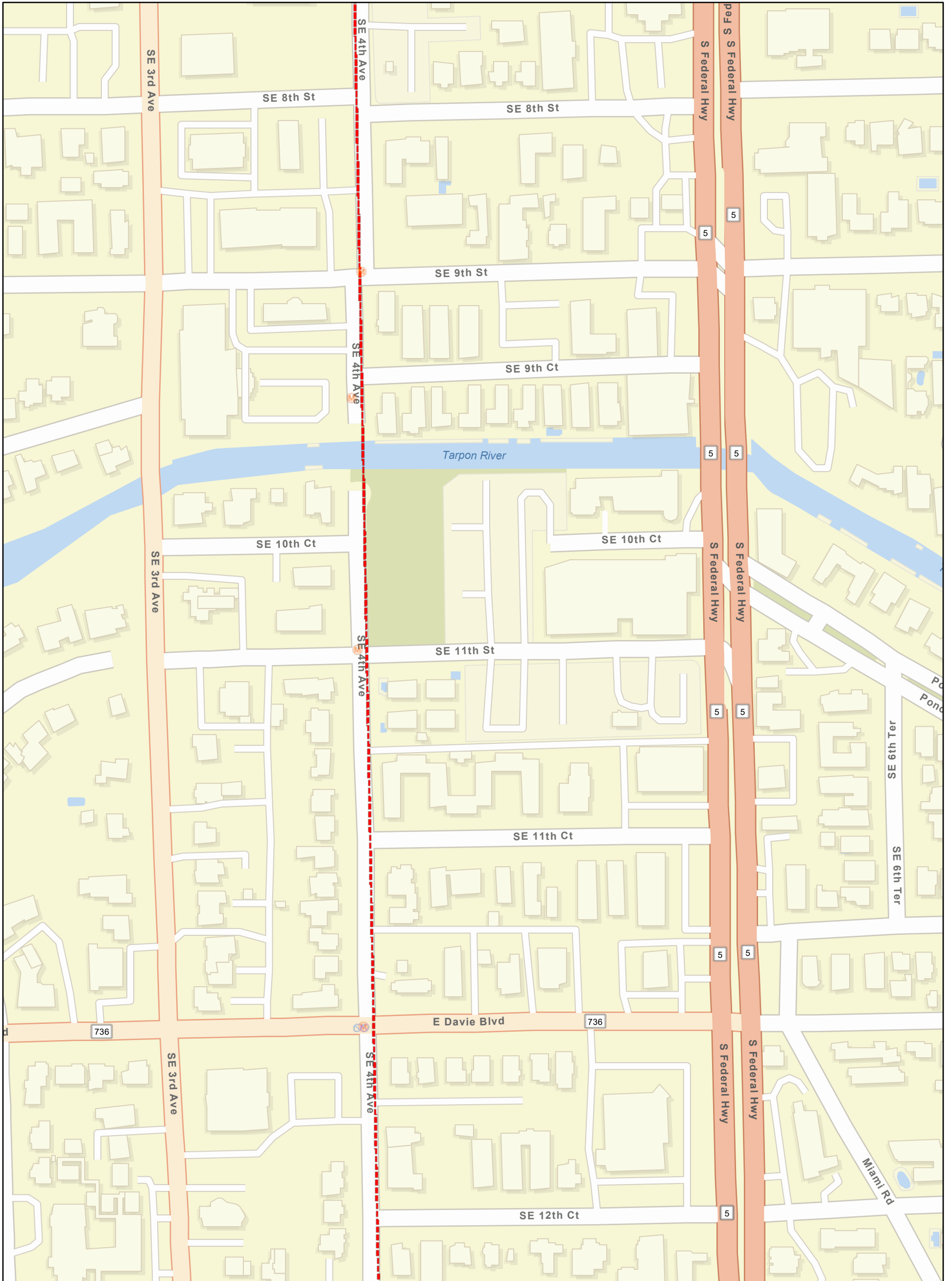
— METRO, AERIAL



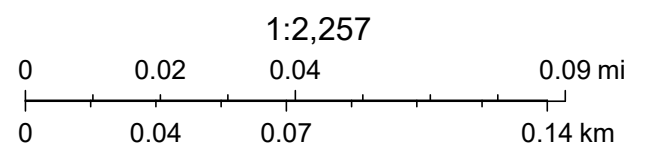
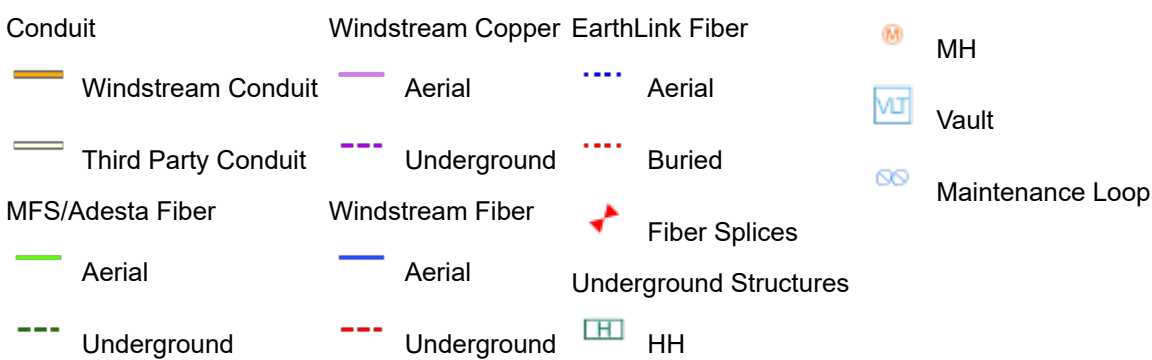
Esri, Community Maps Contributors, FDEP, BuildingFootprintUSA, Esri, HERE, Garmin, SafeGraph, INCREMENT P, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA

CAM 22-0163
Exhibit 1

SE 9th St and SE 11th



9/7/2021, 3:34:12 PM



City of Fort Lauderdale

Bid 12601-125

US 1

36 CT * (1042) *



SE 9 St

24 CT (1040)

SE 3 Ave

Davie Blvd

CAM 22-0163

Exhibit 1

Page 377 of 404

p. 377

1/28/2022 2:24 PM

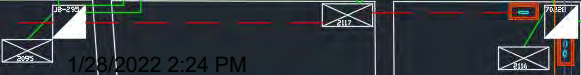




EXHIBIT E

CADD STANDARDS

Pumping Station A-16 Upgrade (Court House) 30" WM DCP
City of Fort Lauderdale Project 12412
CMA Project No. 047.057

**CITY OF FORT LAUDERDALE PUBLIC WORKS
ENGINEERING & ARCHITECTURAL DEPARTMENT
CADD SPECIFICATIONS FOR PROJECT DRAWINGS**



CITY OF FORT LAUDERDALE

OCTOBER 2015

*THIS DOCUMENT WAS PREPARED IN THE CITY OF FORT LAUDERDALE ENGINEERING &
ARCHITECTURAL DEPARTMENT BY THE CADD STANDARDS COMMITTEE*

*THIS DOCUMENT MAY BE DOWNLOADED FROM
[HTTP://WWW.FORTLAUDERDALE.GOV/ENGINEERING/INDEX.HTM](http://www.fortlauderdale.gov/engineering/index.htm)*



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1. PURPOSE

The Engineering division provides engineering, architectural, landscaping and project management services; and has put together a set of drafting standards to be used in all computer-aided drawings. The intent is to standardize the way electronic drawing files are produced and to make all drawing files regardless of who produced them, familiar in look and content to all the production staff in the division.

Consultants are encouraged to familiarize themselves with recent existing City project files prior to commencing a project for the City of Fort Lauderdale, in order to achieve true conformity with the way drawing files are to be produced. Below are some of the criteria, **which must be followed**. This document may not cover all circumstances; therefore it is up to the consultant to secure the pertinent information to any situation that may arise in a particular case that is not covered here. All files submitted to the City shall be free of passwords or any other impediment to their free use. The City of Fort Lauderdale's Engineering Division reserves the right to direct a consultant as to the desired manner to proceed when a situation is not addressed here.

2. VERSION

- 2.1. All drawings shall be produced in an AutoCAD® based product and saved in AutoCAD® 2013 format. Software included but, not limited to:
 - 2.1.1. AutoCAD
 - 2.1.2. AutoCAD LT
 - 2.1.3. AutoCAD Civil 3D
 - 2.1.4. AutoCAD Map 3D
 - 2.1.5. Revit

Please see CADD Coordinator prior to creating drawings with software not listed.

- 2.2. Drawing files submitted will be 100% AutoCAD (dwg) format and 100% editable.
- 2.3. The current version of AutoCAD at the time these standards are established is AutoCAD 2016. These standards can only address those issues pertaining to that version of AutoCAD. If a new version of AutoCAD is released prior to revising these standards, projects shall still be submitted in AutoCAD 2013. Once the City upgrades to the newer version of AutoCAD, that version shall be the official version and at the time the City shall determine if submittals in earlier versions are acceptable. All drawing files in a project shall be saved in the same version of AutoCAD.

3. COVER SHEETS AND TITLE BLOCKS

- 3.1. The City's title block/sheet border symbol shall be used on all drawings except the cover sheet. No modifications shall be made except for values of the attributes present in the block.
- 3.2. All projects shall have a cover sheet. For the cover sheet, consultants shall use the City's cover sheet symbol. Consultants shall not make any modifications to the city's cover sheet, including renaming the block. The cover sheet shall be inserted at an XYZ scale of 1; and plotted with a final size of 36"X24" at scale 1:1, in PAPERSPACE.
- 3.3. The standard title block/sheet border shall be inserted in "paper space" and shall be inserted at an XYZ scale of 1. The viewports can be zoomed to produce the desired final scale within the viewport and will be plotted with a final size of 36X24 at scale 1:1.
- 3.4. All projects will be made to plot in a standard ARCH D 36" X 24" sheet. The City's standard title block/sheet border SHALL NOT be inserted with dissimilar 'x' and 'y' scales in order to plot in a final size other than the standard.



4. SCALES

- 4.1. All drawing plan-views and horizontal scale of profiles and cross-sections will be drawn in scale 1:1 in model space, and drawing accuracy shall be 0.01' or better. That is, on a 'DIST' inquiry between consecutive 100-foot stations on a baseline, the result should be 100.00'.
- 4.2. Details will be drawn 1:1 and then scaled in a paper space window. Certain details need to be drawn with different horizontal and vertical scales for clarity (e.g. typical roadway cross-section). There are however very few instances where it is not practical to draw details to any scale e.g. where drawings are intended to be diagrammatic or schematic; and for those instances only, a scale will not be required. Such drawings will be noted "NOT TO SCALE" or "NO SCALE".
- 4.3. Plots for projects will be produced at a scale commonly used by the engineering/architectural profession; (e.g. 1" = 20', 1" = 30', 1/4"= 1', etc). Following are examples of unacceptable scales: 1" = 27', 1"=70', etc.
- 4.4. Vertical scale for cross-sections and profiles will be drawn to a scale in the same ratio as the final plotted product i.e.: if the final plot is horizontal 1"= 20', and the vertical 1"= 2', then the vertical scale is 10 times that of the horizontal.
- 4.5. Drawing files that are not scale relevant, like index sheet, notes and schedules, shall fill the scale attribute box with the notation "N/A". The notation "NTS" or "NOT TO SCALE" shall be left to those drawing files that are scalable, but are shown in a scale not measurable with a typical engineering or architectural scale, like details, schematics, etc.

5. EXTERNAL REFERENCES

- 5.1. Projects shall make use of external reference files (x-refs) to separate different disciplines and sub-consultants or design teams involved.
 - 5.1.1. X-ref files shall be limited to one per discipline. There shall be no more than one consultant's work into a single x-ref file i.e.: no design shall be placed directly on a survey file, or electrical design on an architectural file, etc.
 - 5.1.1.1. Within each discipline, all entities shall be drawn in the same file: line work, text, notes, dimensions, leaders, etc. shall all be placed in the same file and space (MODELSPACE). Exception: Revision clouds.
 - 5.1.2. In engineering projects, all civil work (demolition, concrete, asphalt, pavers) may be placed in one x-ref per discipline, per consultant, per building (if project is multi building), or at the discretion of the project manager may be further segregated into several x-refs.
 - 5.1.3. Larger projects that involve multiple buildings and/or sites may make use of more than 1 x-ref per discipline upon approval of x-ref list by the city.
 - 5.1.4. Details, general notes, logos, etc. SHALL not be x-referenced.
 - 5.1.5. If during the course of a project design a consultant decides to make use of x-ref for anything other than background support, the final product shall not contain x-ref and layer names with x-ref file name prefixes will not be accepted.
- 5.2. Survey information shall be in its own x-ref's (see **Base Drawing** section in these standards).
 - 5.2.1. The base drawing shall be x-referenced into all x-refs drawings.
 - 5.2.2. There shall be no duplicate base information. Footprints to be used as a base for design shall not be duplicated. Example: Two or more footprints of a building drawn side by side in an x-ref.
- 5.3. Underground utilities (more than one in a project) may be placed in a single x-ref, or each in its own.
 - 5.3.1. In underground utilities where a profile is needed, the area shall be in the same x-ref as the plan view for the profiled area.



- 5.4. Architectural projects shall also be segregated by specialty.
- 5.5. Electrical, mechanical, foundation, plumbing, roof, etc. shall be either in its own x-ref file, or grouped by sub-consultant, or design group at the discretion of the project manager.
- 5.6. X-ref files shall have no paths. Project drawing files, which contain x- refs with paths, will not be accepted. Consultants will have to strip all paths from x-refs, or initially x-ref with no paths.
- 5.7. If an x-ref is "bound" it shall be "insert" and not "bind" type of x-ref thereby no extraneous layer names are created.
- 5.8. Profiles shall be drawn in the same file as the plan view and all entities of a profile shall remain together in the same file. Line work, grid, all text, notes, leaders, etc. shall be all together.

6. BASE DRAWING

- 6.1. The base survey shall be made of 4 base files:
 - #####SURV.DWG
 - #####BSLN.DWG
 - #####TOPO.DWG
 - #####UTIL.DWG

The «#s" are place-holders for the project number. If utility markings are gathered at a later date from the original survey, then this information can be added to the «#####UTIL.DWG"

- 6.1.1. The #####SURV.DWG" file shall be the main file and the others shall be XREFED into it. This shall contain any notes which are not location sensitive, and may be moved modified, rotated to accommodate clearer design drawings.
 - 6.1.2. The #####BSLN.DWG shall contain the baselines of survey, including stationing and descriptions of points set, the lot and block, boundaries and relevant information. All survey markers, found or set.
 - 6.1.3. The #####TOPO.DWG shall contain all topography, elevations and other field collected information, not related to horizontal survey control. All survey benchmarks, descriptions and elevations shall be included in this file. Above ground evidence of utilities and any directly measured utility information, such as inverts and pipe sizes shall be included in this file.
 - 6.1.4. The #####UTIL.DWG shall contain the field location of paint marks, stakes or other utility markings, which indicate the presence of an approximate location of underground utilities. Test holes or borings shall also be included. Any other inferred or extrapolated locations shall also be placed in this file.
 - 6.1.5. Any issues not clearly covered in this paragraph shall be referred to the city surveyor for clarification prior to the commencement of any survey work.
- 6.2. Topographical surveys in AutoCAD format shall not be cut or disseminated into several files in order to create individual sheets.
- 6.3. Topographic survey files shall not have parts deleted because proposed project does not cover those portions. In that case open a paper space window that will show just the portion of survey needed or use XCLIP.



- 6.4. Topographic surveys SHALL NOT BE MOVED SPATIALLY within the drawing file, nor shall the consultant or city staff, change the coordinate system to anything other than what was received from survey, UNDER ANY CIRCUMSTANCE. If a consultant furnished the survey it shall be in 'WCS' and the survey shall have the north at 12 o'clock.
- 6.5. Files of topographic survey shall only have topographic information. These files shall be x-referenced into a new file where the proposed project will be designed.
- 6.6. The base topographical survey file shall be produced in several files, x-referenced, one within the other. This will make possible to make adjustments to some aspects of the file without the possibility of making changes to the more critical parts of the survey. The following paragraph is a description of what each file holds and a procedural explanation on how to create such a file. It is not intended directly to the designer, but to the survey personnel responsible for creating the survey base file.
- 6.7. In projects that use a base drawing other than a survey, like an architectural project of plant facility, all disciplines shall make use of a common base drawing, inserted as an x-ref. If there is an update then it is simple to update drawings from all disciplines. No design group shall take the base drawing and modify it in any manner. Through the use of x-referencing, all permitted changes (layer color, line type, etc.) can be accomplished.

7. UNITS

- 7.1. Engineering projects shall use:
 - 7.1.1. Decimal as linear units at all times.
 - 7.1.2. Angular units shall be surveyor (bearings) units.
 - 7.1.3. Angles shall be measured counter-clockwise and 0 shall be to the east.
- 7.2. Architectural projects shall use:
 - 7.2.1. Architectural units.
 - 7.2.2. Angular units shall be degrees, minutes, seconds.
 - 7.2.3. Angles shall be measured counterclockwise and 0 shall be to the right (east).
 - 7.2.4. 1" grid, and entities snap to the grid.
- 7.3. Dimensions shall:
 - 7.3.1. Have a scale factor of 1
 - 7.3.1.1. The scale factor may be changed to 12 or 1/12 when integrating engineering and architectural line work; example site plans, or architectural details displayed in an engineering drawing with decimal units.
 - 7.3.1.2. The scale factor can also be changed to 1/10 in profiles that are drawn 10 times larger vertically than horizontally. Accuracy for plan view design in water, sewer, storm and site electrical projects can be 0.1'.
 - 7.3.2. Precision of 0.01' for decimal units and 1/8 for architectural units, with the default value displayed.



8. SYMBOLS & ENTITIES

- 8.1. *Blocks will be issued* with the most common symbols used in City projects. From time to time these symbols will be revised and/or new symbols will be added. If for any reason there is a need to create a block either for local use or to keep for future projects, that block shall comply with all City CAD standards.
- 8.2. Standard issue symbols shall NOT be exploded, renamed or changed in any way. Objects that are repeated throughout and/or that are depicted in an exaggerated scale for clarity (fire hydrants, power poles, catch basins, street lamps, etc.) shall be represented by a symbol. If a symbol CAN be used it SHALL be used.
- 8.3. Whenever possible, make use of the City's standard symbols and blocks. If a new symbol or block is created, it shall be submitted to the City for approval. Approved symbols and blocks will be made part of the City's symbols library, royalty free. North arrows, graphical scales, logos, location maps and other similar symbols shall be inserted as blocks and left unexploded.
- 8.4. Consultants may insert their company logo or identification information in the form of a block (symbol) and left unexploded. This block can be placed in all sheets including the cover sheet within the drawing area of each sheet.
- 8.5. Dimensions shall be associative at all times and left at their default value, and shall NOT be exploded.
- 8.6. Hatch patterns shall NOT be exploded. Hatch patterns and closed polylines forming the hatch boundary shall be the only entities permitted on hatch layers.

9. PAPERSPACE

- 9.1. Paper space shall be used for title block/sheet border and viewports. No other entities shall be placed there, especially notes that describe parts of model space entities (notes with a leader). Exceptions: logos, captions, legends, general notes and revision clouds.
- 9.2. Title block/sheet borders or cover sheets shall NOT be x-refed.
- 9.3. All drawing entities will be confined within the sheet border. Extents of the drawing files shall be to the edge of title block/sheet border. Multiple layouts are permitted, however only one sheet border per layout is allowed.

10. COLORS AND LINE WEIGHTS

- 10.1. The City will provide a line weight chart (CTB) to be used.
- 10.2. Submitted drawings shall make use of one of the city's templates, which have the "Layout" page setup, configured with the city's configuration files (PC3, CTB and PMP).
- 10.3. All entities shall be located in their appropriate layer, and have a color and line type "BYLAYER". The ONLY exception to this rule is a Utility XREF drawing (e.g.: 10272XREFUTIL) where the color of the layers continues to be "BYLAYER", but different line types may be used in the same layer to identify different utility types and sizes.
- 10.4. Colors are not fixed to layers; they are dependent on the discipline. When entities for a particular discipline need to be displayed in drawing files for other disciplines, colors may be setup differently in



order for features to stand out. E.g. Survey drawings will show survey features solid and stand-out. The same survey features will look dimmed in landscape drawings.

- 10.5. The project manager shall be the final judge of the plotted appearance of the drawings. Consultant shall furnish a printed copy of all drawing files using the City's line weight chart (CTB) file for color approval by the City.
- 10.6. There are certain entities which make use of custom line types, and that rely on the line type to be identified. If the line type is changed, then the entity loses its identity. Examples are fences: they can make use of a custom line type that identifies them. These entities can be placed in a layer with a different line type and the identity of the fence is preserved. For these cases, it is permissible to make these entities non-ByLayer. There are other examples in electrical drawings.

11. FONTS

- 11.1. Since fonts are not carried with the drawing files and depends on the computer that is running AutoCAD to find and use these font files. No third party or proprietary fonts shall be used. Drawing files shall not make use of SHAPE files.
- 11.2. It is possible to automatically substitute fonts not found in the AutoCAD path. The City may (at their discretion) substitute odd fonts with ROMANS.SHX.

12. LAYERS

- 12.1. The engineer or technician working on the project must determine what color to use from the "LINE WEIGHTS AND GREY SCALE CHART" supplied by the City, in order to get the desired effect, and the City will give the final approval.
- 12.2. The list of layer names used in all City of Fort Lauderdale projects is a separate document in the form of a MS Excel spreadsheet.
- 12.3. The City of Fort Lauderdale Engineering Division adheres for the most part (but not totally) to the CAD Layer Guidelines and has adopted the long format; it has up to 16 alphanumeric characters, and is divided in fields or groups.

X-XXXX-XXXX-XXXX

Above is an example of the format, also known as the 1-4-4-4.

- 12.4. The City will provide a list of layer names to be used. If there is a project for which there are no layer names (which pertain to that discipline), the consultant shall provide a list of proposed layer names based on the layer guidelines, for the City's approval, prior to their use. Once approved by the City, those layer names will become part of the City's list of layer names for all projects thereon or until revised.
- 12.5. No layer names, other than those in the City's layer name list, will be present in drawing files. Exceptions are those layer names automatically created by AutoCAD; "0", "DEFPOINTS", "ASHADE".



- 12.6. Layering:**
- 12.6.1.** All text, labels, mtext, etc. that is placed in paper space shall be in layers: #-SHBD-TEXT and/or #-SHBD-NOTE;
 - 12.6.2.** Consultants' logo shall be placed in layer #-SHBD-LOGO;
 - 12.6.3.** Viewports shall be placed in layer: #-SHBD-VPRT;
 - 12.6.4.** General line work in paper space like lines to separate areas or viewports, etc. shall be placed in layer: #-SHBD.
 - 12.6.5.** All general text shall be placed in a single layer, unless there is a justification for the contrary.
 - 12.6.6.** North arrows and graphic scales shall be placed in layer: #-SHBD-NARW.
 - 12.6.7.** Leaders shall be placed in a "TEXT" or "NOTE" layer together with the accompanying text.
- 12.7.** Layer names that duplicate the discipline and the major group shall not be used. Examples are: E-ELEC, D-DEMO, H-HVAC, 1-INST, F-FIRE, Q-EQPM.
- 12.8.** Details, sections elevations, do not in general need layer management. Since there is seldom layer manipulation (on, off), the minor group names that distinguish line weight were created. The City uses the discipline, major group designating the object to draw (DETL, SECT, ELEV, etc) and then the minor group designating the line weight. The minor group names are: XFIN, FINE, MEDM, HEVY AND XHEV.

13. GENERAL ISSUES BEFORE SUBMITTAL

- 13.1.** Complete drawing set (DWG) shall be submitted no later than the 60% project submittal for design review and fully compliant with the City's CAD standards' drawing set shall be submitted prior to submittal to the building department for permit. All drawing files shall have all tabs (layouts) zoomed to EXTENTS, prior to any submittal to the City, whether it is the final or a working submittal; XREF drawing files shall be saved with the model tab active and zoomed to EXTENTS. All other drawing files shall be saved with the first paper space layout tab active. All final files shall be fully purged prior to submittal. All files shall be saved and submitted with the current layer set to "0".
- 13.2.** Consultants shall obtain a file number for the project and make sure that the appropriate information is completed in the title block. File numbers can be obtained from the Project Engineer.
- 13.3.** Consultants shall fill in total number of sheets in the title block, prior to final submittal of drawing files.
- 13.4.** Consultants shall submit a hardcopy (bond, 36" X 24"), DWG and PDF files of the project drawings together with any submittal in electronic format (CD, etc), when making partial and final submittal of drawing files. Prior to all submittals, consultants shall coordinate with the City's file room as to the method of creating PDF files, which will make prints satisfactory to the City. All files submitted to the City shall be free of passwords or any other impediment to their free use. PDFs shall be combined into a single file. Sheets shall be oriented landscape with the title block to the right of the screen, arranged in the order that they are to be printed and the set assembled matching the drawing index order. The PDF binder shall contain bookmarks for all of the sheets, displaying the name of each plot file as described in paragraph 70.
- 13.5.** DWG AutoCAD files shall not be compressed using zip or rar or any other compression scheme when submitting files in an optical media (CD, DVD).



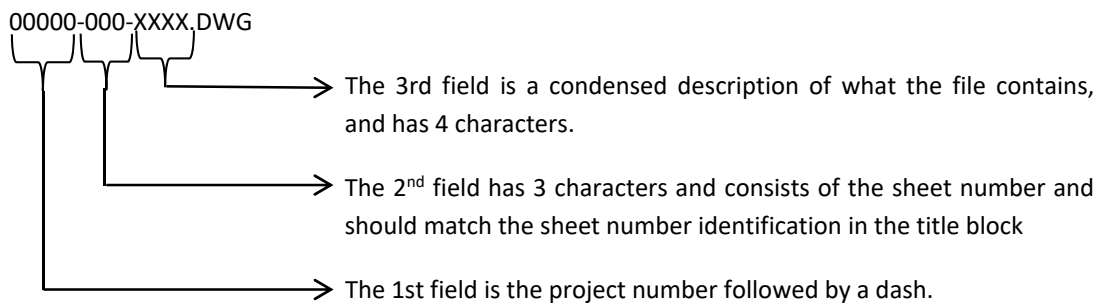
- 13.6. Submittals via FTP sites are not official submittals; and optical media (CD, DVD) is required.
- 13.7. When a project is assigned to a consultant who utilizes the collaboration of other sub-consultants, said prime-consultant shall be responsible for all submittals of drawing files and plot files. Said submittals shall be in the form of a single media (1 CD/DVD) to include the entire project.

14. MISCELLANEOUS

- 14.1. "MTEXT" (multiline text) shall be used in all cases where more than one line of text occurs and where leaders are used.
- 14.2. These standards are a detailed description of aspects in the creation of drawing files within Engineering. It is by no means the complete description of all the methods used, and it is the consultant's responsibility to alert the City of any point or situation which is not described in these specifications, and which should be addressed. Also if a consultant, after reading these standards and prior to commencing any drafting work, feels that there are points or items in these standards which are not logical, or are onerous to abide by, they should notify the City's Engineering Division at their earliest convenience and their views will be open to discussion.
- 14.3. This document does not address layer colors or line weights. The consultant shall coordinate with the City's project manager on how these items are treated.

15. DWG FILE NAMES

- 15.1. All drawing files shall conform to the City of Fort Lauderdale's file naming convention, as described in the following pages. The names shall be accurate to reflect the desired information as per the naming convention. All file names shall be CAPITALIZED.
- 15.2. The City of Fort Lauderdale Engineering Division has adopted the following file naming convention for project drawings:
 - 15.2.1. The format for single layout drawing files looks like this:



- 15.2.2. The first field represents the project number.
- 15.2.3. The second field represents the sheet number and reflects the sheet number as shown in the title block. If sheet numbers have dashes or dots, they shall be stripped: example for C-11, use C11. Drawing sheets shall not be numbered using the ConDoc system (i.e. A1.01, A1.02, A2.01, A2.02).

- 15.3. The third field is a 4-letter description of what the project drawing file depicts. There is a list of descriptions used in previous projects. Consultant shall check the list prior to creating a new description. The City will need to approve descriptions prior to their use.



15.4. This proposed 3-field format is only for files that contain final drawing with 1 title block/sheet border.

15.5. Examples for this naming format are the following:

- **09585-001-WATR.DWG**
- **10256-021-SEWR.DWG**
- **10855-M10-HVAC.DWG**
- **10325-A01-PLAN.DWG**

15.6. A drawing index should appear on the cover sheet. If there are too many sheets in the set of drawings to fit on the cover sheet, a separate index sheet or sheets shall be included immediately following the cover sheet. When index sheets are utilized the drawing file name shall be 00000-001-INDX.DWG. The first five digits shall be the project number and the next three digits shall be (001), (002), etc. An example is:

- **10325-001-INDX.DWG indicating the first index sheet.**
- **10325-002-INDX.DWG indicating the second index sheet.**

15.7. X-ref files will have a slightly different format. It will have 3 fields, and will look like this: **OOOOXREFXXX.DWG**

15.7.1. The 1st field (5 characters) will be the project number; the second field shall be the word "XREF". The third field shall be a 4-character description for the file or discipline found in the file. This convention is valid for all XREFS except for the survey XREFS. These shall remain as received by the survey department.

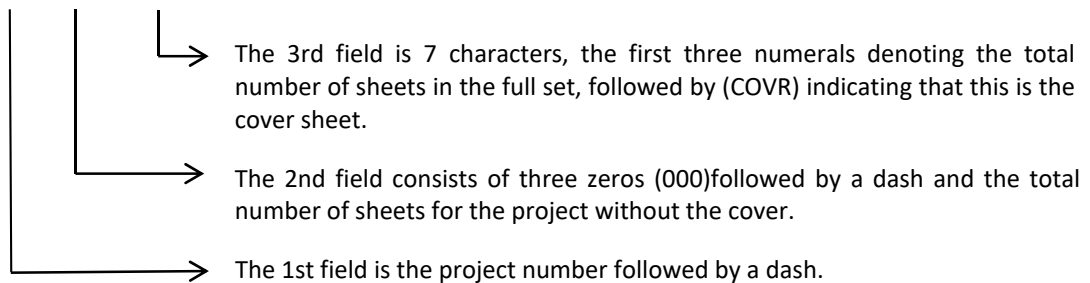
15.7.2. Sheets shall be numbered in a sequential manner and there shall not be any voids in the numbering for any given discipline. All numbering shall start with "1", regardless of the numbering system used, except for the cover sheet which is "0". Example: 1,2,3,4, or A01, A02, A03, BUT NEVER A01, A02, A05.

15.8. The Cover Sheet will follow this drawing naming convention with one small exception. The drawing files will contain additional characters denoting the total number of sheets in a project set, including all disciplines.

15.9. The total number of sheets shall NOT include the cover sheet.

15.10. The format for the coversheet drawing files looks like this:

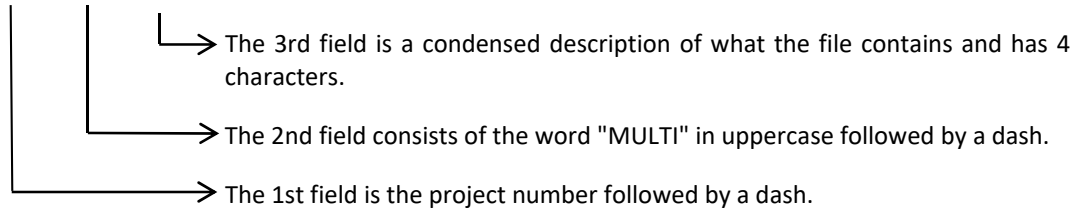
00000-000-000COVR.DWG





15.10 For drawing files that contain multiple layouts, the files shall be named as follows:

00000-MULTI-XXXX.DWG



Examples for this naming format are the following:

- **XXXXX-MULTI-DETL.DWG: detail sheets.**
- **XXXXX-MULTI-ELEC.DWG: Electrical sheets.**

15.11. Layout Tab names shall be named with the sheet number and an optional description for the sheet content.

15.12. Additional drawing descriptive information may be placed in comments section of the file "properties" of the drawing file. Access this by right-clicking the file and selecting properties then the "summary" tab.

15.13. Names for sheet description to be used as the third field for file names:

BSRV	Boundary Surveys
COVR	Cover Sheets
DEMO	Demolition
DETL	Details
ELEV	Elevations
EQPM	Equipment
FLOR	Floor Plans
GRAD	Paving and grading
INST	Instrumentation
IRRG	Irrigation
KMAP	Key map
LEGN	Legend, symbols and schedule sheets
LITE	Lighting plans
MOTP	Maintenance of traffic plans
NAID	Navigational Aids
NOTE	General Notes
PILE	Piles
PLAN	Plan and profile sheets
PLNT	Plant material
PLUM	Plumbing
POWR	Power
RISR	Riser diagrams
RNWX	Runway
ROAD	Roadway projects incl. Widening, narrowing, special projects
SECT	Cross Sections
SSWR	Sanitary sewer lines
SGNL	Signalization
SIGN	Sign project files
SITE	Site-plans
STRM	Storm water (drainage)
STRP	Pavement Striping
TSRV	Topographic Surveys
TXWY	Taxiway
WALK	Sidewalk project file (asphalt or concrete or other)
WATR	Potable water lines



16. PDF FILE NAMES

Note: Project Manager: Please refer to Memo No. 11-06 for the new procedure for submitting electronic drawings and documents to the Plans Room. The date format YYYYMMDD shall be used when needed.

XXXXX <- Project number

PERMIT <- Sub Folder

16.1. Permit drawing PDF naming:

- 16.1.1. XXXXX-DRC-BINDER-date.PDF
- XXXXX-P&Z-BINDER-date.PDF
- XXXXX-PERMIT-BINDER-date.PDF

16.2. Bid drawing PDF naming:

- 16.2.1. XXXXX-BID-SPEC-date.PDF
- XXXXX-BID PLANS-BINDER-date.PDF
- XXXXX-BID ADDENDUM1-SPEC-date.PDF
- XXXXX-BID ADDENDUM1-BINDER-date.PDF
- File as many addendums as needed

16.3. Final Permit Construction plan naming:

- 16.3.1. XXXXX-CONSTRUCTION-BINDER-date.PDF
- XXXXX-REV1-CONSTRUCTION-BINDER-date.PDF
- File as many revisions as needed*
- XXXXX-FIELD CHANGE-BINDER-date.PDF
- File as many changes as needed*

16.4. AS BUILT –SETS

- XXXXX-ASBUILT-BINDER-date.PDF

16.5. DRAWING-SETS

- File all the CADD drawings

16.6. ARCHIVES

- File all project files from the Z: drive (Project manager to coordinate with CAD Manager)



17. STANDARDS SPECIFIC TO ARCHITECTURAL PROJECTS

- 17.1.** Drawings scales are to be as follows:
- 17.1.1.** LTScale=1
 - 17.1.2.** PSLTScale=1=on
 - 17.1.3.** Precision=1/8"
- 17.2.** Snap Grid settings:
- 17.2.1.** 1/16"=1'-0" scale to 3/8"=1'-0" scale drawings to be drawn with a maximum snap of 1".
 - 17.2.2.** 1/2"=1'-0" scale to 3"=1'-0" scale drawings to be drawn with a maximum snap of 1/8".
 - 17.2.3.** All drawings shall be created with SNAP ON.
- 17.3.** Dimensions:
- 17.3.1.** Associative DIMASSOC=1.
 - 17.3.2.** Dimensions shall not be forced without prior approval from the CAD Administrator.
 - 17.3.3.** Dimstyles have been established in the "CFLSTDARCH2007.dwt" file. Dimstyles are to be used as defined and are not to be modified under any circumstances.
 - 17.3.4.** Dimension Round-off:
 - 17.3.4.1.** 3/8" scale and less round off to 1/2"
 - 17.3.4.2.** 1/2" scale to 3" scale round off to 1/8"
 - 17.3.4.3.** Fractions to be diagonal stacked when used in conjunction with a whole number (i.e. 3") and not stacked when used as a stand-alone fraction (3/4"). The text sizes of diagonal stacked fractions are to be 75%. The text sizes of non-stacked fractions are to be 100%.
- 17.4.** Drawings sheets shall be:
- 17.4.1.** Numbered sequentially using the traditional numbering system (i.e. A-1, A-2, A-3).
 - 17.4.2.** Drawing sheets shall not be numbered using the ConDoc system (i.e. A1.01, A1.02, A2.01, A2.02). This applies to all engineering disciplines within a set of drawings.
- 17.5.** Text heights – see next page:



ARCHITECTURAL AND LANDSCAPING TEXT FONTS AND HEIGHTS

DRAWING SCALE	TEXT HEIGHT					DIMSTYLE
	Notes (Romans)	Room Names (Romans)	Small Title's (Swis721BT)	Large Title's (Swis721BT)	Title Polyline	
1/16"	16"	24"	48"	64"	8"	ARCH 192
3/32"	10 2/3"	16"	32"	42 2/3"	5 1/3"	ARCH 128
1/8"	8"	12"	24"	32"	4"	ARCH 96
3/16"	5 1/3"	8"	16"	21 1/3"	2 2/3"	ARCH 64
1/4"	4"	6"	12"	16"	2"	ARCH 48
3/8"	2 2/3"	4"	8"	10 2/3"	1 1/3"	ARCH 32
1/2"	2"	3"	6"	8"	1"	ARCH 24
3/4"	1 1/3"	2"	4"	5 1/3"	2/3"	ARCH 16
1"	1"	1 1/2"	3"	4"	1/2"	ARCH 12
1 1/2"	2/3"	1"	2"	2 2/3"	1/3"	ARCH 8
3"	1/3"	1/2"	1"	1 1/3"	1/6"	ARCH 4
Paper Space	1/12"	1/8"	1/4"	1/3"	1/24"	ARCH 1

DRAWING SCALE	TEXT HEIGHT					DIMSTYLE
	Notes (Romans)	Room Names (Romans)	Small Title's (Swis721BT)	Large Title's (Swis721BT)	Title Polyline	
1"=10'	10"	15"	30"	40"	5"	ARCH 120
1"=20'	20"	30"	60"	80"	10"	ARCH 240
1"=30'	30"	45"	90"	120"	25"	ARCH 360
1"=40'	40"	60"	120"	160"	20"	ARCH 480
1"=50'	50"	75"	150"	200"	25"	ARCH 600
1"=60'	60"	90"	180"	240"	30"	ARCH 720
Paper Space	1/12"	1/8"	1/4"	1/3"	1/24"	ARCH 1

TRENCH SAFETY

Bidder acknowledges that included in the appropriate bid items of his bid and in the Total Bid Price are costs for complying with the Florida Trench Safety Act, Florida Statutes 553.60 – 553.64. The bidder further identifies the costs of such compliance to be summarized below:

Trench Safety Measure (Description)	Units of Measure (LF/SF)	Unit (Quantity)	Unit Cost	Extended Cost
A. <input type="text"/>	<input type="text"/>	<input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>
B. <input type="text"/>	<input type="text"/>	<input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>
C. <input type="text"/>	<input type="text"/>	<input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>
D. <input type="text"/>	<input type="text"/>	<input type="text"/>	\$ <input type="text"/>	\$ <input type="text"/>

Total: \$

The bidder certifies that all trench excavation done within his control in excess of five feet (5') in depth shall be in accordance with the Occupational Safety and Health Administration's excavation safety standards, C.F.R. s. 1926.650 Subpart P., and the Florida Trench Safety Act, Florida Statutes 553.60-553.64.

Failure to complete the above may result in the bid being declared non-responsive.

DATE:
(SIGNATURE)

STATE OF: COUNTY OF:

PERSONALLY APPEARED BEFORE ME, the undersigned authority,

(Name of Individual Signing)

who, after first being duly sworn by me,
 affixed his/her signature in the space provided above on this
 day of , 20 .

NOTARY PUBLIC

My Commission Expires:

NON-COLLUSION STATEMENT:

By signing this offer, the vendor/contractor certifies that this offer is made independently and *free* from collusion. Vendor shall disclose below any City of Fort Lauderdale, FL officer or employee, or any relative of any such officer or employee who is an officer or director of, or has a material interest in, the vendor's business, who is in a position to influence this procurement.

Any City of Fort Lauderdale, FL officer or employee who has any input into the writing of specifications or requirements, solicitation of offers, decision to award, evaluation of offers, or any other activity pertinent to this procurement is presumed, for purposes hereof, to be in a position to influence this procurement.

For purposes hereof, a person has a material interest if they directly or indirectly own more than 5 percent of the total assets or capital stock of any business entity, or if they otherwise stand to personally gain if the contract is awarded to this vendor.

In accordance with City of Fort Lauderdale, FL Policy and Standards Manual, 6.10.8.3,

3.3. City employees may not contract with the City through any corporation or business entity in which they or their immediate family members hold a controlling financial interest (e.g. ownership of five (5) percent or more).

3.4. Immediate family members (spouse, parents and children) are also prohibited from contracting with the City subject to the same general rules.

Failure of a vendor to disclose any relationship described herein shall be reason for debarment in accordance with the provisions of the City Procurement Code.

NAME

RELATIONSHIPS

In the event the vendor does not indicate any names, the City shall interpret this to mean that the vendor has indicated that no such relationships exist.

Authorized Signature

Title

Name (Printed)

Date

CONTRACT PAYMENT METHOD

The City of Fort Lauderdale has implemented a Procurement Card (P-Card) program which changes how payments are remitted to its vendors. The City has transitioned from traditional paper checks to credit card payments via MasterCard or Visa as part of this program.

This allows you as a vendor of the City of Fort Lauderdale to receive your payments fast and safely. No more waiting for checks to be printed and mailed.

In accordance with the contract, payments on this contract will be made utilizing the City's P-Card (MasterCard or Visa). Accordingly, bidders must presently have the ability to accept these credit cards or take whatever steps necessary to implement acceptance of a card before the start of the contract term, or contract award by the City.

All costs associated with the Contractor's participation in this purchasing program shall be borne by the Contractor. The City reserves the right to revise this program as necessary.

By signing below you agree with these terms.

Please indicate which credit card payment you prefer:

MasterCard

Visa

Company Name

Name (Printed)

Signature

Date

Title

**CONTRACTOR'S CERTIFICATE OF COMPLIANCE WITH
NON-DISCRIMINATION PROVISIONS OF THE CONTRACT**

The completed and signed form should be returned with the Contractor's submittal. If not provided with submittal, the Contractor must submit within three business days of City's request. Contractor may be deemed non-responsive for failure to fully comply within stated timeframes.

Pursuant to City Ordinance Sec. 2-187(c), bidders must certify compliance with the Non-Discrimination provision of the ordinance.

The Contractor shall not, in any of his/her/its activities, including employment, discriminate against any individual on the basis of race, color, national origin, religion, creed, sex, disability, sexual orientation, gender, gender identity, gender expression, or marital status.

1. The Contractor certifies and represents that he/she/it will comply with Section 2-187, Code of Ordinances of the City of Fort Lauderdale, Florida, as amended by Ordinance C-18-33 (collectively, "Section 2-187").
2. The failure of the Contractor to comply with Section 2-187 shall be deemed to be a material breach of this Agreement, entitling the City to pursue any remedy stated below or any remedy provided under applicable law.
3. The City may terminate this Agreement if the Contractor fails to comply with Section 2-187.
4. The City may retain all monies due or to become due until the Contractor complies with Section 2-187.
5. The Contractor may be subject to debarment or suspension proceedings. Such proceedings will be consistent with the procedures in section 2-183 of the Code of Ordinances of the City of Fort Lauderdale, Florida.

Authorized Signature

Print Name and Title

Date

CONSTRUCTION BID CERTIFICATION

Please Note: It is the sole responsibility of the bidder to ensure that his bid is submitted electronically through www.BidSync.com prior to the bid opening date and time listed. Paper bid submittals will not be accepted. All fields below must be completed. If the field does not apply to you, please note N/A in that field.

If you are a foreign corporation, you may be required to obtain a certificate of authority from the Department of State, in accordance with Florida Statute §607.1501 (visit http://www.dos.state.fl.us/).

Company: (Legal Registration) [text box]

Address: [text box]

City: [text box] State: [text box] Zip: [text box]

Telephone No.: [text box] FAX No.: [text box] Email: [text box]

Check box if your firm qualifies for MBE / SBE / WBE: [checkbox]

If a corporation, state the name of the President, Secretary and Resident Agent. If a partnership, state the names of all partners. If a trade name, state the names of the individuals who do business under the trade name.

Grid for listing names and titles of officers/partners:
Name Title Name Title Name Title Name Title

ADDENDUM ACKNOWLEDGEMENT - Bidder acknowledges that the following addenda have been received and are included in the proposal:

Table with 6 columns: Addendum No., Date Issued, Addendum No., Date Issued, Addendum No., Date Issued. Each cell contains a text box.

VARIANCES: If you take exception or have variances to any term, condition, specification, or requirement in this bid you must specify such variance in the space provided below or reference in the space provided below all variances contained on other pages within your bid. Additional pages may be attached if necessary. No variances will be deemed to be part of the bid submitted unless such is listed and contained in the space provided below. The City does not, by virtue of submitting a variance, necessarily accept any variances. If no statement is contained in the below space, it is hereby implied that your response is in full compliance with this competitive solicitation. If you do not have variances, simply mark N/A. You must also click the "Take Exception" button.

[Large empty text box for variances]

The below signatory affirms that he has or will obtain all required permits and licenses from the appropriate agencies, and that his firm is authorized to do business in the State of Florida. The below signatory agrees to furnish all labor, tools, material, equipment and supplies, and to sustain all the expense incurred in doing the work set forth in strict accordance with the bid plans and contract documents at the unit prices indicated if awarded a contract. The below signatory has not divulged to, discussed, or compared this bid with other bidders, and has not colluded with any other bidder or parties to this bid whatsoever. Furthermore, the undersigned guarantees the truth and accuracy of all statements and answers contained in this bid. The below signatory also hereby agrees, by virtue of submitting or attempting to submit a bid, that in no event shall the City's liability for bidder's direct, indirect, incidental, consequential, special or exemplary damages, expenses, or lost profits arising out of this competitive solicitation process, including but not limited to public advertisement, bid conferences, site visits, evaluations, oral presentations, or award proceedings exceed the amount of Five Hundred Dollars (\$500.00). This limitation shall not apply to claims arising under any provision of indemnification or the City's protest ordinance contained in this competitive solicitation.

Submitted by:

[text box]
Name (printed)

[text box]
Signature

[text box]
Date

[text box]
Title

Revised 4/28/2020

E-VERIFY AFFIRMATION STATEMENT

RFP/Bid /Contract No:

Project Description:

Contractor/Proposer/Bidder acknowledges and agrees to utilize the U.S. Department of Homeland Security's E-Verify System to verify the employment eligibility of,

- (a) all persons employed by Contractor/Proposer/Bidder to perform employment duties within Florida during the term of the Contract, and,
- (b) all persons (including subcontractors/vendors) assigned by Contractor/Proposer/Bidder to perform work pursuant to the Contract.

The Contractor/Proposer/Bidder acknowledges and agrees that use of the U.S. Department of Homeland Security's E-Verify System during the term of the Contract is a condition of the Contract.

Contractor/Proposer/ Bidder Company Name:

Authorized Company Person's Signature:

Authorized Company Person's Title:

Date:

9/15/2020



FINANCE DEPARTMENT PRE-BID MEETING SIGN-IN SHEET



DATE: 11/30/2021

TIME: 10:00

AM

PM

OPENING DATE: 12/21/2021

PROCUREMENT CONTACT: Fausto Vargas

RFP #: 12601-125

ITB TITLE: Design-Build Pump Station A-16 Upgrade - WATER

City of Fort Lauderdale

NAME COMPANY PHONE EMAIL

Chad Bumb Rick-mgn FL 954-806-5722 Cbumb@ric-mgnfl.com

Julian Gomez APCTE 786 925 3662 jgomez@apcte.com

Arnelo Alfonso APCTE 305 592 2283 aalfonso@apcte.com

Kevin Nanyakkara Lakdas / Yachalam kv@yachalam.com

Samantha Diaz RIC MAN CONG. 31 808 2335 Bids@ric-mgn.com

Peter Heness DBE Management, LLC db-DBE Mgt, Inc. 305/720-0297 Phechehd.com

RICHARD TENN HBC Engineering Company / LHM INC 305-216-8638 rtenn@hbcengineering.com

SANDERS HOWEN UNIVERSAL 561 347 0070 SHAW@UNIVERSALENGINEERING.COM

Douglas Wyszczek Holland Pump 954-999-2804 doug@holladpump.com



City of Fort Lauderdale • Procurement Services Division

100 N. Andrews Avenue, 619 • Fort Lauderdale, Florida 33301

954-828-5933 Fax 954-828-5576

purchase@fortlauderdale.gov

**RFP NO. 12601-125
Design Build Pump Station A-16 Upgrade - WATER**

ADDENDUM NO. 1

ISSUED: December 9, 2021

This Addendum is being issued to provide the following information. It is hereby made a part of the Plans and Specifications and shall be included with all contract documents.

Acknowledge receipt of this Addendum by inserting its number and date on the CITB Construction Bid Certification Page.

Evaluation Criteria – Weighted

Qualifications of the Firm & the Team	25%
Project Methodology & Approach	30%
Price Proposal	30%
References	15%
Total	100%

All other terms, conditions, and specifications remain unchanged.

Fausto Vargas

Senior Procurement Specialist

Company Name: _____
(please print)

Bidder's Signature: _____

Date: _____



City of Fort Lauderdale • Procurement Services Division
100 N. Andrews Avenue, 619 • Fort Lauderdale, Florida 33301
954-828-5933 Fax 954-828-5576
purchase@fortlauderdale.gov

RFP NO. 12601-125

ADDENDUM NO. 2

ISSUED: December 20, 2021

This Addendum is being issued to provide the following information. It is hereby made a part of the Plans and Specifications and shall be included with all contract documents.

Acknowledge receipt of this Addendum by inserting its number and date on the CITB Construction Bid Certification Page.

A) Opening Bid and Q&A will be extended:

New Opening Date January 13,2022

New Q&A Date January 3, 2022

All other terms, conditions, and specifications remain unchanged.

Fausto Vargas

Senior Procurement Specialist

Company Name: _____
(please print)

Bidder's Signature: _____

Date: _____

Question and Answers for Bid #12601-125 - Design-Build Pump Station A-16 Upgrade - WATER

Overall Bid Questions

Question 1

Material and subcontractor prices are difficult to obtain during the holiday. Can the city postpone the bid opening to after the holidays? (Submitted: Dec 2, 2021 5:43:33 PM EST)

Answer

- The timely construction of the future Federal Court House and its Parking Building are directly dependent on the timely D/B construction of the City's Water and Wastewater solicitations. Therefore, In order to maintain the Federal Court House and Parking Building design and construction schedules, the City will not consider an extension for the bid submittal of its Water and Wastewater utility relocations and improvements. (Answered: Dec 7, 2021 9:22:49 AM EST)

Question 2

Many vendors, partners and colleagues have scheduled vacations starting next week through the remainder of the year. Is there any way possible to extend the due date to Thursday, January 6th, 2022? This will be in the City's best interest so the submittal is not rushed. (Submitted: Dec 6, 2021 1:11:31 PM EST)

Answer

- The timely construction of the future Federal Court House and its Parking Building are directly dependent on the timely D/B construction of the City's Water and Wastewater solicitations. Therefore, In order to maintain the Federal Court House and Parking Building design and construction schedules, the City will not consider an extension for the bid submittal of its Water and Wastewater utility relocations and improvements. (Answered: Dec 7, 2021 9:22:49 AM EST)